

2021

## University of Nebraska at Omaha 2021-2022 Course Catalog

University of Nebraska at Omaha

Follow this and additional works at: <https://digitalcommons.unomaha.edu/undergradcatalogs>

 Part of the [Higher Education Administration Commons](#)

Please take our feedback survey at: [https://unomaha.az1.qualtrics.com/jfe/form/SV\\_8cchtFmpDyGfBLE](https://unomaha.az1.qualtrics.com/jfe/form/SV_8cchtFmpDyGfBLE)

---

### Recommended Citation

University of Nebraska at Omaha, "University of Nebraska at Omaha 2021-2022 Course Catalog" (2021). *Undergraduate Catalogs*. 56.

<https://digitalcommons.unomaha.edu/undergradcatalogs/56>

This Report is brought to you for free and open access by the UNO Academic Catalogs at DigitalCommons@UNO. It has been accepted for inclusion in Undergraduate Catalogs by an authorized administrator of DigitalCommons@UNO. For more information, please contact [unodigitalcommons@unomaha.edu](mailto:unodigitalcommons@unomaha.edu).

# **2021-2022 UNIVERSITY OF NEBRASKA AT OMAHA CATALOG**

---

# TABLE OF CONTENTS

Undergraduate .....	12	Fundamental Academic Skills .....	55
Undergraduate .....	12	Distribution Requirements .....	56
Undergraduate Programs A-Z .....	12	Diversity Requirements .....	56
Catalog Introduction .....	14	Community Engagement Opportunities .....	57
Catalog Purpose .....	14	Universitywide Learning Communities .....	58
Catalog Disclaimers .....	14	Student Success and Academic Support Services .....	60
About UNO .....	14	Student Success .....	60
Metropolitan University Mission .....	14	Academic Support Services .....	63
Accreditation .....	15	Testing Center .....	64
Community Engagement .....	15	Additional Campus Services and Support .....	66
University Structure .....	15	Public Safety .....	68
University Leadership .....	15	Academic Focus Areas .....	69
Freedom of Expression .....	16	College of Arts and Sciences .....	69
Family Education Rights and Privacy Act (FERPA) .....	16	Arts and Sciences Minors .....	74
Student Right to Know/Consumer Information .....	16	Ancient Mediterranean Studies Minor .....	74
State Authorization/Governance Financial Reporting .....	16	Bioinformatics .....	75
Admissions .....	17	Bioinformatics, Bachelor of Science (College of Arts and Sciences) .....	77
Application Deadline Dates .....	17	Biology .....	79
Application Process .....	17	Biology, Bachelor of Arts .....	86
Admission Requirements .....	17	Biology, Bachelor of Science .....	88
Admission Fees .....	21	Biology, Bachelor of Science with a Concentration in Education .....	91
International Applicants .....	21	Biology Minor .....	94
Admission Decisions .....	22	Black Studies .....	94
Frequently Asked Questions .....	23	Black Studies, Bachelor of Science .....	98
Enrollment .....	23	Black Studies Minor .....	100
Enrollment .....	23	Chemistry .....	100
Course Information .....	27	Chemistry, Bachelor of Arts .....	104
Academic Calendar .....	28	Chemistry, Bachelor of Science .....	106
Transfer Credit .....	29	Chemistry, Bachelor of Science with a Concentration in Chemistry Education .....	108
Grades .....	30	Chemistry, Bachelor of Science with a Concentration in Medicinal Chemistry .....	111
Academic Integrity Policy .....	32	Chemistry Minor .....	113
Statement of Student Rights and Responsibilities .....	32	Economics .....	114
Student Code of Conduct .....	35	Economics, Bachelor of Arts .....	117
Discrimination and Sexual Harassment Policies .....	46	Economics, Bachelor of Science .....	118
Graduation .....	47	Economics Minor .....	120
Financing Your Education .....	49	English .....	120
Office of Financial Support and Scholarships .....	49	English, Bachelor of Arts .....	126
Federal Financial Aid Policies .....	49	Teaching English to Speakers of Other Languages (TESOL) Certificate .....	134
Tuition and Fees .....	52	English Minor .....	135
Tuition and Fees .....	52	Environmental Studies .....	135
Residency for Tuition Purposes .....	54		
General Education Curriculum .....	55		

Environmental Science, Bachelor of Science with a Concentration in Analytical Sciences .....	138	Medical Humanities, Bachelor of Arts .....	254
Environmental Science, Bachelor of Science with a Concentration in Earth Sciences .....	140	Medical Humanities, Bachelor of Science .....	257
Environmental Science, Bachelor of Science with a Concentration in Geography and Planning .....	143	Medical Humanities Minor .....	259
Environmental Science, Bachelor of Science with a Concentration in Life Science .....	145	Medieval/Renaissance Studies Minor .....	261
Environmental Science Minor .....	147	Molecular and Biomedical Biology .....	262
Sustainability Minor .....	148	Molecular and Biomedical Biology, Bachelor of Science .....	263
Foreign Languages and Literature .....	149	Molecular and Biomedical Biology, Minor .....	267
Foreign Language and Literature, Bachelor of Arts .....	157	Native American Studies Minor .....	267
French Minor .....	161	Neuroscience .....	268
German Minor .....	161	Neuroscience, Bachelor of Science .....	270
Spanish Minor .....	162	Pharmaceutical Sciences, Bachelor of Science .....	273
General Science .....	162	Philosophy .....	274
General Science, Bachelor of Science .....	162	Philosophy, Bachelor of Arts .....	278
Geography .....	166	Philosophy, Bachelor of Arts Concentration in Philosophy of Brains, Minds and Machines .....	280
Geography, Bachelor of Arts .....	171	Philosophy, Bachelor of Arts Concentration in Ethics, Law and Social-Political Philosophy .....	282
Geography, Bachelor of Science .....	173	Philosophy Minor .....	284
Geography Minor .....	176	Ethics Minor .....	284
Geology .....	176	Physics .....	285
Geology, Bachelor of Arts .....	179	Physics, Bachelor of Arts .....	288
Geology, Bachelor of Science .....	183	Physics, Bachelor of Science .....	290
Geology Minor .....	187	Physics, Bachelor of Science with a Concentration in Biomedical Physics .....	292
History .....	187	Physics, Bachelor of Science with a Concentration in Physics Education .....	294
History, Bachelor of Arts .....	191	Physics Minor .....	296
History, Bachelor of Science .....	193	Political Science .....	297
History Minor .....	194	Political Science, Bachelor of Arts .....	303
Holocaust and Genocide Studies Minor .....	194	Political Science, Bachelor of Science .....	305
Human Rights Studies Minor .....	195	Political Science Minor .....	308
Interdisciplinary Studies .....	196	Leadership and Public Policy Minor .....	308
Interdisciplinary Studies, Bachelor of Arts .....	197	Psychology .....	308
Interdisciplinary Studies, Bachelor of Science .....	200	Psychology, Bachelor of Arts .....	312
International Studies .....	203	Psychology, Bachelor of Science .....	316
International Studies, Bachelor of Arts .....	205	Psychology Minor .....	320
International Studies Minor .....	210	Religious Studies .....	321
Islamic Studies Minor .....	211	Religion, Bachelor of Arts .....	325
Latino/Latin American Studies (LLS) .....	211	Religion Minor .....	326
Latino/Latin American Studies, Bachelor of Arts .....	214	Sociology & Anthropology .....	326
Chicano/Latino Studies Minor .....	217	Sociology, Bachelor of Arts .....	332
Mathematics .....	219	Sociology, Bachelor of Science .....	335
Mathematics, Bachelor of Arts .....	225	Sociology Minor .....	338
Mathematics, Bachelor of Science .....	238	Anthropology Minor .....	338
Mathematics Minor .....	252	Women's and Gender Studies .....	338
Medical Humanities .....	253	Women's and Gender Studies, Bachelor of Arts .....	341

Women's and Gender Studies Minor .....	344	Journalism and Media Communication, Bachelor of Science .....	430
LGBTQ/Sexuality Studies Minor .....	344	Journalism and Media Communication Minor .....	435
College of Business Administration (CBA) .....	345	Visual Communication and Culture Minor .....	435
Bachelor of Science in Business Administration (BSBA) Degree .....	348	School of Music .....	435
BSBA as a Second Bachelor's Degree .....	366	Music, Bachelor of Arts .....	446
International Business Concentration .....	367	Music Performance, Bachelor of Music .....	453
Minors for Non-Business Majors .....	368	Music Education, Bachelor of Music, K-12 Certification .....	461
Business Analytics Minor for Non-Business Majors .....	369	School of the Arts .....	470
Business for Non-Business Majors Minor .....	369	Art and Art History .....	470
Entrepreneurship for Non-Business Majors Minor .....	369	Art History, Bachelor of Arts .....	476
Marketing for Non-Business Majors Minor .....	369	Art History Minor .....	479
Real Estate and Land Use Economics, Minor .....	370	Studio Art, Bachelor of Arts .....	480
Sales Minor for Non-Business Majors .....	370	Studio Art, Bachelor of Fine Arts .....	488
Logistics & Supply Chain Management for Non-Business Majors Minor .....	370	Studio Art Minor .....	496
Accounting .....	371	Studio Art with K-12 Certification, Bachelor of Arts .....	496
Accounting Concentration .....	374	Studio Art K12 Certification/Bachelor of Arts in Fine Arts Two or Three Dimensional Dual Degree, BFA .....	499
Economics .....	376	Theatre .....	499
Economics Concentration .....	379	Theatre, Bachelor of Arts .....	502
Finance, Banking and Real Estate .....	381	Theatre Minor .....	506
Banking and Financial Markets Concentration .....	383	Writer's Workshop: Creative Writing .....	506
Business Analytics Concentration .....	384	Creative Writing, Bachelor of Fine Arts .....	508
Business Finance Concentration .....	386	Creative Writing Minor .....	511
Investment Science and Portfolio Management Concentration .....	388	Screenwriting Minor .....	511
Legal Studies Concentration .....	389	College of Education .....	511
Real Estate and Land Use Economics Concentration .....	391	Biomechanics .....	515
Real Estate and Land Use Economics Program Certificate .....	393	Biomechanics, Bachelor of Science .....	517
UNO Real Estate Certificate .....	393	Biomechanics Minor .....	519
Management .....	393	Health and Kinesiology .....	519
Management Concentration .....	396	Public Health, Bachelor of Science .....	529
Human Resource Management Concentration .....	398	Kinesiology, Bachelor of Science in Education .....	531
Logistics & Supply Chain Management Concentration .....	399	Human Performance Minor .....	533
Marketing .....	401	Sports Medicine Minor .....	533
Entrepreneurship Concentration .....	405	Public Health Minor .....	533
Marketing Concentration .....	406	Worksite Wellness Minor .....	533
Sales Concentration .....	408	Teacher Education .....	534
College of Communication, Fine Arts and Media .....	409	Education - Early Childhood Inclusive, Bachelor of Science .....	541
School of Communication .....	412	Education - Elementary Education, Bachelor of Science .....	544
Communication Studies, Bachelor of Arts .....	421	Education - Library Science, Bachelor of Science .....	552
Communication Studies, Bachelor of Science .....	423	Education - Secondary Education, Bachelor of Science .....	553
Communication Studies Minor .....	425	Art (PK-12) Endorsement .....	558
Journalism and Media Communication, Bachelor of Arts .....	426	Biology (7-12) Endorsement .....	559
		Business, Marketing, Information Technology (BMIT) (6-12) Endorsement .....	560

Chemistry (7-12) Endorsement .....	561	Construction Engineering, Bachelor of Science .....	629
Language Arts/English (7-12) Endorsement .....	563	Construction Management, Bachelor of Science .....	631
Secondary English (7-12) with ESL Supplemental Endorsement .....	564	Achievement-Centered Education Electives .....	633
Secondary English (7-12) with Additional Subject Endorsement .....	565	College of Information Science & Technology .....	635
Secondary English (7-12) with Inclusive Practices Endorsement .....	565	Computer Science .....	639
World Language - French (7-12) Endorsement .....	565	Computer Science, Bachelor of Science .....	644
World Language - German (7-12) Endorsement .....	567	Software Engineering Track .....	647
Mathematics (6-12) Endorsement .....	568	Computer Networking and Communications Track .....	648
Middle Level (5-9) Endorsement .....	569	Information Systems Engineering Track .....	648
Music (P-12) Endorsement .....	572	Internet and Intranet Software Application Development Track .....	648
Physics (7-12) Endorsement .....	572	Mathematics (MATH) Track .....	648
Physical Education (P-6, 7-12) Endorsement .....	573	Computer and Electronics Engineering (CEEN) Track .....	648
Physical Education (7-12) and Health (7-12) Endorsement .....	575	Information Systems & Quantitative Analysis (ISQA) Track .....	648
Science (7-12) Endorsement .....	576	Artificial Intelligence Concentration .....	649
Social Science (7-12) Endorsement .....	578	Game Programming Concentration .....	649
World Language - Spanish (7-12) Endorsement .....	579	Internet Technologies (iT) Concentration for Computer Science Majors .....	650
Deaf/Hard of Hearing (7-12) Endorsement .....	581	Information Assurance Concentration .....	650
Special Education (7-12) Endorsement .....	582	Computer Science Minor .....	650
English as a Second Language (7-12) Endorsement .....	583	Information Systems and Quantitative Analysis .....	651
Coaching (7-12) Endorsement .....	583	Management Information Systems, Bachelor of Science ....	655
Information Technology (PK-12) Endorsement .....	583	Management Information Systems Minor .....	659
Special Education and Communication Disorders .....	583	Enterprise Resource Planning (ERP) Systems Minor .....	660
Education - Special Education, Bachelor of Science .....	589	Data Management Certificate .....	660
Education - Deaf/Hard of Hearing Program .....	593	Systems Development Certificate .....	660
Education - Special Education Dual Endorsement with Elementary Education or Secondary Education, Bachelor of Science .....	593	Information Technology Administration Certificate .....	661
Communication Disorders .....	593	Interdisciplinary Informatics (Si2) .....	661
College of Engineering .....	595	Bioinformatics, Bachelor of Science (College of Information Science & Technology) .....	668
Architectural Engineering, Bachelor of Science .....	600	Bioinformatics Minor .....	672
Civil Engineering, Bachelor of Science .....	603	Cybersecurity, Bachelor of Science .....	673
Electrical & Computer Engineering .....	609	Cybersecurity Minor .....	678
Computer Engineering, Bachelor of Science .....	615	Information Technology (IT) Innovation, Bachelor of Science .....	679
Electrical Engineering, Bachelor of Science .....	617	IT Innovation Minor .....	684
Engineering Leadership Minor .....	620	College of Public Affairs and Community Service .....	684
Environmental Engineering Minor .....	623	Aviation .....	687
Pre-Engineering .....	623	Aviation, Bachelor of Science .....	693
Pre-Agricultural Engineering .....	623	Criminology and Criminal Justice .....	696
Pre-Biological Systems Engineering .....	624	Criminology & Criminal Justice, Bachelor of Science .....	702
Pre-Mechanical Engineering .....	625	Criminology & Criminal Justice Minor .....	704
Robotics Engineering Minor .....	625	Victimology and Victim Services Minor .....	704
Construction .....	626	Division of Continuing Studies .....	705
		Bachelor of Multidisciplinary Studies .....	706

Emergency Management and Disaster Science .....	720	Cybersecurity (CYBR) .....	798
Emergency Management (BSEM), Bachelor of Science .....	724	Design (DSGN) .....	800
Emergency Management Minor .....	729	Economics (ECON) .....	801
Fire Service Management Minor .....	729	Educational Professional Sequence (EDUC) .....	803
Tribal Management and Emergency Services Minor .....	730	Electrical and Computer Engineering (ECEN) .....	803
Tribal Management and Emergency Services Certificate .....	730	Emergency Management (EMGT) .....	809
Gerontology .....	730	Engineering (ENGR) .....	810
Gerontology, Bachelor of Science .....	734	Engineering Mechanics (EMEC) .....	812
Gerontology Certificate .....	736	English (ENGL) .....	812
Gerontology Minor .....	737	Entrepreneurialship (ENTR) .....	819
BSSW Program .....	737	Environmental Studies (ENVN) .....	820
Social Work, Bachelor of Science .....	740	Exploratory (EXPL) .....	822
Cross-Sector Collaborative Leadership Minor .....	742	Finance and Banking (FNBK) .....	822
Nonprofit Management Minor .....	743	Fire Service Management (FSMT) .....	823
Public Administration Minor .....	743	Food Science & Technology (FSCI) .....	824
Goodrich Scholarship Program .....	744	Foreign Language & Literature (FLNG) .....	824
Courses A-Z .....	744	French (FREN) .....	824
Accounting (ACCT) .....	746	Geography (GEOG) .....	826
Aerospace Studies (AERO) .....	747	Geology (GEOL) .....	829
Anthropology (ANTH) .....	748	German (GERM) .....	831
Architectural Engineering (AREN) .....	749	Gerontology (GERO) .....	832
Architecture (ARCH) .....	751	Goodrich Program (GDRH) .....	834
Art (ART) .....	752	Health & Kinesiology (HEKI) .....	834
Aviation (AVN) .....	758	History (HIST) .....	835
Bioinformatics (BIOI) .....	761	Honors Program (HONR) .....	838
Biology (BIOL) .....	762	Horticulture (HORT) .....	839
Biomechanics (BMCH) .....	768	Humanities (HUMN) .....	839
Black Studies (BLST) .....	769	IT Innovation (ITIN) .....	839
Business Administration (BSAD) .....	773	Information Systems & Quantitative Analysis (ISQA) .....	841
Chemical Engineering (CHME) .....	773	Interdisciplinary Studies (INDS) .....	843
Chemistry (CHEM) .....	774	International Studies (INST) .....	843
Chinese (CHIN) .....	777	Japanese (JAPN) .....	843
Civil Engineering (CIVE) .....	778	Journalism and Media Communication (JMC) .....	844
College of Information Science & Technology (CIST) .....	780	Kinesiology (KINS) .....	847
Communication Disorders (CDIS) .....	781	Latin (LATN) .....	852
Communication Studies (CMST) .....	783	Latino/Latin American Studies (LLS) .....	852
Communication, Fine Arts, & Media (CFAM) .....	786	Law and Society (LAWS) .....	854
Community & Regional Planning (CRP) .....	786	Management (MGMT) .....	855
Computer Science (CSCI) .....	787	Marketing (MKT) .....	857
Construction Engineering (CONE) .....	791	Materials Engineering (MATL) .....	859
Construction Management (CNST) .....	792	Mathematics (MATH) .....	860
Cooperative Education (COOP) .....	794	Mathematics for Teachers (MTCH) .....	864
Counseling (COUN) .....	794	Mechanical Engineering (MECH) .....	865
Criminology and Criminal Justice (CRCJ) .....	795	Medical Humanities (MEDH) .....	870

Military Science (MILS) .....	871	University Leadership .....	943
Multidisciplinary Studies (MLTI) .....	872	Freedom of Expression .....	944
Music (MUS) .....	872	Family Education Rights and Privacy Act (FERPA) .....	944
Native American Studies (NAMS) .....	883	Student Right to Know/Consumer Information .....	944
Natural Sciences (NSCI) .....	883	State Authorization/Governance Financial Reporting .....	944
Neuroscience (NEUR) .....	885	Admissions .....	945
Philosophy (PHIL) .....	886	Enrollment .....	948
Physical Education Activities (PEA) .....	890	Enrollment .....	948
Physics (PHYS) .....	891	Course Information .....	951
Political Science (PSCI) .....	894	Academic Calendar .....	953
Psychology (PSYC) .....	899	Academic Program Requirements .....	954
Public Administration (PA) .....	902	Master's, EdS, and Certificate Programs .....	954
Public Health & Behavior (PHHB) .....	904	Doctoral Programs .....	956
Real Estate & Land Use Economics (RELU) .....	905	Grades & Quality of Work Standards .....	958
Recreation-Leisure Study (RLS) .....	906	Grades .....	958
Religion (RELI) .....	907	Quality of Work Standards .....	959
Russian (RUSS) .....	910	Academic Appeals .....	960
Science, Tech, Engr, and Math (STEM) .....	910	Academic Integrity Policy .....	963
Social Sciences (SSCI) .....	911	Statement of Student Rights and Responsibilities .....	963
Social Work (SOWK) .....	911	Student Code of Conduct .....	966
Sociology (SOC) .....	913	Discrimination and Sexual Harassment Policies .....	968
Spanish (SPAN) .....	917	Graduation .....	969
Special Education & Communication Disorders (SPED) .....	920	Financing your Education .....	970
Statistics (STAT) .....	924	Office of Financial Support and Scholarships .....	970
Supply Chain Management (SCMT) .....	925	Federal Financial Aid Policies .....	970
Sustainability (SUST) .....	926	Graduate Assistantships .....	973
Teacher Education (TED) .....	927	Tuition and Fees .....	973
Theatre (THEA) .....	931	Tuition and Fees .....	973
University Seminar (US) .....	934	Residency for Tuition Purposes .....	975
Urban Studies (UBNS) .....	934	Community Engagement Opportunities .....	976
Women's and Gender Studies (WGST) .....	934	Student Success and Academic Support Services .....	977
Writer's Workshop (WRWS) .....	936	Student Success .....	977
Graduate .....	940	Academic Support Services .....	980
Graduate .....	940	Testing Center .....	980
Graduate Programs A-Z .....	940	Additional Campus Services and Support .....	982
Catalog Introduction .....	941	Public Safety .....	984
Catalog Purpose .....	941	Graduate Degree Programs, Certificates & Minors .....	985
Catalog Disclaimers .....	941	Accounting, MACC .....	986
Graduate College .....	942	Athletic Training, MA .....	990
About UNO .....	942	Biology, MS .....	993
Metropolitan University Mission .....	943	Biomedical Science Certificate .....	999
Accreditation .....	943	Business for Bioscientists Certificate .....	999
Community Engagement .....	943	Biomechanics, MS .....	1000
University Structure .....	943	Biomedical Informatics .....	1003

Biomedical Informatics, MS .....	1004	Cybersecurity Certificate .....	1110
Biomedical Informatics, PhD .....	1007	Data Science, MS .....	1112
Business Administration .....	1010	Economics .....	1140
Business Administration, MBA .....	1018	Economics, MA .....	1143
Business Administration-Executive MBA .....	1027	Economics, MS .....	1145
Business Administration, MBA and Management Information Systems, MS (MBA/MIS) .....	1036	Economic Education Certificate .....	1149
Business Administration, MBA and Economics, MS (MBA/ECON) .....	1040	Educational Leadership .....	1149
Business Administration, MBA and Public Health, MPH (MBA/MPH) .....	1045	Educational Leadership, MS .....	1153
Business Administration, MBA and UNMC PharmD (MBA/PharmD) .....	1048	Educational Administration & Supervision, EdS .....	1154
Business Administration, MBA and UNMC Doctor of Physical Therapy .....	1050	Educational Administration, EdD .....	1155
Business Administration, MBA and UNMC Nursing (MBA/MSN) .....	1051	Elementary Education, MS .....	1156
Business Administration, MBA and UNMC Master of Perfusion Science .....	1053	English .....	1169
Business Administration, MBA and UNMC Master of Physician Assistant Studies .....	1055	English, MA .....	1173
Business for Bioscientists Certificate .....	999	Advanced Writing Certificate .....	1174
Business in Health Administration Certificate .....	1057	Literature and Culture Certificate .....	1176
Human Resources and Training Certificate .....	1058	Teaching English to Speakers of Other Languages Certificate .....	1177
Supply Chain Management Certificate .....	1058	Technical Communication Certificate .....	1178
Communication .....	1059	Biomechanics and Kinesiology, PhD .....	1179
Communication, MA .....	1063	Geography .....	1184
Communication Certificate .....	1064	Geography, MA .....	1187
Human Resources and Training Certificate .....	1065	Geographic Information Science Certificate .....	1189
Computer Science .....	1067	Gerontology .....	1190
Computer Science, MS .....	1073	Gerontology, PhD .....	1192
Artificial Intelligence Certificate .....	1077	Gerontology, MA .....	1193
Communication Networks Certificate .....	1078	Gerontology Certificate .....	1194
Software Engineering Certificate .....	1078	Health and Kinesiology .....	1195
Systems and Architecture Certificate .....	1079	Health and Kinesiology, MS .....	1201
Computer Science Education, MS .....	1080	History .....	1202
Computer Science Education Certificate .....	1082	History, MA .....	1205
Counseling, MS .....	1083	History Certificate .....	1207
Criminology and Criminal Justice .....	1090	Information Technology .....	1207
Criminology and Criminal Justice, MA .....	1093	Information Technology, Executive MS .....	1208
Criminology and Criminal Justice, MS .....	1094	Information Technology, PhD .....	1209
Criminology and Criminal Justice, PhD .....	1097	IT Innovation, MS .....	1225
Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) .....	1099	Language Teaching, MA .....	1228
Managing Juvenile and Adult Populations Certificate .....	1101	Spanish Certificate .....	1232
Critical and Creative Thinking, MA .....	1102	Literacy, MS .....	1233
Cybersecurity, MS .....	1106	Management Information Systems .....	1240
		Management Information Systems, MS .....	1244
		Business Administration, MBA and Management Information Systems, MS (MBA/MIS) .....	1036
		Public Administration, MPA and Management Information Systems, MS (MPA/MIS) .....	1254
		Data Analytics Certificate .....	1256

Data Management Certificate .....	1258	Speech-Language Pathology, MS .....	1361
Information Assurance Certificate .....	1259	Urban Studies, MS .....	1364
Project Management Certificate .....	1260	Writing, MFA .....	1366
Systems Analysis and Design Certificate .....	1262	Graduate Certificates .....	1368
Mathematics .....	1263	Graduate Minors .....	1368
Mathematics, MA .....	1266	Ancient Mediterranean Studies Minor .....	1368
Mathematics, MAT .....	1269	Art History Minor .....	1369
Mathematics, MS .....	1270	Black Studies Minor .....	1369
Secondary Mathematics Specialist Certificate .....	1274	Business Administration Minor .....	1369
Music, MM .....	1274	Criminology and Criminal Justice Minor .....	1369
Kodaly Certificate .....	1279	Economics Minor .....	1369
Political Science .....	1280	English Minor .....	1369
Political Science, MS .....	1284	French Minor .....	1369
Global Information Operations Certificate .....	1288	Geography Minor .....	1370
Government Certificate .....	1289	German Minor .....	1370
Intelligence and National Security Certificate .....	1291	Gerontology Minor .....	1370
Psychology .....	1292	History Minor .....	1370
Psychology, MA .....	1298	Management Information Systems Minor .....	1370
Psychology, PhD .....	1301	Mathematics Minor .....	1370
Industrial/Organizational Psychology, MS .....	1303	Medieval/Renaissance Studies Minor .....	1370
School Psychology, EdS .....	1304	Native American Studies Minor .....	1371
School Psychology, MS .....	1305	Political Science Minor .....	1371
Applied Behavior Analysis, MS .....	1306	Religious Studies Minor .....	1371
Applied Behavior Analysis Certificate .....	1307	Spanish Minor .....	1371
Human Resources and Training Certificate .....	1308	Graduate Courses A-Z .....	1371
Public Administration .....	1308	Accounting (ACCT) .....	1372
Public Administration, MPA .....	1312	Anthropology (ANTH) .....	1374
Public Administration, PhD .....	1315	Architectural Engineering (AREN) .....	1374
Public Administration, MPA and Social Work, MSW (MPA/ MSW) .....	1317	Art (ART) .....	1376
Public Administration, MPA and Management Information Systems, MS (MPA/MIS) .....	1254	Athletic Training (ATHT) .....	1377
Public Management Certificate .....	1322	Aviation (AVN) .....	1378
Nonprofit Management Certificate .....	1323	Bioinformatics (BIOI) .....	1380
Secondary Education, MS .....	1323	Biology (BIOL) .....	1380
Social Work .....	1337	Biomechanics (BMCH) .....	1385
Social Work, MSW .....	1341	Biomedical Informatics (BMI) .....	1386
Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) .....	1099	Biomechanics and Kinesiology (BMKI) .....	1387
Public Administration, MPA and Social Work, MSW (MPA/ MSW) .....	1317	Black Studies (BLST) .....	1389
Social Work, MSW and Public Health, MPH (MSW/MPH) .....	1347	Business Administration (BSAD) .....	1391
Managing Juvenile and Adult Populations Certificate .....	1101	Chemical Engineering (CHME) .....	1398
Sociology, MA .....	1350	Chemistry (CHEM) .....	1399
Special Education, MS .....	1355	College of Information Science & Technology (CIST) .....	1400
		Civil Engineering (CIVE) .....	1401
		Communication (COMM) .....	1404
		Communication Disorders (CDIS) .....	1405

Communication Studies (CMST) .....	1407	Physics (PHYS) .....	1477
Community & Regional Planning (CRP) .....	1408	Political Science (PSCI) .....	1479
Computer Science (CSCI) .....	1409	Psychology (PSYC) .....	1482
Computer Science Teacher Education (CSTE) .....	1415	Public Administration (PA) .....	1488
Construction Engineering (CONE) .....	1415	Public Health & Behavior (PHHB) .....	1492
Construction Management (CNST) .....	1416	Recreation-Leisure Study (RLS) .....	1494
Counseling (COUN) .....	1418	Religion (RELI) .....	1494
Criminology and Criminal Justice (CRCJ) .....	1422	Russian (RUSS) .....	1495
Critical and Creative Thinking (CACT) .....	1425	Science, Tech, Engr, and Math (STEM) .....	1495
Cybersecurity (CYBR) .....	1428	Social Work (SOWK) .....	1497
Economics (ECON) .....	1430	Sociology (SOC) .....	1500
Educational Leadership (EDL) .....	1432	Spanish (SPAN) .....	1504
Electrical and Computer Engineering (ECEN) .....	1435	Special Education & Communication Disorders (SPED) .....	1505
Emergency Management (EMGT) .....	1440	Statistics (STAT) .....	1507
Engineering (ENGR) .....	1440	Teacher Education (TED) .....	1508
Engineering Mechanics (EMEC) .....	1441	Theatre (THEA) .....	1514
English (ENGL) .....	1441	Urban Studies (UBNS) .....	1515
Entrepreneurship (ENTR) .....	1446	Women's and Gender Studies (WGST) .....	1516
Environmental Engineering (ENVE) .....	1446	Writer's Workshop (WRWS) .....	1516
Environmental Studies (ENVN) .....	1446	Index .....	1517
Executive Master of Science/Information Technology (EMIT) ..	1447		
Foreign Language & Literature (FLNG) .....	1447		
French (FREN) .....	1448		
Geography (GEOG) .....	1449		
Geology (GEOL) .....	1451		
German (GERM) .....	1452		
Gerontology (GERO) .....	1452		
Health & Kinesiology (HEKI) .....	1454		
History (HIST) .....	1454		
Information Systems & Quantitative Analysis (ISQA) .....	1457		
International Studies (INST) .....	1461		
IT Innovation (ITIN) .....	1461		
Journalism and Media Communication (JMC) .....	1462		
Kinesiology (KINS) .....	1464		
Latino/Latin American Studies (LLS) .....	1466		
Master of Fine Arts Writing (MFAW) .....	1467		
Materials Engineering (MATL) .....	1467		
Mathematics (MATH) .....	1467		
Mathematics for Teachers (MTCH) .....	1471		
Mechanical Engineering (MECH) .....	1471		
Music (MUS) .....	1473		
Natural Sciences (NSCI) .....	1477		
Neuroscience (NEUR) .....	1477		
Philosophy (PHIL) .....	1477		



# UNDERGRADUATE

## 2021-2022 Undergraduate Catalog

### Undergraduate Programs A-Z

#### A

- Accounting Concentration (p. 374)
- Ancient Mediterranean Studies Minor (p. 74)
- Anthropology Minor (p. 338)
- Architectural Engineering, Bachelor of Science (p. 600)
- Art History Minor (p. 479)
- Art History, Bachelor of Arts (p. 476)
- Artificial Intelligence Concentration (p. 649)
- Aviation, Bachelor of Science (p. 693)

#### B

- Bachelor of Multidisciplinary Studies (p. 706)
- Bachelor of Science in Business Administration (BSBA) Degree (p. 348)
- Banking and Financial Markets Concentration (p. 383)
- Bioinformatics Minor (p. 672)
- Bioinformatics, Bachelor of Science (College of Arts and Sciences) (p. 77)
- Bioinformatics, Bachelor of Science (College of Information Science & Technology) (p. 668)
- Biology Minor (p. 94)
- Biology, Bachelor of Arts (p. 86)
- Biology, Bachelor of Science (p. 88)
- Biology, Bachelor of Science with a Concentration in Education (p. 91)
- Biomechanics Minor (p. 519)
- Biomechanics, Bachelor of Science (p. 517)
- Black Studies Minor (p. 100)
- Black Studies, Bachelor of Science (p. 98)
- BSBA as a Second Bachelor's Degree (p. 366)
- Business Analytics Concentration (p. 384)
- Business Analytics Minor for Non-Business Majors (p. 369)
- Business Finance Concentration (p. 386)
- Business for Non-Business Majors Minor (p. 369)

#### C

- Chemistry Minor (p. 113)
- Chemistry, Bachelor of Arts (p. 104)
- Chemistry, Bachelor of Science (p. 106)
- Chemistry, Bachelor of Science with a Concentration in Chemistry Education (p. 108)
- Chemistry, Bachelor of Science with a Concentration in Medicinal Chemistry (p. 111)
- Chicano/Latino Studies Minor (p. 217)
- Civil Engineering, Bachelor of Science (p. 603)
- Communication Disorders (p. 593)
- Communication Studies Minor (p. 425)
- Communication Studies, Bachelor of Arts (p. 421)
- Communication Studies, Bachelor of Science (p. 423)

- Computer Engineering, Bachelor of Science (p. 615)
- Computer Science Minor (p. 650)
- Computer Science, Bachelor of Science (p. 644)
- Construction Engineering, Bachelor of Science (p. 629)
- Construction Management, Bachelor of Science (p. 631)
- Creative Writing Minor (p. 511)
- Creative Writing, Bachelor of Fine Arts (p. 508)
- Criminology & Criminal Justice Minor (p. 704)
- Criminology & Criminal Justice, Bachelor of Science (p. 702)
- Cybersecurity Minor (p. 678)
- Cybersecurity, Bachelor of Science (p. 673)

#### D

- Data Management Certificate (p. 660)

#### E

- Economics Concentration (p. 379)
- Economics Minor (p. 120)
- Economics, Bachelor of Arts (p. 117)
- Economics, Bachelor of Science (p. 118)
- Education - Deaf/Hard of Hearing Program (p. 593)
- Education - Early Childhood Inclusive, Bachelor of Science (p. 541)
- Education - Elementary Education, Bachelor of Science (p. 544)
- Education - Library Science, Bachelor of Science (p. 552)
- Education - Secondary Education, Bachelor of Science (p. 553)
- Education - Special Education, Bachelor of Science (p. 589)
- Electrical Engineering, Bachelor of Science (p. 617)
- Emergency Management (BSEM), Bachelor of Science (p. 724)
- Emergency Management Minor (p. 729)
- Engineering Leadership Minor (p. 620)
- English Minor (p. 135)
- English, Bachelor of Arts (p. 126)
- Enterprise Resource Planning (ERP) Systems Minor (p. 660)
- Entrepreneurship Concentration (p. 405)
- Entrepreneurship for Non-Business Majors Minor (p. 369)
- Environmental Science Minor (p. 147)
- Environmental Science, Bachelor of Science with a Concentration in Analytical Sciences (p. 138)
- Environmental Science, Bachelor of Science with a Concentration in Earth Sciences (p. 140)
- Environmental Science, Bachelor of Science with a Concentration in Geography and Planning (p. 143)
- Environmental Science, Bachelor of Science with a Concentration in Life Science (p. 145)
- Ethics Minor (p. 284)

#### F

- Fire Service Management Minor (p. 729)
- Foreign Languages and Literature, Bachelor of Arts (p. 157)
- French Minor (p. 161)

#### G

- Game Programming Concentration (p. 649)
- General Science, Bachelor of Science (p. 162)
- Geography Minor (p. 176)
- Geography, Bachelor of Arts (p. 171)
- Geography, Bachelor of Science (p. 173)

- Geology Minor (p. 187)
- Geology, Bachelor of Arts (p. 179)
- Geology, Bachelor of Science (p. 183)
- German Minor (p. 161)
- Gerontology Certificate (p. 736)
- Gerontology Minor (p. 737)
- Gerontology, Bachelor of Science (p. 734)

## H

- History Minor (p. 194)
- History, Bachelor of Arts (p. 191)
- History, Bachelor of Science (p. 193)
- Holocaust and Genocide Studies Minor (p. 194)
- Human Resource Management Concentration (p. 398)
- Human Rights Studies Minor (p. 195)

## I

- Information Assurance Concentration (p. 650)
- Information Technology (IT) Innovation, Bachelor of Science (p. 679)
- Information Technology Administration Certificate (p. 661)
- Interdisciplinary Studies, Bachelor of Arts (p. 197)
- Interdisciplinary Studies, Bachelor of Science (p. 200)
- International Business Concentration (p. 367)
- International Studies Minor (p. 210)
- International Studies, Bachelor of Arts (p. 205)
- Internet Technologies (iT) Concentration for Computer Science Majors (p. 650)
- Investment Science and Portfolio Management Concentration (p. 388)
- Islamic Studies Minor (p. 211)
- IT Innovation Minor (p. 684)

## J

- Journalism and Media Communication Minor (p. 435)
- Journalism and Media Communication, Bachelor of Arts (p. 426)
- Journalism and Media Communication, Bachelor of Science (p. 430)

## K

- Kinesiology, Bachelor of Science in Education (p. 531)

## L

- Latino/Latin American Studies, Bachelor of Arts (p. 214)
- Leadership and Public Policy Minor (p. 308)
- Legal Studies Concentration (p. 389)
- LGBTQ/Sexuality Studies Minor (p. 344)
- Logistics & Supply Chain Management Concentration (p. 399)
- Logistics & Supply Chain Management for Non-Business Majors Minor (p. 370)

## M

- Management Concentration (p. 396)
- Management Information Systems Minor (p. 659)
- Management Information Systems, Bachelor of Science (p. 655)
- Marketing Concentration (p. 406)
- Marketing for Non-Business Majors Minor (p. 369)
- Mathematics Minor (p. 252)
- Mathematics, Bachelor of Arts (p. 225)

- Mathematics, Bachelor of Science (p. 238)
- Medical Humanities Minor (p. 259)
- Medical Humanities, Bachelor of Arts (p. 254)
- Medical Humanities, Bachelor of Science (p. 257)
- Medieval/Renaissance Studies Minor (p. 261)
- Molecular and Biomedical Biology, Bachelor of Science (p. 263)
- Molecular and Biomedical Biology, Minor (p. 267)
- Music Education, Bachelor of Music, K-12 Certification (p. 461)
- Music Performance, Bachelor of Music (p. 453)
- Music, Bachelor of Arts (p. 446)

## N

- Native American Studies Minor (p. 267)
- Neuroscience, Bachelor of Science (p. 270)
- Nonprofit Management Minor (p. 743)

## P

- Philosophy Minor (p. 284)
- Philosophy, Bachelor of Arts (p. 278)
- Philosophy, Bachelor of Arts Concentration in Ethics, Law and Social-Political Philosophy (p. 282)
- Philosophy, Bachelor of Arts Concentration in Philosophy of Brains, Minds and Machines (p. 280)
- Physics Minor (p. 296)
- Physics, Bachelor of Arts (p. 288)
- Physics, Bachelor of Science (p. 290)
- Physics, Bachelor of Science with a Concentration in Biomedical Physics (p. 292)
- Physics, Bachelor of Science with a Concentration in Physics Education (p. 294)
- Political Science Minor (p. 308)
- Political Science, Bachelor of Arts (p. 303)
- Political Science, Bachelor of Science (p. 305)
- Pre-Agricultural Engineering (p. 623)
- Pre-Biological Systems Engineering (p. 624)
- Pre-Mechanical Engineering (p. 625)
- Psychology Minor (p. 320)
- Psychology, Bachelor of Arts (p. 312)
- Psychology, Bachelor of Science (p. 316)
- Public Health Minor (p. 533)
- Public Health, Bachelor of Science (p. 529)

## R

- Real Estate and Land Use Economics Concentration (p. 391)
- Real Estate and Land Use Economics Program Certificate (p. 393)
- Real Estate and Land Use Economics, Minor (p. 370)
- Religion Minor (p. 326)
- Religion, Bachelor of Arts (p. 325)
- Robotics Engineering Minor (p. 625)

## S

- Sales Concentration (p. 408)
- Sales Minor for Non-Business Majors (p. 370)
- Screenwriting Minor (p. 511)
- Social Work, Bachelor of Science (p. 740)
- Sociology Minor (p. 338)
- Sociology, Bachelor of Arts (p. 332)

- Sociology, Bachelor of Science (p. 335)
- Spanish Minor (p. 162)
- Sports Medicine Minor (p. 533)
- Studio Art K12 Certification/Bachelor of Arts in Fine Arts Two or Three Dimensional Dual Degree, BFA (p. 499)
- Studio Art Minor (p. 496)
- Studio Art with K-12 Certification, Bachelor of Arts (p. 496)
- Studio Art, Bachelor of Arts (p. 480)
- Studio Art, Bachelor of Fine Arts (p. 488)
- Sustainability Minor (p. 148)
- Systems Development Certificate (p. 660)

## T

- Teaching English to Speakers of Other Languages (TESOL) Certificate (p. 134)
- Theatre Minor (p. 506)
- Theatre, Bachelor of Arts (p. 502)
- Tribal Management and Emergency Services Certificate (p. 730)
- Tribal Management and Emergency Services Minor (p. 730)

## V

- Visual Communication and Culture Minor (p. 435)

## W

- Women's and Gender Studies (p. 338)
- Women's and Gender Studies Minor (p. 344)
- Women's and Gender Studies, Bachelor of Arts (p. 341)

# Catalog Introduction

- Catalog Purpose (p. 14)
- Catalog Disclaimers (p. 14)

## Catalog Purpose

The catalog is a comprehensive resource that provides important information for students' academic careers at UNO. The catalog contains official descriptions of academic programs, prerequisites, courses, and degree requirements. In addition, the catalog provides an overview of academic policies and procedures, including admissions, enrollment, grading, and financial information.

## Catalog Disclaimers

### Discontinuance of Program Offerings

Acceptance of registration by the University of Nebraska and admission to any educational program of the University does not constitute a contract or warranty that the University will continue to offer the program in which a student is enrolled. The University expressly reserves the right to change, phase out, or discontinue any program.

The listing of courses contained in any University bulletin, catalog, or schedule is by way of announcement only and shall not be regarded as an offer of contract. The University expressly reserves the right to:

1. Add or delete courses from its offerings;
2. Change times or locations of courses or programs;
3. Change academic calendars without notice;

4. Cancel any course for insufficient registrations, or
5. Revise or change rules, charges, fees, schedules, courses, requirements for degrees, and any other policy or regulation affecting students, including, but not limited to, evaluation standards, whenever the same is considered to be in the best interests of the University.

## University's Right to Change

The University and its various colleges, divisions, and departments reserve the right to change the rules controlling admission to, instruction in, and graduation from the University or its various divisions. Such regulations are operative whenever University authorities deem necessary and apply not only to prospective students, but also to currently enrolled students.

The University also reserves the right to withdraw courses, to reassign instructors and to change tuition and fees at any time. In some cases, prerequisites for courses offered at the University are effective even if they are not listed in this catalog. See the current class schedule or your advisor for more information.

NOTE: Modifications in the academic calendar and program could be necessitated by emergency conditions.

## About UNO

Located in one of America's best cities to live, work and learn, the University of Nebraska at Omaha (UNO) is Nebraska's premier metropolitan university. With more than 15,000 students enrolled in 200-plus programs of study, UNO is recognized nationally for its online education, graduate education, military friendliness, and community engagement efforts. Founded in 1908, UNO has served learners of all backgrounds for more than 100 years and is dedicated to another century of excellence both in the classroom and in the community.

- Metropolitan University Mission (p. 14)
- Accreditation (p. 15)
- Community Engagement (p. 15)
- University Structure (p. 15)
- University Leadership (p. 15)
- Freedom of Expression (p. 16)
- Family Education Rights and Privacy Act (FERPA) (p. 16)
- Student Right to Know/Consumer Information (p. 16)
- State Authorization/Governance Financial Reporting (p. 16)

## Metropolitan University Mission

### Mission Statement

As a metropolitan university of distinction, Carnegie Doctoral Research Institution, and one of the first universities to earn the Carnegie Community Engagement Classification, the University of Nebraska at Omaha (UNO) transforms and improves the quality of life locally, nationally and globally.

The "metropolitan university," defined in its simplest terms, is an institution that accepts all of higher education's traditional values in teaching, research, and service, but takes upon itself the additional responsibility of providing engaged leadership within the metropolitan region by using its human and financial resources as partners to improve the region's quality of life. Adapted from Paige E. Mulhollan's "Aligning Missions with Public Expectations: The Case of the Metropolitan Universities," Metropolitan Universities, 1995.

Learn more about the UNO metropolitan mission (<https://www.unomaha.edu/about-uno/mission.php>).

## Accreditation

The University of Nebraska at Omaha (UNO) is accredited by the Higher Learning Commission, which is an independent corporation founded in 1895. The commission can be contacted at 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604; telephone 800.621.7440/312.263.0456; fax 312.263.7462; email [info@hlcommission.org](mailto:info@hlcommission.org). Higher Learning Commission accreditation applies to the entire institution, all its programs, and all its locations.

In addition, a number of programs have been awarded discipline-specific accreditation. Learn more about the comprehensive listing (<https://www.unomaha.edu/accreditation/programs/>). Prospective and enrolled students are encouraged to check with department/school advisors for additional information about program accreditation in relation to specific programs.

## Community Engagement

UNO is Nebraska's metropolitan university – a university with strong academic values and significant relationships with our community that transforms and improves life. Community engagement and service are fundamental components of UNO's identity. This commitment to engagement is reflected in UNO's academics, student body, partnerships, and institutional framework.

Learn more about the commitment to engagement (<https://www.unomaha.edu/campus-commitment-to-community-engagement/>).

## University Structure

UNO is part of the Nebraska University system. The system has four university campuses: UNK, UNL, UNMC, and UNO. The campuses are led by the University President and the president reports to the Board of Regents which is an elected body. Each campus is led by a chancellor who manages an administrative team of vice chancellors who, in turn, oversee different aspects of campus, including academic affairs and student success.

Within UNO, there are six different colleges, each containing different departments or schools. The deans are the top administrators of the colleges. Department chairs or school directors oversee the faculty, staff, and academic processes of the department/school. If you are unsure of your college affiliation, your advisor can assist you in determining the college in which your degree resides.

- College of Arts and Sciences (<https://www.unomaha.edu/college-of-arts-and-sciences/>)
- College of Business Administration (<https://www.unomaha.edu/college-of-business-administration/>)
- College of Communication, Fine Arts, and Media (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/>)
- College of Education, Health, and Human Sciences (<https://www.unomaha.edu/college-of-education/>)
- College of Information Science & Technology (<https://www.unomaha.edu/college-of-information-science-and-technology/>)
- College of Public Affairs and Community Service (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/>)

All UNO graduate programs are administered by the UNO Office of Graduate Studies (<https://www.unomaha.edu/graduate-studies/>), which is part of the University of Nebraska Graduate College.

## University Leadership Board of Regents

Timothy Clare, J.D., Lincoln

Jack Stark Ph.D., Omaha

Jim Pillen, D.V.M., Columbus

Elizabeth O'Connor, J.D., Omaha

Robert Schafer, J.D., Beatrice

Paul Kenney, Amherst (2021 Chair)

Bob Phares, North Platte (2021 Vice Chair)

Barbara Weitz, Omaha

### Student Representatives

University of Nebraska at Omaha, Maeve Hemmer

University of Nebraska at Kearney, Max Beal

University of Nebraska-Lincoln, Veronica Miller

University of Nebraska Medical Center, Thomas Schroeder

Learn more about the Board of Regents (<https://nebraska.edu/regents/board-members/>).

## President

Walter, "Ted" Carter, Jr. - President, University of Nebraska

Meet the President (<https://nebraska.edu/president/meet-the-president/>)

## UNO Administration

### Chancellor

Joanne Li, Ph.D., CFA Chancellor

### Vice Chancellors

Sacha Kopp, Ph.D., Senior Vice Chancellor for Academic Affairs

Daniel Shipp, Ed.D., Vice Chancellor for Student Success

Doug Ewald, Vice Chancellor for Business, Finance and Business Development

Robert Bartee, Vice Chancellor for External Relations

### Deans

David Booker, Ph.D., Dean of the College of Arts and Sciences

Michelle Trawick, Ph.D., Dean of the College of Business Administration

Michael Hilt, Ph.D., Dean of the College of Communication, Fine Arts and Media

Nancy Edick, Ed.D., Dean of the College of Education

Martha Garcia-Murillo, Ph.D., Dean of the College of Information Science & Technology

John Bartle, Ph.D., Dean of the College of Public Affairs and Community Service

David Richards, MLIA, MA, Dean of Library Services

Deborah Smith-Howell, Ph.D., Associate Vice Chancellor, Academic Affairs,  
Dean for Graduate Studies

Cathy Pettid, LMHP, Assistant Vice Chancellor for Student Success and Dean  
of Students

Learn more about the UNO Administration (<https://www.unomaha.edu/about-uno/administration.php>).

## Freedom of Expression

The University of Nebraska honors the First Amendment of the U.S. Constitution and has long dedicated itself to the free exchange of ideas. The purpose of this policy is to articulate, clarify and underscore that long-standing commitment in a manner that furthers both freedom of expression and the University's mission of teaching, research and public service. The first section of this policy sets forth the University's and the Board of Regents' commitment to the tenets of Free Expression; the second section provides a framework for campuses to provide what are referred to as "facilities use plans" or programs applicable to particular spaces and resources on their campuses, consistent with that commitment, the law, and the University's mission; and the final section is a mandate for education with respect to the rights surrounding the First Amendment.

Read the full Freedom of Expression Policy (<https://nebraska.edu/-/media/unca/docs/offices-and-policies/policies/board-governing-documents/board-of-regents-policies.pdf>).

Adopted by the Board of Regents of the University of Nebraska on  
December 4 2020 (RP 6.4.10).

## Family Education Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) of 1974 affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records.
2. The right to request the amendment of the student's education records to ensure they are not inaccurate, misleading, or otherwise in violation of the student's privacy or other rights.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent FERPA authorizes disclosure without consent.
4. The right to file with the U.S. Department of Education a complaint concerning alleged failures by the University of Nebraska at Omaha to comply with the requirements of FERPA.
5. The right to obtain a copy of the University of Nebraska at Omaha's Student Records Policy. A copy of the policy is available at the Office of the University Registrar, 105 Eppley Administration Building.

Learn more about FERPA (<http://www.unomaha.edu/registrar/students/transcripts-and-records/student-privacy-information-ferpa.php>).

## Student Right to Know/Consumer Information

The Higher Education Opportunity Act of 2008 (HEOA) requires that post-secondary institutions participating in federal student aid programs, including the University of Nebraska at Omaha (UNO), make certain disclosures to enrolled and prospective students, parents, employees, and the public. The following information is disclosed to you in compliance with federal law. To request paper copies of any of the information listed

below, please contact the Office of Financial Support and Scholarships. The information on this page is reviewed and updated annually to ensure it is accurate, timely, and appropriate.

Learn more about the Consumer Information ([https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer\\_info.php](https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer_info.php)) policy.

Learn more about the Student Right-to-Know Act ([https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer\\_info.php#nces](https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer_info.php#nces)).

## State Authorization/ Governance Financial Reporting

### Coordinating Commission for Postsecondary Education

An institution that participates in the federal student aid programs authorized under Title IV of the Higher Education Act of 1965, as amended, must be authorized to operate by the state where it is located. There are two basic requirements for an institution to be legally authorized by the state for Title IV funding eligibility purposes. The state must authorize an institution to operate educational programs beyond secondary education, and the state must have a process to review and appropriately act on complaints concerning the institution, including enforcement of applicable state laws. Nebraska's Coordinating Commission for Postsecondary Education is responsible for responding to these formal complaints at <http://www.ccpe.state.ne.us/PublicDoc/Ccpe/Complaint.asp> (<https://ccpe.nebraska.gov/>).

## State Licensure

The US Department of Education requires the University of Nebraska at Omaha to notify both prospective and enrolled students in degree programs that lead to state licensure or certification required for entry into a profession in the state in which students are located.

Certification and licensure requirements differ from state to state. We are required to notify students if the program you are interested in or enrolled in will meet educational requirements to apply for certification or licensure in your home state.

Learn more about State Licensure <https://www.unomaha.edu/academic-affairs/curriculum-development/licensure.php>

## Governance/Financial Information

The University of Nebraska is one university, governed by a Board of Regents whose members are elected by Nebraska voters. The board appoints a chief executive officer—the president of the University of Nebraska—who is the single administrative officer responsible to the board. The university conducts its programs primarily on its four campuses (UNO, UNMC, UNL, UNK). The president's office provides overall leadership to the university in academic affairs, budget development and control, business and finance, physical planning, policy development, external affairs, diversity and equity, and legal affairs. The chancellors of the four campuses, who are appointed by the president, also serve as vice presidents of the university and as chief operating officers on their own campus.

Annual financial reports for the University of Nebraska are available at: [nebraska.edu/offices-policies/business-finance/accounting-finance/](https://nebraska.edu/offices-policies/business-finance/accounting-finance/) (<https://nebraska.edu/offices-policies/business-finance/accounting-finance/>)

Annual operating budgets are available at [nebraska.edu/administration/business-and-finance/budget-information.html](http://www.nebraska.edu/administration/business-and-finance/budget-information.html) (<http://www.nebraska.edu/administration/business-and-finance/budget-information.html>).

## Admissions

- Application Deadline Dates (p. 17)
- Application Process (p. 17)
- Admission Requirements (p. 17)
- Admission Fees (p. 21)
- International Applicants (p. 21)
- Admission Decisions (p. 22)
- Frequently Asked Questions (p. 23)

## Application Deadline Dates

First-Year applicants are encouraged to apply during the first semester of their senior year of high school to be considered for scholarships. Transfer students should apply during the semester preceding their intended enrollment.

Undergraduate Admission Application deadline dates:

**Fall Semester - August 22**

**Spring Semester - January 24**

**Summer Session - July 1**

**NOTE:** View the Academic Calendar (<https://www.unomaha.edu/registrar/academic-calendar.php>) for the official first day of classes.

All applications must be submitted online at [apply.unomaha.edu](http://apply.unomaha.edu) (<http://apply.unomaha.edu>) by the deadline to be considered.

## Application Process

1. Apply for admission online at [apply.unomaha.edu](http://apply.unomaha.edu) (<http://apply.unomaha.edu>).
2. Pay your \$45 non-refundable application fee.
3. Submit all required documentation.

Submitting an application or being granted admission to UNO does not guarantee enrollment in any specific course. All inquiries and correspondence relating to the admission of students should be addressed to:

UNO Office of Undergraduate Admissions  
111 Eppley Administration Building  
6001 Dodge Street  
Omaha, NE 68182  
[unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu)  
402.554.2393

All credentials received in connection with applications for admission become the property of UNO. They cannot be duplicated, returned to the applicants, or forwarded to any agency or other college or university. Hand-carried or student submitted transcripts are considered unofficial. All official transcripts must be submitted. The university reserves the right to change existing admissions policies and applicable deadline dates without prior notice.

## Admission Requirements

### First-Year Applicants

The Board of Regents (<https://nebraska.edu/-/media/unca/docs/offices-and-policies/policies/board-governing-documents/board-of-regents-policies.pdf>) of the University of Nebraska establishes minimum admission requirements for prospective students. Individual colleges may require additional credentials or have other requirements for specific programs. It also should be noted these requirements may not pertain to transfer students, international applicants, readmission, or non-degree students.

### Documentation Needed

1. Final official high school transcript and/or official GED Equivalency Scores
  - a. A final official high school transcript must be sent to the UNO Office of Undergraduate Admissions directly from the high school. The high school transcript must be a cumulative record of all high school coursework completed. If the high school transcript does not verify graduation at the time the application is submitted, a final high school transcript must be sent following graduation. Hand-carried or student-submitted transcripts are considered unofficial. All official transcripts must be submitted.
  - b. GED (General Education Diploma): The University of Nebraska at Omaha (UNO) acknowledges the General Educational Diploma (GED) as equivalent to a high school diploma. Some credit can be assigned to meet the admission requirements based on subject area scores on the GED exam but this alone may not be sufficient to meet the 16 core course requirements.
  - c. Homeschooled students are required to submit a typed transcript (semester format) of all coursework the student has completed. Grades or averages earned in each course must be included on the transcript. The transcript should include an anticipated/final completion date as well as a signature of the administrator of grades. Additional supporting documents may be requested by the university to assist officials in making an admission decision.
2. Official transcripts from college credit earned during high school should be sent directly to the UNO Undergraduate Admissions Office. If you attended UNO in the Early Entry or Dual Enrollment Program, it is not necessary for you to request a transcript.

### Assured Admission (First-Year Applicants)

Graduates of a regionally-accredited high school or who have completed the equivalent training (General Education Diploma - GED) and students who are home-schooled must meet the following criteria for assured admission:

### Core Course Requirements

All students are expected to have met the following 16 core course requirements in high school or a combination of high school and college coursework. Resource or special education classes completed in high school cannot be used to satisfy the core requirements. A list of eligible high school classes in Nebraska is available online at: [schoolcounselors.unl.edu/curriculum/curriculum-list/](http://schoolcounselors.unl.edu/curriculum/curriculum-list/) (<https://schoolcounselors.unl.edu/curriculum/curriculum-list/>)

1. English - 4 units<sup>1</sup> All units must include intensive reading and writing experience. Innovative interdisciplinary courses and courses in speech and journalism may be substituted if they include substantial amounts of reading and writing. Dual language or ELL English classes completed in high school do not satisfy the English core course requirement.
2. Mathematics - 3 units<sup>1</sup> Must include Algebra I, II, and Geometry.
3. Social sciences - 3 units<sup>1</sup> At least one unit of American and/or world history and one additional unit of history, American government, and/or geography; and a third unit of any social science discipline or subject.

4. Natural sciences - 3 units<sup>1</sup> At least two of the three units selected from biology, chemistry, physics, and earth sciences. One of the units must include laboratory instruction.
5. Foreign languages - 2 units<sup>1</sup> (same language) Students who are unable to take two years of one foreign language in high school may still qualify for admission. Such students will be required to take two semesters of a foreign language at the University of Nebraska or other accredited post-secondary institution.
6. Additional requirement - 1 unit<sup>1</sup> One unit chosen from any of the above academic disciplines.

<sup>1</sup> A unit is equivalent to one school year in a class, grades 9-12.

## Performance Requirements

In addition to meeting the above core course requirements, students applying for admission should be:

1. Be ranked in the 50th percentile or higher of their graduating class in an accredited high school; or
2. Have received an ACT composite score of 20 (enhanced) or greater, or its SAT equivalent; or
  - a. Official scores are to be sent to UNO directly from the testing service; the UNO ACT code is 2464. The UNO SAT code is 6420.
3. Have earned a minimum of 3.00 cumulative high school GPA at the conclusion of their sixth semester of high school or later.

## Transfer Applicants

If you have attempted any collegiate coursework after high school, all attendance must be disclosed on the application for admission. Students may not choose to disregard prior postsecondary coursework previously attempted. This applies to studies completed at any accredited or unaccredited institution, coursework that was withdrawn, failed, or incomplete. Failure to do so will result in a denied application and/or disenrollment from the university.

To be eligible for admission, transfer students must be in good standing at the college or university last attended.

Many of UNO's undergraduate colleges have a minimum GPA requirement of 2.00 or above and additional admission requirements. Review the specific college and program requirements within this catalog.

## Documentation Needed

1. Official college transcript(s) must be sent directly to the UNO Office of Undergraduate Admissions from the Registrar's Office **of each previous college or university attended regardless of whether credit was earned**. Hand-carried or student-submitted transcripts are not acceptable. If you are currently enrolled in college courses, please request (prior to finishing classes) an official transcript sent when final grades are posted, to the Office of Undergraduate Admissions. If the records are not in English, an official translation must be provided by the student.
2. All previous college coursework attempted or completed must be reported on the application regardless of whether credit was earned. Transfer students may not choose to disregard prior postsecondary coursework previously attempted. This applies to studies completed at any accredited or unaccredited institution, coursework that was withdrawn, failed, or incomplete. Failure to provide this information will be considered fraudulent and may result in withdrawal of admission or dismissal from the university.
3. Transfer students must be graduates of a regionally-accredited (North Central or equivalent) high school or have completed the equivalent training (GED). An Associate of Arts (AA) degree or Associate of Science (AS) degree from a community college in Nebraska will satisfy the proof of high school graduation requirement. Official transcripts showing proof of graduation or equivalent training will be required.
4. Students who transfer to UNO with 24 credit hours of transferable coursework will not be required to have met the core course requirements, either in high school or in their previous postsecondary studies.
5. Students placed on academic suspension or dismissed from any institution within the last calendar year will be denied admission. Any student providing a transcript indicating suspension or dismissal within the last year will be disenrolled from classes and any tuition paid to date for the semester would be refunded.
6. Transcripts sent to the UNO Office of Undergraduate Admissions for students who do not enroll will be retained for one year. If the student applies for admission beyond that, new transcripts will need to be provided for admission consideration.
7. Students who are granted provisional admission must submit all documents required for admission within the first eight weeks of the first term enrollment. Failure to do so will result in an enrollment hold blocking further registration. Only one term of provisional admission/enrollment is allowed. No extensions or waivers of the enrollment hold will be granted. It is the student's responsibility to provide all credentials required for admission.
8. Several UNO colleges have minimum GPA and additional requirements. Failure to meet minimum requirements for a program may result in admission delays. To avoid delays, select a college/major program for which all requirements have been met.
9. If you have previously attended or are currently attending UNK, UNL, or UNMC, please refer to the University of Nebraska System Change of Campus instructions (<https://intercampus.nebraska.edu/ccnotice.aspx>).
10. Nebraska Community College students who want to continue their education are encouraged to take advantage of Associate to Bachelor articulation agreements that allow students who have completed or plan to complete an associate's degree, the opportunity to work directly toward their bachelor's degree. More information can be found at [unomaha.edu/registrar](http://unomaha.edu/registrar) (<http://unomaha.edu/registrar/>).

## Awarding of Transfer Credits

1. Credits submitted only on official transcripts from other colleges or universities will be evaluated for admission to an undergraduate college by the Office of Undergraduate Admissions. Transcripts will become a part of the student's permanent record maintained in the University Registrar's Office. The dean of the UNO College will determine the manner in which transfer credits will apply toward degree requirements.
2. In general, credits and grades earned at other University of Nebraska campuses will be accepted, computed into the student's grade point average, and will become a part of the permanent record from which official transcripts will be made.
3. Only courses with a grade of "C-" or better will be accepted for transfer from accredited two and four-year colleges and universities.
4. Sixty-four (64) semester credit hours is the maximum allowed for transfer to most undergraduate UNO colleges from regionally accredited two-year colleges. The College of Engineering will allow a maximum of sixty-six (66) semester hours of credit from a two-year college.
5. Each UNO college has a required number of credit hours to be completed at UNO prior to graduation.
6. Students wishing to transfer credits from recognized institutions outside the United States may need to provide a course syllabus with translation, if applicable, for evaluation of transfer credits.

## Nebraska System Students

### Transferring/Change of Campus in the NU System

#### Nebraska System Students

## Change of Campus Students Transferring to UNO

1. If you have previously attended within the last 5 years or are a current UNL, UNK, or UNMC student wanting to transfer to UNO, please complete the Change of Campus Form (<http://intercampus.nebraska.edu/CCNotice.aspx>) and a UNO undergraduate admission application (<http://apply.unomaha.edu/>). NOTE: Credits and grades earned at other University of Nebraska campuses will be accepted, computed into the student's NU grade point average, and will become a part of the permanent record from which official transcripts will be made.
2. Application Fee is Waived.
3. Approval from the home campus is required to have them send your documents to UNO. Approval does not ensure admission to the campus.
4. Students must certify they will meet the minimum admission criteria for the college/major to which they are admitted. The office of Undergraduate admissions may change the program of study if a student does not meet the minimum required grade point average.
5. Review the specific college and program requirements within this catalog. Failure to meet the minimum GPA requirement for the desired program may result in admission delays. To avoid these delays, select a college/major program for which requirements have been met.
  - a. College of Arts and Sciences (p. 69) 2.0 GPA
  - b. College of Business Administration (p. 345) 2.5 GPA
  - c. College of Communication, Fine Arts and Media (p. 409) 2.25 GPA
  - d. College of Education, Health, and Human Sciences (p. 511) 2.5 GPA
  - e. College of Engineering (p. 595) 2.5 GPA
  - f. College of Information Science & Technology (p. 635) 2.5 GPA
  - g. College of Public Affairs and Community Service (p. 684) 2.5 GPA
6. A delay or failure to provide an official transcript from each institution previously attended will result in an enrollment hold. Any student providing a transcript indicating suspension or dismissal within the last year will be disenrolled from classes and any tuition paid to date for the semester would be refunded.
7. Students placed on academic suspension or those dismissed from any institution within the last calendar year will be denied admission regardless of the student's eligibility to return to the prior institution.

## Visiting Intercampus Students

1. All visiting students from any of the University of Nebraska campuses must complete the Intercampus Application form (<https://intercampus.nebraska.edu/ccnotice.aspx>).
2. Approval from the home campus is required to enroll as an Intercampus student.
3. A new online Intercampus Application form must be submitted to the UNO Office of Undergraduate Admissions each semester a student wishes to enroll as an Intercampus student.
4. Financial holds at the degree-granting campus must be cleared before submitting the Intercampus Application.
5. Intercampus students who have been placed on academic suspension at any of the University of Nebraska campuses during the last calendar year are not eligible to enroll at UNO.

## Former UNO Students

### Readmission Criteria

1. Former UNO students who have not been enrolled at UNO within the last two years must complete an Application for Undergraduate Admission (<https://www.unomaha.edu/admissions/apply/>). Another application fee is not required.
2. The Undergraduate Admissions Office denies readmission to any student under academic suspension who has been out of school less than one calendar year.
3. Students who have been academically suspended from UNO should contact the [University Registrar Office](#) for reinstatement information.
4. Many of UNO's undergraduate colleges have additional admission requirements. Review the specific college and program requirements within this catalog.
5. If the student has attended other colleges since last attending UNO, official college transcripts are required.
6. UNO graduates must submit a new application to continue their undergraduate studies.

## English Proficiency Policy

Applicants are able to fulfill the English proficiency admission requirement with the following:

1. Applicants expecting to graduate from an accredited U.S. high school must show acceptable performance in four units (years) of standard high school English courses.
2. Completion of an Associate of Arts or Associate of Science degree from a regionally accredited U.S. post-secondary institution. A grade of C or better must be earned with a 2.5 or higher grade point average. Official U.S. college transcripts must be sent directly to UNO.
3. Completion of English Composition I and English Composition II from a regionally accredited U.S. post-secondary institution. A grade of C or better must be earned with a 2.5 or higher grade point average. Official U.S. college transcripts must be sent directly to UNO.

All undergraduate students must take the UNO English Placement and Proficiency Exam (EPPE) before they are allowed to enroll in English courses. They must enroll in that course or sequence of courses indicated by their placement exam. Exceptions from taking EPPE may apply to students who have qualifying transfer credit.

## Undergraduate Applicants Whose Language of Nurture is Not English

For admission purposes, applicants whose language of nurture is not English must demonstrate English proficiency. Applicants who have graduated from a U.S. high school or are transferring from the U.S. regionally accredited college or university may be required to take the English Placement and Proficiency exam before an admission decision can be made.

All other students are able to fulfill the English proficiency admission requirement by submitting scores from the below-testing agencies. Students are responsible for contacting the appropriate testing agency to submit official scores. UNO will only accept scores that come directly from the testing agency.

English Proficiency Test	Score
TOEFL (Test of English as a Foreign Language) Internet-Based	61
TOEFL (Test of English as a Foreign Language Paper-Based)*	500 composite
IELTS (The International English Language Testing System)*	6.0 composite

ACT English sub score*	18
SAT Critical Reading sub score*	470
PTE (Pearson Language Test)	CEFR level of C2
Duolingo	95

\* College of Engineering programs require TOEFL paper test score of 550 or IBT 80, IELTS 6.5, Duolingo 115, ACT English subscore of 22, SAT Critical Reading Subscore of 480, for admission.

\* English Majors in the College of Arts and Sciences require of TOEFL paper test score of 600, IBT 100, IELTS 7.0, Duolingo 120.

SPECIAL NOTE: TOEFL results from other institutions may not be used for direct application to the university.

## Non-Degree/Visiting Student Applicants

1. Individuals who do not intend to complete a degree at UNO may apply as a non-degree/visiting student.
2. A visiting student from another institution or a summer session applicant interested in enrolling for personal or professional enrichment may be admitted as a non-degree student.
3. Non-Degree/Visiting Admission Criteria
  - a. Non-degree students from another college or university are expected to be in good academic standing. Any student who has been placed on academic dismissal or suspension from any college or university within the last year will be denied admission regardless of the student's eligibility to return to the prior institution. The student would be eligible to reapply for admission to UNO after one full year following the end of the term in which the student was last suspended.
  - b. Any student denied admission as a degree-seeking student is not eligible to apply as a Non-Degree/Visiting student.
  - c. A Non-Degree student must be a high school graduate or hold a high school equivalency diploma (GED).
4. Students changing from a Non-Degree classification to a degree program will be expected to provide additional documentation and meet admission requirements. An Application for Undergraduate Admission (<https://www.unomaha.edu/admissions/apply/>) to the degree program must be submitted to the Office of Undergraduate Admissions.
5. The Non-Degree classification is not recommended for certification, recertification, or for enrolling in professional education courses.
6. Non-Degree students are not eligible for scholarships or financial aid.

## Early Entry Admissions Program

The University of Nebraska at Omaha Early Entry Program allows currently enrolled high school students of high academic achievement and potential the opportunity to enroll in regular college courses on the university campus. This program encourages high school students whose maturity, achievement, aptitude, and goals warrant special consideration to enroll in the UNO Early Entry Program. Early Entry Students enroll in university courses at a level not available to them through their high schools. This program is meant to enhance the students' educational programs, not to replace any part of them.

Some opportunities a student may gain by enrolling in the UNO Early Entry Program are:

- Early Entry students may be enrolled in high school and at the university concurrently. Courses may be taken during the fall or spring semesters or during the summer sessions. Students enrolled in the Early Entry Program attend regular university classes and receive university credit.

- The college credits earned may be applied toward a UNO degree and are usually transferrable to other colleges, giving students a head start on their college programs. The program is not restricted to high school students planning to attend UNO after graduation.
- Enrolling as an Early Entry student allows advanced high school students the opportunity to broaden their college education by getting an early start and enhances the successful transition to college.

## Requirements for Admission to the Early Entry Program

To be admitted to this program, the UNO Office of Admissions must receive the following:

- An application must be submitted online at [applyearly.unomaha.edu](https://applyearly.unomaha.edu) (<https://applyearly.unomaha.edu/>).
- A \$45.00 non-refundable application fee (once a student has enrolled at UNO, an application fee for future terms of enrollment would not be required).
- An unofficial high school transcript of all coursework completed to date must accompany the Early Entry Application. All correspondence relating to the Early Entry Program should be addressed to:
 

Kelly Malone  
Office of General Education and Dual Enrollment  
University of Nebraska at Omaha  
6001 Dodge Street  
Omaha, NE 68182
- The student must have achieved a minimum 'B' average in all high school academic coursework (3.00 on a 4.00 scale). If a GPA from an accredited high school is not available, the ACT or SAT (or equivalent achievement test) may be required to determine the student's academic potential/eligibility.
- Online approval of courses from the high school counselor based on the student's academic performance. Recommendations for home-schooled students are handled on an individual basis.
- Online approval from the parent or guardian as indicated on the online application.
- Students whose language of nurture is not English are required to demonstrate English proficiency. Additionally, all education records presented to the university must be in English.

## Additional Information Regarding the Early Entry Program

- A maximum of two UNO classes may be taken each term.
- A new Early Entry application must be completed each semester a student wishes to be considered for this program. A new application fee would not be required.
- Once a student has graduated from high school, in order to continue enrollment at the university, the student must submit an Application for Undergraduate Admission, complete official high school transcript and ACT or SAT results, and meet the minimum freshman admission requirements established by the University of Nebraska Board of Regents.

Inquiries regarding the Early Entry program should be directed to the UNO Early Entry Program coordinator at 402.554.3810. For more information, please visit the Early Entry (<https://www.unomaha.edu/early-entry/>) website.

## Dual Enrollment Program

Dual Enrollment allows academically-talented students to earn college credit while still in high school. The courses are taught at the area high schools by high school staff who have been approved by their respective UNO academic departments to be adjunct faculty.

Since the courses are the result of an alignment between the area high school and college courses requiring college-level work, not all high school courses are eligible. Check with your high school counselor to find out which courses are approved and if your school is participating in the UNO Dual Enrollment Program. For more information, please go to the Dual Enrollment (<https://www.unomaha.edu/dual-enrollment/>) website.

## Admission Fees

### Application Fee

A \$45.00 undergraduate application fee is expected for all new and transfer students and must be paid when the application is submitted. Applications will not be processed unless the fee is included.

The following information applies:

- The application fee is non-refundable and does not guarantee admission or enrollment in any specific classes.
- Check, money order (payable to the University of Nebraska at Omaha), or credit card payment are accepted.
- Application fees submitted to any University of Nebraska system campus are valid for one year and are transferable to UNO.
- Applicants who pay the \$45.00 application fee but who do not enroll within one year must reapply for admission and resubmit the application fee.
- Previously enrolled undergraduate students on any University of Nebraska system campus (UNK, UNL, UNO and UNMC) need not submit the application fee.

Students who participated in UNO's Dual Enrollment program are required to pay the \$45.00 application when applying for undergraduate admission.

### Enrollment Deposit

All newly admitted students to the University of Nebraska at Omaha will be expected to pay the \$100 Enrollment Deposit fee to reserve a space in the upcoming class. Paying the deposit allows the university to more effectively plan for class offerings and student resources in preparation for each semester.

#### Priority Deadlines to pay your Enrollment Deposit

- Fall and Summer applicants May 1
- Spring applicants December 1

**NOTE:** If you are admitted after the priority deadline, you can submit your enrollment deposit within two weeks of admission in order to save your spot in the upcoming class.

#### Enrollment Deposit Refund Policy

- The Enrollment Deposit is fully refundable if paid by the priority deposit deadlines.
- If you choose not to enroll at UNO and do not request a refund on or before the priority deadline, you will forfeit the full amount of your Enrollment Deposit.
- Request for the Enrollment Deposit refunds must be in writing before the priority deadline.

#### Enrollment Deposit Deferral Policy

- Students may request a deferral of the \$100.00 Enrollment Deposit by submitting a formal request by May 1 (fall/summer applicants) or December 1 (spring applicants). Consideration is determined by Estimated Family Contribution (FASFA) or need. Please email [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu) for more details.

**SPECIAL NOTE:** Admitted Students who pay the enrollment deposit fee to the University of Nebraska at Omaha campus and do not enroll in classes,

the fee will be honored and can transfer one full year from the original application term.

## International Applicants

### Applying Online

Applications for admission are available on-line at [apply.unomaha.edu](http://apply.unomaha.edu) (<http://www.unomaha.edu/admissions/apply/>).

A non-refundable application fee of \$45.00 (U.S. dollars) paid by check, money order, PayPal, or credit card is required from all new undergraduate students at the time an application is submitted. Applications will not be processed unless an application fee is included. Applicants who do not enroll within one year must reapply and resubmit the application fee. Submitting an application and application fee to UNO does not guarantee admission to the university.

## Documentation Needed

### International Applicants Admission Requirements

**Official Transcripts.** International students must submit complete, official academic records and graduation examination results for all secondary and post-secondary institutions attended with any certificates and/or diplomas awarded. Official academic records, certificates and diplomas not issued in English also require certified English translations. Post-secondary institutions include colleges, universities, professional schools, vocational schools, trade schools, and technical institutes. If a student has attended a post-secondary institution, the academic records are required even if a certificate and/or degree was not awarded and/or transfer credit is not desired by the student. These documents should be sent directly from the foreign institution or translation service when possible. When it is impossible to have records sent from the foreign institution or agency, documents may be emailed by the student to [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu) or mailed to the address below. Students enrolled in other U.S. institutions must have official transcripts sent directly to UNO from the U.S. institutions. Official transcripts can be sent electronically from the U.S. institution to [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu) or sent via courier to:

**Undergraduate Admissions**  
**Eppley Administration Building, Room 111**  
**6001 Dodge Street**  
**Omaha, NE 68182-0080**

**Passport.** All international students need to send a copy of their passport's information page to [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu).

**Proof of English Proficiency.** Undergraduate applicants whose native language is not English must demonstrate English proficiency through one of the options listed on the English Proficiency Requirements (<https://www.unomaha.edu/admissions/undergraduate/international-students/english-proficiency.php#text>) webpage. Students who do not have a qualifying English proficiency score can apply for conditional admissions (<https://www.unomaha.edu/admissions/undergraduate/international-students/conditional-admission.php>) through UNO's Intensive English program, ILUNO (<https://www.unomaha.edu/international-studies-and-programs/iluno/>). English proficiency test results can be emailed to [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu) or sent directly to UNO from the testing agency.

**Proof of Financial Support for F-1 or J-1 Visa Applicants or Holders.** U.S. Federal law requires international students applying for an F-1 or J-1 visa to demonstrate adequate funding through personal, family and/or a sponsor's financial resources. Students must provide evidence of sufficient funds in their possession to finance their first year of study when applying for admission. Student and/or sponsor bank statements with original signatures and bank seals or stamps must be provided. In addition to a

bank statement, a UNO financial affidavit signed by the student and all sponsors is required. Bank statements and UNO Financial Affidavits should be no more than six months old at the time they are submitted. Failure to submit a completed financial affidavit and an original bank statement will prevent UNO from issuing an I-20 or DS-2019. Financial documents should be submitted electronically to [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu)

## Conditional Undergraduate Admission

International students applying for undergraduate admission that do not meet the English proficiency requirement may be eligible for Conditional Undergraduate Admission (<https://www.unomaha.edu/admissions/undergraduate/international-students/conditional-admission.php>). Full undergraduate admission will be granted upon successful completion of UNO's Intensive English Language Program (<https://www.unomaha.edu/international-studies-and-programs/iluno/>) (ILUNO) and with a qualifying English proficiency score.

### Students will be eligible for admission to an undergraduate program:

1. Upon successful completion of UNO's Intensive English Program with a qualifying English proficiency score.
2. A minimum of one ILUNO session is expected.
3. Non-qualifying English proficiency score within range may be eligible for full admission with ILUNO consideration and permission from the ILUNO Director.

**SPECIAL NOTE:** A change of status of the Form I-20 will be made upon full undergraduate admission. The student is responsible for requesting a change of status to their Form I-20 upon full undergraduate admission.

## F-1 or J-1 Visa Applicants Applying as a Non-Degree Seeking Students

International students who are F-1 or J-1 visa applicants or holders may apply as non-degree students if they:

- Have permission letter from their current institution to be enrolled part-time at UNO while remaining on the I-20 of their current school;
- Are referred as a participant in an international exchange program between UNO and their home institution; OR
- Have a recommendation letter from their home institution or employer. Students applying under this option should contact International Admissions at [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu) for details about content requirements for the letter.

## Health Insurance

Due to the high cost of healthcare in the U.S., UNO offers health insurance to its international students at a reasonable rate. Students who do not have a university-approved policy from overseas are required to participate in this plan.

## Admission Packets for International Students

Most admissions decisions are made within one week after all required documentation is received. Upon admission to UNO, the student will receive a notification to order a shipping label so we can mail the I-20 and admission packet. Once confirmation of the shipping label is received the I-20 and admission packet is sent directly to the student. Please note the I-20 and admission packet will not be released to friends or family members. For those who are J-1 visa applicants, the admission packet will include

the DS-2019. For those who are visiting F-1 visa holders enrolling part-time at UNO while remaining on an I-20 at your current school, no I-20 will be issued.

## Admission Decisions

### Admission by Review

Students who do not qualify for Assured Admission by meeting all entrance criteria may be considered for Admission By Review (ABR). Each applicant will be reviewed and considered for admission on an individual basis. The student's cumulative high school grade point average, class rank, ACT/SAT scores, and the grades received in the core course requirements are all considered a primary factor in the admission evaluation and decision. The student may be asked to provide letters of recommendation from the high school counselor or principal, as well as an educational purpose statement.

Students presenting fewer than 24 semester hours of transferable coursework from a regionally-accredited collegiate institution following high school graduation will be required to meet the freshman admission requirements for assured admission or under any Admission By Review category that applies.

Those who do not fully meet these requirements may still qualify for admission to the university under Admission by Review. The Undergraduate Admissions Office will determine how deficiencies in the prior record of these students will be made up. All applicants must meet the admissions requirements as set by the college to which they apply.

Your enrollment at the university will be accepting the terms of your admission. All students admitted under Admission By Review will be monitored for academic success. Some students may be admitted with requirements to complete specific courses and/or use academic support to compensate for their deficiencies.

### Provisional Admission

Students who are admitted pending the receipt of final admission documents are considered to be Provisionally Admitted to the University.

All offers of admission are provisional if you have high school or collegiate coursework in progress. Final admission is dependent on receipt and review of your final transcripts. Admission offers are subject to cancellation if your final coursework does not meet admission requirements.

Required documents needed to complete your admission can be viewed on MavLINK. All documents must be submitted within the first eight weeks of the first term of enrollment. Failure to do so will result in an enrollment hold blocking further registration. Only one term of provisional admission/enrollment is allowed. No extensions or waivers of the enrollment hold will be granted. It is the student's responsibility to provide all credentials required for admission.

## Applicants with Academic Suspension or Dismissal Record

Students whose academic records reflect they were placed on academic suspension or dismissal during the last calendar year at any college or university are not eligible for admission to UNO. Once the university has received a transcript or other notification indicating suspension or dismissal within the last calendar year admission will be cancelled and/or the student will be disenrolled from classes and any tuition paid to date for the semester would be refunded. The student would be eligible to reapply for admission to UNO after one full year from the end of the last term in which the student was suspended.

## Deferred Admission

For those students who do not meet the admission requirements, admission will be deferred for future additional academic preparation at another postsecondary institution before being eligible for admission to UNO.

## Fraudulent and Incomplete Applications

The University reserves the right to deny or revoke admission, including dismissal from the university, if any information is given falsely or withheld on the admission application or if transcripts/documents submitted in support of an admission application or to obtain residency are discovered to be altered or fraudulent.

## Frequently Asked Questions Nebraska Unique Identification Number (NUID)/Password and Use of Social Security Number

A social security number is requested on the application for admission for the sole purpose of verifying credentials, document matching, and determining eligibility for and awarding financial aid or scholarships. Applicants who do not have a social security number may still apply for admission but are not eligible to apply for federal financial aid. For security reasons, students applying for admission are assigned a Nebraska Unique Identification (NUID) number for campus services, logging onto MavLINK (UNO's online student services system), and for student photo identification purposes. The NUID number is an eight-digit, unique number within the University of Nebraska system and is transferable among University of Nebraska system campuses. For more information, visit <https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NUID1/index.php> (<https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NUID1/>)

During the application process, an NUID and temporary password will be assigned to you. You will be asked to select a personal MavLINK password.

## Health Requirement Information

All new, incoming students born on or after Jan. 1, 1957, must provide official documentation of two (2) MMR vaccinations (measles, mumps, rubella) **before** registering for classes. Failure to comply with this requirement may result in the withholding of future registrations. For further information, please contact UNO Health Services, 402.554.2374.

## U.S. Citizens, Permanent Residents, Immigrants, Refugees, Asylees and Other Status Types

All students who are not on a nonimmigrant visa are eligible to apply for domestic undergraduate admission. If a student has applied for or has been granted permanent residency, asylee status or refugee status, or Temporary Protected Status (TPS) then documentation of such status is required for admission. If the student cannot provide such documentation and is a Nebraska high school graduate, options for paying resident tuition are available. Refer to the "Residency for Tuition Purposes" section of this catalog for additional information. All students on an international student nonimmigrant visa must apply through the Office of Undergraduate Admission at [apply.unomaha.edu](http://apply.unomaha.edu) (<http://apply.unomaha.edu>).

## Residency for Tuition Purposes

Initial residency classification for tuition purposes is determined by the information you provide when you apply for admission. If you are living or attending school outside Nebraska or if you graduated from high school outside the State of Nebraska, you will be initially classified as a non-

resident for tuition purposes. It is the student's responsibility to provide any additional information that may be required to make an accurate residency determination prior to the deadline. A student may view the residency application eForm ([https://csprdn.unomaha.edu/psc/csprdn/NBX/HRMS/s/WEBLIB\\_ENTREDIR.ISCRIPT1.FieldFormula.IScript\\_Redirect/?nba-product=EF&cref=NBA\\_NVC\\_DS\\_EFORM\\_RESAPP](https://csprdn.unomaha.edu/psc/csprdn/NBX/HRMS/s/WEBLIB_ENTREDIR.ISCRIPT1.FieldFormula.IScript_Redirect/?nba-product=EF&cref=NBA_NVC_DS_EFORM_RESAPP)) for deadlines of when the Application For Residency Classification is due.

In 2006, the Nebraska state legislature passed a law granting resident tuition to students who do not hold official U.S. status and meet certain criteria. Students must meet the following qualifications: (1) graduated from a Nebraska high school or received the equivalent of a high school diploma in Nebraska, (2) resided in Nebraska with a parent, guardian, or conservator for a least three years prior to the graduation date and (3) provide an affidavit stating he or she will file an application to become a U.S. Permanent Resident at the earliest opportunity at which he or she is eligible to do so. More details can be found in Application For Residency Classification via eForm ([https://csprdn.unomaha.edu/psc/csprdn/NBX/HRMS/s/WEBLIB\\_ENTREDIR.ISCRIPT1.FieldFormula.IScript\\_Redirect/?nba-product=EF&cref=NBA\\_NVC\\_DS\\_EFORM\\_RESAPP](https://csprdn.unomaha.edu/psc/csprdn/NBX/HRMS/s/WEBLIB_ENTREDIR.ISCRIPT1.FieldFormula.IScript_Redirect/?nba-product=EF&cref=NBA_NVC_DS_EFORM_RESAPP)) or Paper Form (<https://www.unomaha.edu/admissions/undergraduate/docs/residency-application.pdf>) or contact the UNO Office of Undergraduate Admissions.

UNO participates in some reduced tuition programs based on the state or county the student is from such as the Midwest Student Exchange Program (MSEP) and the Metropolitan Advantage Program (MAP). Students must meet UNO's general admission requirements and, for the MSEP program, meet minimum academic eligibility requirements. For more information on requirements for these programs, email [unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu).

## Applicants Who Apply for Admission and Decide Not to Enroll

Students who apply for admission and decide not to enroll for the indicated term should do the following:

- Applicants can notify the UNO Office of Undergraduate Admissions via e-mail ([unoadmissions@unomaha.edu](mailto:unoadmissions@unomaha.edu)) indicating they will not be attending. Upon receipt of this notification, the student's application will be withdrawn.
- If the student wishes to enroll for a future term, a new application for admission must be submitted.
- A previously paid application fee is valid for one year from the term it was originally submitted.
- Transcripts that have been sent to the UNO Office of Undergraduate Admissions for students who do not enroll will be retained for one year. If the student applies for admission beyond that, new transcripts need to be provided for admission consideration.
- If the student has been awarded any financial aid from a non-UNO source, the student should notify the Office of Financial Support and Scholarships which may cancel or reduce UNO financial aid.

## Enrollment

- Enrollment (p. 23)
- Course Information (p. 27)
- Academic Calendar (p. 28)

## Enrollment

All persons who attend classes at the university must be admitted to the University; they are required to register and pay the established tuition and fees. The dates, times, locations, and procedures for registration are listed

each semester on the Office of the University Registrar's website (<http://www.unomaha.edu/registrar/students/>).

## MavLINK

MavLINK is the online self-service application providing students with an array of information and direct access to their academic, financial, and personal data. Access to MavLINK is gained by the use of your UNO NetID or NUID and password. Access MavLINK here (<https://mavlink.nebraska.edu/psp/mavlink/NBO/HRMS/?cmd=login&languageCd=ENG&>).

## NetID

The UNO NetID is a combination of letters using your first and last name and is the username assigned to you by UNO. Learn more about NetIDs (<https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NetID1/>).

## NUID

The NUID (Nebraska Unique Identifier) is a unique eight-digit number assigned to all students, faculty, and staff members during either admission or hiring. This number remains the same across the University of Nebraska and Nebraska State College system. Learn more about NUIDs (<https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NUID1/>).

## Registration Requirements

Prior to the start of classes each session, students must register for courses according to instructions published on the University of Nebraska at Omaha (UNO) website. To be eligible to register, a new or re-admitted student (one who has not enrolled during the previous two years) must have completed all admission requirements. Prior to registering, a student should seek assistance from an academic advisor within his/her college. Some colleges and departments require advising prior to registering. Every student is encouraged to review the requirements for his/her intended degree with an assigned academic advisor. This review should be scheduled in preparation for and prior to each registration period.

Students who have outstanding debts or fees owed to the University of Nebraska System will not be permitted to register until these obligations have been met. Academically suspended students will serve a one-year suspension. Following this suspension period, these students will need to schedule an advising/reinstatement meeting with the College from which they were suspended in order to have their reinstatement hold released and be eligible to register for classes. If academically suspended students have not taken classes within the last two years, they will need to reapply to UNO first and then schedule their advising/reinstatement meeting.

Due to limited facilities and staff, the university cannot guarantee all students will be able to enroll for every course they wish in each semester.

## How to Enroll and Make Changes to Enrollment

All adding, swapping, dropping, or withdrawing from courses is completed in MavLINK.

### Adding a Class

A class can be added to a student's schedule via MavLINK until the 100% refund period ends. Start dates are found on the class schedule. Refund dates can be found on the Cashiering and Student Accounts (<http://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-refund-schedule.php>) site. Late adds begin after the 100% refund period ends and require permission from the instructor prior to enrollment in MavLINK. A **\$25.00 Late Registration Fee** will be assessed to those students whose initial enrollment takes place

after the start of the session. Exceptions to this are thesis, internship, or independent study.

## Dropping/Withdrawing From a Class

A class can be dropped or withdrawn from a student's schedule via MavLINK up until the last day to withdraw. The last day to withdraw can be found on the Academic Calendar (<http://www.unomaha.edu/registrar/academic-calendar.php>). Students can also contact the Office of the University Registrar to verify the last day to withdraw. Requests to drop a class submitted via fax or U.S. mail will be processed based on the dates appearing on the fax or U.S. mail postmark.

Drops can only be completed in the 100% refund period of your course. If students drop the course from their schedule during this period, it will not be listed on their academic transcript.

Withdraws can be completed up until the last day to withdraw for the semester. The last day to withdraw can be found on the Academic Calendar (<http://www.unomaha.edu/registrar/academic-calendar.php>). If students withdraw from a course, a grade of "W" will be listed on their academic transcript. "W" grades have no impact on the academic GPA.

Students who drop or withdraw from one or more classes, or who completely withdraw from all courses will be obligated to UNO for the portion of tuition indicated on the refund schedule. Students who completely withdraw are also obligated to pay the non-refundable portion of tuition and fees for the class(es) from which they are withdrawing. Students who are currently enrolled can click on the "refund" link next to each class in their schedule inside MavLINK to check refund percentage dates.

## Swapping a Class

Swapping a class allows students to save their space in the original class while trying to enroll for a new course. It is a safer way to make changes to their existing class schedule during periods in which many other students are also enrolling for their classes.

1. Swaps must be done on the same day.
2. Swaps are allowed during the first week of the standard semester. For classes that are outside the regular session, it will be necessary to contact the Office of the University Registrar to complete a swap.
3. Swaps are only allowed for classes in the same session.
4. Classes used for swaps cannot be used again for another swap.

## Permission Numbers

A permission number must be entered for any courses that require instructor or department consent. A Permission Number is entered via MavLINK. A permission number may also override any prerequisite or GPA requirement, as well as a closed course. A permission number will NOT override a time conflict. The instructor or advisor must request a time conflict override through the Office of the University Registrar on the student's behalf.

Receiving a permission number does not register the student for the course. It only means that students are able to proceed with enrollment for the course. Once the permission number is issued, the student must register via MavLINK for the course by using the number provided.

Permission numbers are BOTH course section and term specific. The student must ensure the permission is issued for the exact course he/she wants. The student will NOT be able to register for a different section of the same course. For example, if a permission number is issued for ENGL 1160-003, they will not be able to register for ENGL 1160-006. A new number will need to be issued for the student by their advisor or department contact. Remember, permission numbers can only be used once.

Permission numbers not used before the end of the 100% refund period will expire. A new number will need to be issued to enroll after the 100% refund period.

## Registration Waitlist

A registration waitlist is an electronic process that auto-enrolls students in closed classes as seats become available. Waitlists operate on a first-come, first-served basis, so this process ensures that students who register for the waitlist sooner have a better chance of getting into a closed course. Waitlists are only available once the class is full. For high-demand classes, this may be the first day of registration or, for other classes, as late as the week before the term starts.

Waitlisted classes do not count toward a student's enrolled hours. If a student's financial aid requires full-time enrollment, he/she needs be sure to enroll in enough credits without counting waitlisted classes. Each department is responsible for determining if their class offerings should have a waitlist or not.

For courses with no waitlist available, students will need to check regularly for possible openings. Students may add themselves to any number of waitlists but will not be enrolled beyond the maximum number of hours allowed for that term. Students may remove themselves from a waitlist by following the same process as dropping a class. Learn more about the Registration Waitlist (<http://www.unomaha.edu/registrar/students/during-enrollment/registration-waitlist.php>).

## Audit Registration Policies and Procedures

All persons wishing to audit a course must be admitted and eligible to enroll in classes for the term in question. Students may only register to audit a course on or after the first day of the semester. Audit students may not participate in recitation, turn in papers, or take examinations. Academic credit is not awarded for audited courses nor do they apply in counting hours for full- or half-time status. Foreign language and physical education activity courses cannot be taken on an audit basis. Audit registration is subject to available class space, requires the written permission of the instructor, and must be done in person at the Office of the University Registrar, 105 Eppley Administration Building. Audit tuition is one-half of the applicable resident undergraduate or graduate tuition rate. The half-price tuition rate for audit courses is available only during the first week of the semester. Audit enrollments are assessed the same student fees as credit enrollments. Likewise, audits are refunded at the same rate as credit enrollments.

Students who register to take a course for credit and change to audit after the first week of class will be required to pay the full applicable tuition rate.

## Undergraduate Students Taking Graduate Classes

An undergraduate junior or senior who is pursuing a baccalaureate degree at the university may be granted permission to take one or more graduate courses if they meet the following conditions outlined below. Students pursuing Fast Track (previously known as integrated programs) will not complete this form.

1. No credit earned under this provision may be used to fulfill any of the requirements for the undergraduate degree.
2. A maximum of 12 credit hours at UNO may be earned under this provision.
3. Juniors must have a minimum average GPA of 3.5 in the undergraduate major, and seniors must have a minimum average GPA of 3.0 in the undergraduate major.

4. The student must secure the required Department/School Representative signature before presenting the form to the Graduate College.
5. In order to register for the course(s) noted on the form, the student must return to the department/school for a permit number after receiving the dean for graduate studies permission. Once a permit number has been provided by the department/school, the student will then be able to register via MavLINK.

Please find the form on the Graduate Studies Student Forms & Resources (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) webpage.

The graduate program determines after admission if graduate credits taken as an undergraduate student will fulfill the requirements of a graduate program. There is no guarantee that graduate credits taken as an undergraduate student will count toward a graduate program.

## Class Schedule

The UNO public class search is available online at [www.unomaha.edu/class-search/index.php](http://www.unomaha.edu/class-search/index.php) (<http://www.unomaha.edu/class-search/>). Course offerings are subject to change. Final authority for changes in course offerings rests with academic departments. For questions concerning course offerings, contact the academic department. For general information about enrollment or instructions on how to use MavLINK, visit the Office of the University Registrar's Enrollment page at: [www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php](http://www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php) (<http://www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php>).

## Student Attendance Policy

Classes are conducted on the premise that regular attendance is desirable. The individual instructor has responsibility for managing student attendance and for communicating at the beginning of each semester those class attendance policies which prevail in that course.

UNO Student Attendance Policy <https://www.unomaha.edu/campus-policies/student-attendance.php>

## Student Holds

**A hold can be placed on a student's record for reasons including but not limited to:**

- Non-payment of debt (tuition payments, parking tickets, library fines, etc.)
- Academic suspension
- Failure to meet immunization requirements
- Required academic advising
- Missing admission information
- Non-compliance with other university regulations/obligations

**A hold on the record can impact one or more of the following:**

- Enrollment – ability to register for classes (Dropping and withdrawing from classes will need to be completed in person at the Office of the University Registrar.)
- Receiving a transcript or diploma
- Refund from Student Accounts

## Class Standing

A student's academic classification is determined by the number of semester hours of academic credit earned.

Academic Classification	Range in Semester Hours
Freshman	0 through 26
Sophomore	27 through 57
Junior	58 through 90
Senior	91 or above

## Student Academic Course Load

1. A normal student load is 12 to 17 credit hours.
2. **Full-Time** Undergraduate students must be enrolled for a minimum of 12 credit hours in a fall semester, spring semester, or summer term to be considered a full-time student.  
**Half-Time** Undergraduate students must be enrolled for a minimum of 6 credit hours in a fall semester, spring semester, or summer term to be considered a half-time student.
3. Students shall not carry 18 or more semester hours of work during the fall and spring semester and 12 semester hours during the summer sessions unless they have maintained an average of "B" (3.0) in a regular 15-hour load during the preceding semester. Permission to register for 18 hours or more should be obtained from the student's academic advisor.
4. Audit hours do not apply in counting hours for full-time status.

## Declaring and Changing a Major

Undergraduate students are strongly encouraged to identify major areas of study in conjunction with their academic advisors early in their academic career. In order for an undergraduate student to make a change to the declared major or minor program of study, he/she will need to speak to the department that houses the program.

An appointment with an academic advisor may be required and is suggested in order to review requirements. Once a student has decided to make the change official, a Change of Undergraduate Academic Program form ([https://www.unomaha.edu/registrar/\\_forms/ChangeAcademicProgram.pdf](https://www.unomaha.edu/registrar/_forms/ChangeAcademicProgram.pdf)) must be signed by the necessary departmental representative as well as the student and turned into the Office of the University Registrar.

## Athletic Certification Office

The Athletic Certification Office is responsible for obtaining, evaluating, and documenting the academic credentials in accordance with the National Collegiate Athletic Association (NCAA) and conference eligibility rules for approximately 300 student-athletes.

The NCAA has specified satisfactory progress requirements to determine the eligibility of continuing student-athletes, and these requirements must be met each semester. The Athletic Certification Office, housed in the Office of the University Registrar, works directly with academic advisors and the Athletics Department Academics and Compliances offices to determine athletic eligibility for each semester.

The Athletic Certification Office is also responsible for financial aid certification. This includes maintaining the accuracy of the aid package, processing the approved Athletic Grant-In-Aid scholarships, and posting all financial aid data into MavLINK and both financial aid and academic eligibility data into the NCAA's CAi software program.

## Civil Leave (Statutory Leave)

When a student receives a written notice to provide mandated community service as an election official, juror or witness, he or she must notify the course instructor of the time when the service will be required, within five business days after notice of mandated service is received by the student (or at the start of the semester if notice is received prior to the semester). A copy of the notice must be provided to the instructor.

The instructor will allow the student summoned to mandatory community service an excused absence from the course on the day(s) required for Statutory Leave.

Upon request of the student taking leave, the instructor will ask for another class member to take notes during the period of Statutory Leave.

If Statutory Leave occurs during a critical period in the course (e.g. an exam; in-class graded assignment; group project; participation-required day), the instructor will work with the summoned student to determine if the missed day(s) will likely have a negative impact on the student's grade and whether the assignment or exam can be accommodated at a later time.

If Statutory Leave causes an extensive loss of class time for the student or will likely negatively impact the student's grade or learning experience, the instructor and student will determine whether it is best for the student to receive a grade of Incomplete or Withdrawal for the course.

If a grade of Incomplete is chosen, the instructor and student will formally document the procedure required to complete the course.

If a grade of Withdrawal is chosen, the student should receive a prorated refund of tuition and fees paid for the course.

## Student Called into Military Service

### Executive Memorandum No. 23

#### 1. GENERAL

This Policy shall be implemented in order that the University of Nebraska might provide equitable, consistent treatment to its students who are called into military service and to facilitate their ability to continue their education once that military service is completed.

#### 2. ELIGIBILITY

Students who are regularly enrolled in any class or program offered by the University of Nebraska are eligible for the benefits described in this Policy, if they: (a) belong to a military unit that is called into active duty, or (b) are drafted and not eligible for deferment; such that the date upon which they are required to report to active duty prohibits them, as a practical matter, from completing the term in which they are enrolled.

#### 3. COURSE AND GRADE OPTIONS

An eligible student may elect to cancel registration in all classes in which he or she is enrolled at the time the call for duty is received. In such case, the student shall receive a full refund for all tuition and student fees paid on behalf of that student. In the alternative, the student may request his or her instructors to award a grade or an incomplete for all classes. If an incomplete is given, then the instructor shall file in the student's educational records and provide to the student specific instructions regarding the study and activities required to complete the course. If a grade and credit are awarded, then the instructor shall award a grade reflective of the student's performance, taking into consideration the quantity and nature of the curriculum through the time of the student's departure. Finally, the student shall have the option of withdrawing from selected courses, receiving a prorated refund of tuition and fees for those courses, while also opting to receive a grade or incomplete in other courses in which the student is enrolled.

#### 4. STUDENTS RECEIVING FINANCIAL AID

Notwithstanding any provision to the contrary in this Policy, administration of financial aid with respect to any eligible student shall be consistent with federal and state law. Students otherwise eligible for these benefits and receiving financial aid should immediately contact the financial aid office on their respective campuses, where each case must be addressed individually based upon the particular rules applicable to the relevant student. The campus financial aid offices shall address these matters in such a way so as to minimize the financial

hardships to the student, while complying with the applicable law and regulations.

#### 5. PUBLICATION

This Policy shall appear in all student catalogs and placed on the websites of Central Administration and each Campus.

#### 6. SYSTEM APPLICATION

This Policy applies to all administrative units of the University of Nebraska. Each campus may provide supplemental policy guidance, consistent with this Policy, designed to implement the provisions herein, including guidance relating to fees associated with meals and housing, textbooks, parking, lab and course fees, as well as other ancillary fees.

Dated this 17th day of October, 2001.

## Course Information

### Course Numbering System

The system of course numbers is arranged to indicate the level of instruction. The first figure in each number designates the group to which a course belongs:

Numbering	Description
1000-1990	Courses open primarily to freshmen
2000-2990	Courses open primarily to sophomores
3000-3990	Courses open primarily to juniors
4000-4990	Courses open primarily to seniors
8000-9990	Courses open only to graduate students

From time to time courses may be added or dropped from a curriculum. All courses listed in this catalog cannot be offered each semester. Some departments indicate which semester the course is normally offered. While the departments will attempt to follow the guidelines established for periods of course offerings, there is no guarantee the course will be offered during the semester indicated. Furthermore, students cannot be guaranteed placement in a course offered during a particular semester.

## Explanation of Credit Course Numbers

Courses available for graduate credit are those which have been approved by the UNO graduate faculty or its designee. Students will not be allowed to upgrade or retake courses previously taken for undergraduate credit so that they can be used for any purpose where graduate credit is required. Undergraduate courses cannot be used toward a graduate degree.

### Dual-listed Courses

Dual-listed courses are courses open to both undergraduate and graduate students. There are two types of dual-listed courses:

1. Courses numbered at the 3000 level which are dual listed with courses starting with the number eight (8) and ending with a five (5) – (3xxx/8xx5).
  - a. No more than two (3xxx/8xx5) courses are allowed on a master's degree plan of study.
2. Courses numbered at the 4000 level which are dual listed with courses starting with the number eight (8) and ending with a six (6) – (4xxx/8xx6).

It is expected that students enrolled for graduate credit will do work at a higher level than that which is expected of undergraduate students in the same course.

### Graduate-only Courses

Courses numbered with an eight (8) or nine (9) and ending with a zero (0) – (8xx0 or 9xx0) – are normally restricted to graduate students only. At least one-half the hours of course work on a plan of study must be in courses normally restricted to graduate students only.

With special permission from the dean for graduate studies, exceptional juniors and seniors may enroll in graduate courses.

Courses numbered (8xxx or 9xx1) are normally for advanced master's and doctoral-level students. If taken at the master's level, the course cannot be taken again at the doctoral level.

## Credit Hour Definition

### Federal Definition

The University of Nebraska at Omaha (UNO) uses the federal definition<sup>1</sup> of a credit hour, which states:

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:

1. One hour<sup>2</sup> of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately 15 weeks;
2. Or at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work and other academic work leading toward the awarding of credit hours.

### Hour Definition

One credit hour is equivalent to one hour (50 minutes minimum) of lecture and two (2) hours of out-of-class work each week. For all standard 15-week semesters of instruction, and for non-standard (condensed) and online courses the following contact times (minimums) are assigned for every one (1) credit hour based upon the specific type of learning activity:

- Synchronous Classroom: one hour of contact time and two hours of out-of-class work for each week of instruction
- Laboratory: two to four hours of contact time for each week of instruction
- Research/Field Work/Internships/Practica: two to four hours of contact time for each week of instruction
- Clinical: two to four hours of contact time for each week of instruction
- Simulation: two to four hours of contact time for each week of instruction
- Other Activities: three hours of contact time for each week of instruction (Exam time can be considered part of contact time if an instructor chooses to count time spent on assessment as part of contact time)
- Asynchronous Education (e.g., Online or Distance Learning): three hours of student work for each week. Student work includes reading, research, online discussion, instruction, and assigned group activities, preparation of papers or presentations, and exams.
- Hybrid Classes (combination of synchronous and asynchronous education): Combination of face-to-face and assigned student work (see asynchronous) equivalent to three hours for each week.
- Non-standard semesters (e.g., eight week; five week, etc): Contact hours will be equivalent to the contact time established for the standard 15-week semester.

### Process

Credit hours for all UNO for-credit courses are established as part of the course development and approval process. The process begins with the departments/schools and then approval by the appropriate college(s)

educational policy committee and dean. The University Educational Policy Advisory Committee (EPAC) is the final approval of the number of credit hours for all courses, regardless of mode of delivery. Credit hours are determined by course content/required student work that does not vary by mode of delivery. The determination/assignment of credit hours reflects the educational outcome of the course and the time required for a typical student to achieve the course's desired outcomes. Any changes in credit hours for a course (reduction or increase) is considered a substantial change to the course that requires an updated master syllabus to reflect the change in content and approval by the University Educational Policy Advisory Committee.

<sup>1</sup> Electronic Code of Federal Regulations

<sup>2</sup> A class hour at the University of Nebraska at Omaha is typically 50 minutes

## Course Components

- **Activity** - Instructor-facilitated course generally focused on "learning by doing" with significant student/instructor interaction. Musical or dance groups or fitness-related courses often are assigned this course component.
- **Discussion** - A regularly scheduled section of a larger course, designed for activities such as group discussion, demonstrations or case studies. Discussions do not carry credit and are not stand alone courses. They are linked to a credit bearing course. Discussion sections generally contain fewer students than the course to which they are linked.
- **Dissertation** - Course is taken as part of a student's individual research project, generally in preparation for a written presentation of research results and required for completion of a specific degree program or special distinction in that program. (May be eligible as variable credit).
- **Ensemble** - Course is facilitated by the instructor and generally focused on significant small group or individual student/instructor interaction. Musical groups often are assigned this course component.
- **Field Experience** - Field experiences are generally required as part of an academic program such as counseling, psychology, or education. (May be eligible as variable credit)
- **Independent Study** - Course is designed to meet the needs of an individual student and may include individualized instruction or directed readings. (May be eligible as variable credit)
- **Internship** - Course includes work experiences related to a student's major or career goal. The internship typically involves a student working in a professional setting under the supervision of practicing professionals. (May be eligible as variable credit)
- **Laboratory** - Course is a classroom session(s) associated with a credit bearing course, often a lecture, which requires separate enrollment. Students participate in hands-on experiments or activities that illustrate or augment the material presented in the corresponding lecture or in their program overall.
- **Lecture** - Course is instructor-led course and may include interactive pedagogy to engage students but is primarily guided by the instructor.
- **Lecture/Lab** - A class that contains an integrated lecture and some hands-on components but does not require a separate meeting time like a traditional lab. The lecture/lab (combo) is scheduled like a lecture.
- **Master's Thesis** - Course hours are taken as part of a student's individual research project, generally in preparation for a written presentation of research results and required for completion of a specific degree program or special distinction in that program. (May be eligible as variable credit)
- **Practicum** - Course hours are practical, supervised training designed to supplement formal study. Students learn practical applications of classroom material and gain skills and knowledge relevant to their course of study. (May be eligible as variable credit)

- **Research** - Course is research directed all, or in part, by student(s) with instructor supervision. (May be eligible as variable credit)
- **Studio** - Course is instructor led and generally focused on significant small group or individual student/instructor interaction. Music or Art courses often are assigned this course component
- **Seminar** - Course is instructor led with a small number of students collectively exploring a topic or field of study, and may be directed all, or in part, by the enrolled students.

## Course Prerequisites

Course prerequisites are automatically met based on previous coursework completed while at UNO or through transfer credit as determined by the student's advisor.

If the attempted enrollment results in an error indicating that prerequisites have not been met, students must contact their academic advisor or college advising office.

If a student is allowed to enroll without the necessary prerequisites, a permission number must be issued by the academic advisor or the department and entered into MavLINK during the enrollment process.

Course prerequisites can be found by viewing the online catalog, or by logging into MavLINK, selecting "Class Search" and clicking on the title of a course listed.

## Course Syllabus

Students should receive, or have access to, the course syllabus with basic information about the course, including textbooks required, assignments, evaluation protocols, and the basic schedule.

Course syllabi are aligned with the master syllabus, but provide specific information for a particular semester and instructor. Master syllabi are on file with the university and are used for accreditation purposes. Contact your instructor or the department chair/school director for a copy of the master syllabus. Review Board of Regents Bylaw 5.3 about Academic Evaluation which can be found in the Statement of Student Rights and Responsibilities section in this catalog.

## Academic Calendar

Visit the Academic Calendar website (<https://www.unomaha.edu/registrar/academic-calendar.php>).

## The Academic Year

Typically, an academic year consists of the fall and spring semesters, each consisting of approximately 15 weeks. The unit of instruction is the semester hour. Learn more about the Credit Hour Definition (<https://www.unomaha.edu/registrar/faculty-and-staff/class-schedule/credit-hour-definition.php>).

## Prep Week Policy

The last week of regularly scheduled classes during fall and spring semesters is designated as Prep Week. Except for makeup examinations, tests in self-paced courses, or laboratory exams, no major examination accounting for more than 20% of a student's grade may be given during this period. Papers, projects or presentations assigned at least two weeks in advance of Prep Week may be due during this period.

No final exams are to be given during this period as final exams must be offered during Final Exam week at the time assigned by the Registrar.

The final two days of Prep Week are designated as Study Days, during which organized classes do not meet and no new content can be assigned. For the 2021-22 academic year, laboratories may require attendance during Study Days and will state expectations for Study Days on the course syllabus.

Office hours and optional review sessions may be offered during Study Days.

<https://www.unomaha.edu/campus-policies/prep-week.php>

## Final Exams

The last week of fall and spring semesters is designated as Final Examination Week. Instructors of totally online classes should arrange their final exams during Final Exam Week. Instructors of partially online classes should contact the Office of the University Registrar to find an on-campus exam location if necessary. Exams for summer or special session courses will be held on the last meeting day of the course.

Students should check the Final Exam schedule (<https://www.unomaha.edu/registrar/students/after-enrollment/final-exam.php>) at the beginning of each semester. Finals exam days and times may vary from the regular class days/times. If there are conflicts with the scheduled exams, students should contact their instructor early in the semester to resolve the conflict.

## Transfer Credit

### Transfer Credit Policies and Procedures

- Credits submitted only on official transcripts from other colleges or universities will be evaluated for admission to an undergraduate college by the Office of Admissions. Transcripts will become a part of the student's permanent record maintained in the Office of the University Registrar. Transfer hours (and hours not accepted for transfer) from another institution are included in the overall GPA when determining honors for graduation. Final determination of transfer credit acceptance is ultimately made by an academic advisor in the student's area of study.
- In general, credits and grades earned at other University of Nebraska campuses will be accepted, computed into the student's grade point average, and will become a part of the permanent record from which official transcripts will be made.
- Only college-level courses with a grade of "C-" or better, CR (Credit), S (Satisfactory), and P (Pass) will be accepted for transfer from regionally accredited two- and four-year colleges and universities. (*The College of Business Administration requires a grade of "C" or better for transfer.*)
- Sixty-four (64) semester credit hours is the maximum allowed for transfer to most undergraduate UNO colleges from regionally accredited two-year colleges. The College of Engineering will allow a maximum of sixty-six (66) semester hours of credit.
- All credit hours transferable are converted to semester credit hours (e.g., one-quarter hour equals 2/3 of a semester credit).
- Each UNO college has a required number of credit hours to be completed at UNO prior to graduation.
- Students wishing to transfer credits from recognized institutions outside the United States may need to provide a course syllabus and catalog for evaluation of transfer credits.

## Transfer Articulation Guide

The Transfer Articulation Guide is a tool students can use to see how coursework from other colleges and universities typically transfers to the University of Nebraska at Omaha (UNO). The information is provided only as a guide and should be considered unofficial. Final determination of transfer credit acceptance is ultimately made by an academic advisor in the student's area of study. View the articulation guide (<https://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/transfer-guide.php>).

## Change of Campus

A Change of Campus application will need to be completed for any student who is attending or has attended one of the four campuses of the University of Nebraska System within the last five years and is applying for admission as a degree-seeking student at a new **NU** campus. A new application for admission will need to be completed to the new campus. Learn more about the Change of Campus application (<https://intercampus.nebraska.edu/ccnotice.aspx>).

## Intercampus

An Intercampus application will need to be completed for students planning to attend a new Nebraska System Campus on a temporary/visiting basis, with the intention of returning to their current/home campus. Students should complete the Intercampus application on this website ([https://csprdn.nebraska.edu/psc/csprdn/NBX/SA/s/WEBLIB\\_PTBR.ISCRIPT1.FieldFormula.IScript\\_StartPage/?ghcmd=saml](https://csprdn.nebraska.edu/psc/csprdn/NBX/SA/s/WEBLIB_PTBR.ISCRIPT1.FieldFormula.IScript_StartPage/?ghcmd=saml)). Intercampus is for one term of enrollment only.

## Advanced Placement Credit

The Advanced Placement Program is based on the belief that many students are capable of completing college-level courses while still in high school. With this belief in mind, the College Entrance Examination Board assists high schools in planning such courses and provides examinations for them.

The University of Nebraska at Omaha (UNO) participates in the Advanced Placement (AP) program of the College Entrance Examination Board (CEEB). Advanced Placement credit is based on criterion examination(s) administered by CEEB.

Students should contact their college advisor regarding the application of these credits to their academic program. Students must have official copies of their scores submitted to the Office of Undergraduate Admissions by College Board in order for credit to be awarded. To obtain copies of official grade reports, you can contact College Board directly at 888.CALL.4.AP.

The Office of University Registrar manages the Advanced Placement Program (<http://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/advanced-placement-credit.php>) at UNO.

## College Level Examination Program

The University of Nebraska at Omaha (UNO) grants college credit for specific College Level Examination Program (CLEP) Exams with an acceptable score.

CLEP exams are given by appointment in the UNO Testing Center. Learn more about UNO CLEP exams and how UNO grants credit (<http://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/clep-credit.php>).

## Military Credit

Students must submit official transcripts to UNO to have military credit considered for evaluation:

- Army, Coast Guard, Navy and Marine service members, reservists, guard and veterans can request the Joint Services Transcript.
- Air Force Active Duty, Guard and Reservists or retired or separated Air Force Members may request transcripts from the Community College of the Air Force (<http://www.airuniversity.af.mil/Barnes/CCAF/>).

Military Credit will be evaluated by the student's advisor in the college upon admission.

## Retroactive Credit

Students may be eligible to apply for Retroactive Credit in English, Spanish, and French based on test scores in:

- English Placement / Proficiency Exam (EPPE)
- Advanced Placement
- Spanish and French Placement Exams

Students may be eligible to apply for Retroactive Credit in Mathematics based on successful completion of advanced Calculus courses.

Successful completion of a specific upper level UNO course is also required. Credit is granted through the specific department:

- Department of English Retroactive Credit Information (<http://www.unomaha.edu/college-of-arts-and-sciences/english/first-year-writing/retroactive-credit.php>)
- Department of Foreign Languages Retroactive Credit Information (<http://www.unomaha.edu/college-of-arts-and-sciences/foreign-languages-and-literature/academics/retroactive-credit.php>)
- Department of Mathematics Retroactive Credit Information ([https://www.unomaha.edu/college-of-arts-and-sciences/mathematics/\\_files/docs/retroactive-credit-math-form.pdf](https://www.unomaha.edu/college-of-arts-and-sciences/mathematics/_files/docs/retroactive-credit-math-form.pdf))

Please contact the specific department for more information.

## International Baccalaureate

The International Baccalaureate (IB) program is a comprehensive and rigorous curriculum leading to exams for students aged between 16 and 19. Students who participate in this program enroll in specially designed courses through their high school and take international exams in May.

Students with an IB Diploma earn an average of 25-28 university credits, including three (3) hours of credit in philosophy for completing the Theory of Knowledge course.

- The University of Nebraska at Omaha (UNO) cooperates with the International Baccalaureate Program (IB) in its curriculum and examinations program.
- The results of the IB scores are furnished to UNO at the request of the student.
- The number of earned credits a student will receive at UNO will be determined by the performance in the IB course and the score received on the exam.
- To earn transfer credit, a score of five (5) or higher, in most exams, is required.
- Credit will be granted for both the Standard Level (SL) and the Higher Level (HL) scores if an IB Diploma has been earned. HL scores for all other candidates will be awarded accordingly.

More detailed information can be found on the International Baccalaureate website.

Learn more about how UNO accepts International Baccalaureate (<http://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/international-baccalaureate-program.php>) exams.

## Grades

### Grading Scale

Grades are determined by the daily record of the student and the record made on quizzes, mid-semester and semester examinations. The weight attached to each of these factors is determined solely by the instructor of the course.

The grading system is as follows:

Symbol	Definition	Quality Points
A+	outstanding	4.0
A	outstanding	4.0
A-	outstanding	3.67
B+	proficient	3.33
B	proficient	3.00
B-	proficient	2.67
C+	satisfactory	2.33
C	satisfactory	2.00
C-	satisfactory	1.67
D+	below standard	1.33
D	below standard	1.00
D-	below standard	.67
F	failing	0
CR	credit	*
NC	no-credit, failing	*
NR	no grade reported	*
S	satisfactory: Grade of "C" or better for graduate "D" or better for undergraduate	*
U	unsatisfactory, failing	*
AU	audit	*
I	incomplete: Follow rules listed in catalog; cannot be changed to "IP;" can be extended by one semester by instructor request to Registrar.	*
IP	course in progress: Used for thesis, independent study, research project, or other arranged course; applies to both graduate and undergraduate; remains indefinitely.	*
W	withdrew (good standing)	*
R	repeated course	*

\* — not used in calculating grade point averages

## Incompletes

To receive an "incomplete," students must contact their professor prior to the end of the semester, request a grade of incomplete, and make arrangements to complete the work. The rules which govern the issuance of the incomplete are as follows:

1. The grade "I" is used by an instructor at the end of a semester or summer session to designate incomplete work in a course. It is given when a student, due to circumstances such as illness, military service, hardship or death in the immediate family, is unable to complete the requirements of the course in the term in which the student is registered for credit. Incompletes will only be given if the student has already substantially completed the major requirements of the course.
2. Each instructor will judge each situation. The instructor will also indicate by a departmental record, with a copy to the student, how the incomplete is to be removed, and if the instructor is at the University at the time of removal, supervise the makeup work and report the permanent grade.

3. In the event the instructor is not available at the time of the student's application for removal of an incomplete, the department chairperson will supervise the removal of the incomplete and turn in the permanent grade for the student.
4. A student shall have no longer than the end of the next regular semester following receipt of the "I" to remove the incomplete. After that time, the "I" will automatically become a "W," or such other grade specified by the instructor depending on the amount and quality of the course work previously completed. Exceptions to this rule will be permitted if initiated by the student and approved by the instructor, department chairperson, and dean. Exceptions to this rule will be made only in response to circumstances over which the student has no control, and these must be detailed.
5. In registering for courses, students receiving one or more "I" grades from the previous semester should take into account the time needed to complete the required work and plan their schedules accordingly.
6. Courses with Incompletes do not count towards credit hours in future semester's when determining enrollment status.

## Credit/No-Credit (CR/NC)

For information on Credit/No Credit Grades and Rules Governing Credit/No Credit, visit the Credit/No Credit Policy website (<https://www.unomaha.edu/registrar/students/grading-grades/credit-no-credit-option.php>).

## Grade Appeals Procedure

Each program/college has an official grade appeal process. Students should contact the department/school or dean's office to receive a copy of the policy. Students should appeal the grade to the department/school/college in which the course was offered.

## Repeating Courses - UNO Policy on Grades

### Undergraduate Courses

When an undergraduate course is repeated, only the most recent grade will be calculated into the GPA.

- Letter-graded courses must be repeated for a letter grade.
- ALL courses and grades will continue to be a part of the student's permanent record (transcript).
- When determining eligibility for graduation with honors, every grade awarded is computed into the GPA.
- Repeats must be completed before a degree is granted. Once a degree is granted, repeated courses will not change the GPA established at the time the degree was awarded.
- Students may replace grades earned at another University of Nebraska system campus if the articulated equivalent course is taken at UNO. Students should consult with an advisor prior to enrolling in courses at UNO to ensure that the direct equivalent course is taken. Upon completion of the course, either the student or the advisor must contact the Office of the University Registrar, 105 Eppley Administration Building, to have the previous grade removed from the GPA.

### Undergraduate Courses - Special Exceptions

Some courses, such as thesis, internship, physical activity, special topics, or independent study may be repeated without removing the previous grade. Visit the repeatable courses website (<https://www.unomaha.edu/registrar/students/during-enrollment/repeatable-courses.php>) for a complete list of these courses. For these undergraduate courses, only grades of F will be removed automatically when these courses are repeated. All other repeats must be done by contacting the Office of the University Registrar, 105 Eppley Administration Building, and completing the "Removal of Previous Grades" form.

## Graduate Courses - General Rule

Only grades of Cs, Ds, and F can be repeated, and only the most recent grade will be counted into the GPA.

- Letter-graded courses must be repeated for a letter grade.
- All courses and grades will continue to be a part of the student's permanent record (transcript).
- Repeats must be completed before a degree is granted. Once a degree is granted, repeated courses will not change the GPA established at the time the degree was awarded.

## Graduate Courses - Special Exceptions

For courses such as thesis, internship or independent study, repeats are subject to the same rules as listed above under General Rule. Repeats in this category cannot be done automatically. Students must contact the Office of the University Registrar, 105 Eppley Administration Building, and complete the "Removal of Previous Grades" form.

## Grade Point Averages (GPA)

### UNO GPA

The GPA included on the student's transcript reflects courses taken only in the University of Nebraska System (UNO, UNL, UNMC and UNK).

### Degrees with Honors GPA

Grades awarded in ALL courses taken at ALL colleges and universities attended are included in computing the GPA for determining eligibility for graduation honors. This cumulative GPA takes into account a student's complete academic history, including course repeats.

### No Report "NR" Grades

If a No Report "NR" grade is reflected on a grade report, the student should immediately report it to the faculty member. A grade of "NR" is not a terminal grade and must be changed to the appropriate letter grade.

## Academic Amnesty

Each college has established a policy and procedures for students who wish to declare academic amnesty for one or more semesters. Students should read the Academic Amnesty policy for their college in this catalog or contact their Dean's Office. Students who declare Academic Amnesty are not eligible to graduate with honors.

## Academic Performance

A student must maintain a cumulative Grade Point Average (GPA) of 2.00 or above to remain in "good academic standing" at the university. However, the colleges may require a higher grade point average.

For purposes of participation in recognized extracurricular activities, "good academic standing" is defined as a cumulative GPA of at least 1.75 for the first 45 hours attempted and at least 2.00 for 46 or more hours attempted, including all college-level courses taken for credit at the University of Nebraska.

## Probation and Suspension

### Academic Probation

A student whose cumulative grade point average is below 2.00 after having attempted six or more semester hours will be placed on probation. Probationary status will remain in effect as long as the student's cumulative Grade Point Average (GPA) remains below 2.00. No student will be allowed to enroll for any course on a pass/fail or Credit/No-Credit basis while on probation. Probation constitutes a period of formal warning that the student is doing unsatisfactory work.

The student is encouraged to use every opportunity during time on probation to seek counsel and guidance from various university agencies which have been established to offer assistance in study and academic planning. For information on such services, the student should consult with his or her academic advisor or counselor.

## Academic Suspension

Students will only be suspended at the end of the spring term. This rule applies to all UNO colleges, including the Academic and Career Development Center and all University of Nebraska-Lincoln based programs in the Colleges of Architecture, Agriculture, and Engineering.

Students who are on probation will be suspended at the end of the spring semester when their semester Grade Point Average is lower than 2.0 and the cumulative Grade Point Average (GPA) falls below the following standards:

Hours Attempted	Cumulative GPA
0-12	No Suspension
13-45	1.75
46 or more	2.00

Suspensions under these conditions will be automatic. Academic suspension will be for a minimum period of one year.

Students will be notified by their primary academic college of their suspension and given instructions on how to appeal, should they choose to do so, and any appropriate deadlines associated with an appeal.

Appeals properly filed shall delay implementation of the suspension until the appropriate appeals committee has acted. However, if the appeal is denied the student shall be dis-enrolled and tuition shall be refunded.

## Reinstatement Following Academic Suspension

Students wishing to be reinstated following their one-year suspension from the University of Nebraska at Omaha shall schedule an advising/reinstatement meeting with the College from which the student was suspended. It is recommended the student schedule an advising/reinstatement meeting at least one month prior to the official beginning of the semester or term for which the student is applying (refer to academic calendar for specific dates) in order to have their reinstatement hold released and be eligible to register for classes. If academically suspended students have not taken classes within the last two years, they will need to reapply to UNO first and then schedule their advising/reinstatement meeting.

## Academic Honors

### Full-Time Dean's List and Part-Time Dean's List

Students seeking their first bachelor's degree are eligible for this academic honor. Students must earn a minimum of 12 quality hours with a minimum Grade Point Average (GPA) of 3.50 in a given fall or spring semester for full-time students, and consecutive fall or spring semesters for part-time students. These academic honors are not offered during the summer term. Part-time students whose honors are considered on a continuous enrollment will have summer hours included in their calculations for Dean's List. Dean's Lists are posted to the academic record only during the fall and spring semesters. Contact UNO's Office of the University Registrar, 105 Eppley Administration Building, with any questions.

### Full-Time Chancellor's List and Part-Time Chancellor's List

Students seeking their first bachelor's degree are eligible for this academic honor. Students must earn a minimum of 12 quality hours with a minimum

Grade Point Average (GPA) of 4.0 in a given fall or spring semester for full-time students, and consecutive fall or spring semesters for part-time students. These academic honors are not offered during the summer term. Students earning the Chancellor's List honor will also earn the corresponding full-time or part-time Dean's List honor. Contact UNO's Office of the University Registrar, 105 Eppley Administration Building, with any questions.

## How to View Official Grades

Students can view grades via MavLINK immediately after they are posted by the instructor. Official Grades are available in MavLINK under the Academics tab or on the Unofficial Transcript. Final grade reports are not mailed out to students nor can grades be provided over the phone.

## Official Academic Transcripts

Transcripts contain academic information such as coursework, grades, credit hours, Grade Point Average, and UNO degrees earned.

Before an official transcript can be released, all financial and administrative obligations to the University of Nebraska System must be resolved. Holds can be viewed through MavLINK.

UNO transcript requests can only be completed online. Requests made via phone, email, or fax are not accepted. Transcripts can be ordered by students via MavLINK.

Learn more about ordering your transcripts online (<https://www.unomaha.edu/registrar/students/transcripts-and-records/order-a-transcript.php>).

## Academic Integrity Policy

Under the Bylaws of the Board of Regents of the University of Nebraska [Sections 2.9 and 4.1(i)], the respective colleges of the University have jurisdiction over procedural matters concerning academic dishonesty. Just as the task of inculcating values of academic honesty resides with the faculty, the faculty is entrusted with the discretionary authority to decide how incidents of academic dishonesty are to be resolved.

This policy applies to all colleges and academic units at the University of Nebraska at Omaha ("UNO" or "University"). Each college and academic unit, including its faculty members, have the responsibility to educate its students about this policy and any additional standards of conduct for academic integrity in a particular course. Students are responsible for understanding and adhering to the requirements of this policy and any additional academic integrity standards prescribed by a college and academic unit, including its faculty members.

Learn more about Academic Integrity <https://www.unomaha.edu/student-life/student-conduct-and-community-standards/policies/academic-integrity.php>

## Statement of Student Rights and Responsibilities

### I. University of Nebraska Bylaws

Students, like all members of the academic community, have the responsibility to create and support an educational environment. Each member of the community should be treated with respect and dignity. Each has the right to learn. This right imposes a duty not to infringe upon the rights of others. The academic community should assure its members those opportunities, protections and privileges that provide the best climate for learning. (Bylaws of the Board of Regents, Section 5.0.) UNO shall publicize and keep current all rules, regulations, and policies concerning

students, and insure that they are readily available to all students and other interested persons. (Bylaws of the Board of Regents, Section 5.1.)

**1. Admissions Criteria** UNO shall publish the criteria for admission, academic progress, certificates, and degrees for all colleges and schools of the University. Admission to the University and the privileges of University students shall not be denied to any person because of age, sex, race, color, national origin, or religious or political beliefs. (Bylaws of the Board of Regents, Section 5.2.)

**2. Academic Evaluation** Students shall be informed of the requirements, standards, objectives and evaluation procedures at the beginning of each individual course. Each student shall be given a performance evaluation during the progress of the course if requested. Each college or school shall provide for a faculty-student appeals committee for students who believe that evaluation of their academic progress has been prejudiced or capricious. Such procedure shall provide for changing a student's evaluation upon the committee's finding that an academic evaluation by a member of the faculty has been improper. Procedures for appealing evaluation of academic progress are provided by each college or school unit. Generally, but not necessarily conclusively, the procedures are similar to the following: Students wanting to appeal a grade (evaluation that has been prejudiced or capricious), shall attempt to discuss the matter directly with the instructor. If the student and the instructor do not reach a satisfactory agreement, the student may submit an appeal in writing to the chairperson of the department in which the course is offered. If the student and chairperson do not reach a satisfactory agreement, the student may submit an appeal in writing to the Dean of the College in which the course was offered. The decision made at this level, which would include a hearing by a faculty-student appeals committee, will be final. Each college or school shall provide a mechanism by which students have an opportunity to report their perceptions of courses and the methods by which they are being taught, provided, however, that such mechanism shall protect members of the faculty from capricious and uninformed judgments. (Bylaws of the Board of Regents, Section 5.3.)

**3. Public Information Regarding Students** Public information regarding students, rules with respect to confidentiality, and any release of information will be governed in accordance with Federal and State law. The Board is authorized to develop policies and procedures consistent with that law. (Bylaws of the Board of Regents, Section 5.6.)

**4. Disciplinary Records** Subject to any requirements of the Records Management Act, the University shall provide for the periodic destruction of noncurrent disciplinary records. (Bylaws of the Board of Regents, Section 5.7.)

**5. Student Communications Media** Student publications and broadcasting stations shall be supervised in a manner such that editorial freedom will be maintained and that the corollary responsibilities will be governed by the canons of ethical journalism. Student publications financed in whole or in part by fees collected from all students at UNO shall be supervised by a Publications Committee. This committee shall have full responsibility of a publisher and the power of decision on the proper application of the canons of ethics. Students shall comprise a majority of the membership, but the committee shall also include members of the faculty and professional journalists from outside the University. (Bylaws of the Board of Regents, Section 5.9.)

**6. Eligibility for and Participation in Co-Curricular Activities.** Co-Curricular activities and registered student organizations are offered by the University to meet the needs of interests and promote the development of special skills of its student population. To participate as a member in any recognized student organization, at a minimum, a student must be enrolled in at least one credit course, excluding audit hours.

Additional membership criteria may be established by UNO based on the nature of the organization and/or set by the organization themselves.

Membership requirements set by organizations may be more, but

not less, stringent than those laid out by the University but must be in compliance with any federal laws and/or restrictions. Interested students should contact the leadership of the student organization or co-curricular activity for specific membership guidelines/requirements. Officers of all organizations, in conjunction with the support of their faculty and staff advisors, are tasked with enforcing membership requirements.

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

**7. Campus Speakers** Students are allowed to invite and hear any person of their own choosing. Institutional procedures will insure the orderly and adequate preparation for the event. However, the control of campus facilities will not be used as a device of censorship. (Bylaws of the Board of Regents, Section 5.11.)

## II. University of Nebraska Policies

**1. Academic Degree Completion** The requirements for graduation from a bachelor's degree program shall be those listed in the Catalog effective at the time of matriculation provided continuous enrollment (excluding summer sessions) was maintained. However, the University reserves the right to withdraw and substitute courses, to reassign instructors and to change the nature of instruction, as deemed necessary. In some cases, prerequisites for courses offered at the University are effective even if they are not listed in a given catalog. (See the current schedule of classes or your adviser for details.) A student may meet requirements listed in a subsequent Catalog if written approval is granted by the dean of the college in which the student is enrolled. Acceptance of registration by the University of Nebraska and admission to any educational program of the University does not constitute a contract or warranty that the University will continue indefinitely to offer the program in which a student is enrolled. The University expressly reserves the right to change, phase out, or discontinue any program. The listing of courses contained in any University bulletin, catalog or schedule is by way of announcement only and shall not be regarded as an offer of contract. The University expressly reserves the right to 1) add or delete courses from its offerings, 2) change times or locations of courses or programs, 3) change academic calendars without notice, 4) cancel any course for insufficient registrations, or 5) revise or change rules, charges, fees, schedules, courses, requirements for degrees and any other policy or regulation affecting students, including, but not limited to, evaluation standards, whenever the same is considered to be in the best interests of the University. (Policies of the Board of Regents, Section 5.1.3)

**2. Right to Public Hearing** It shall be the right of any individual member or group of members of the University (i.e., students, faculty, or administrators) to be granted, upon petition to the appropriate policy making body or office, a public hearing at which the policy indicated by the group of petitioners in their petition shall be discussed. The policy-making body or office petitioned shall schedule the hearing for some time convenient to the interested parties if possible, no later than two weeks after the petition is submitted during periods when the University is in session, and shall announce publicly in advance the time and place of the hearing. At the hearing, that body responsible for the policy indicated in the petition shall clarify said policy, offer the reasons which justify the policy in view of the objections or questions raised about it in the petition, and respond to any additional questions or criticisms of the policy or related policies raised at the hearing by any member of the University. It is expected that before such a petition is submitted, all other normal channels for raising questions about the policy have been exhausted. If, in the view of the policy-making body or office to whom the petition is submitted, the petition is merely a form of harassment or adequate answers are available through other normal channels, the petition may be referred to the relevant committee to determine whether the hearing must be held. A decision by the Committee not to hold a public hearing shall be overruled by the submission to that committee of a petition requesting such hearing and signed by at

least 100 members of the University community. (Policies of the Board of Regents, Section 2.1.3)

**3. Directory Information** In compliance with the federally-enacted Privacy Act and as defined by the Board of Regents, public directory information regarding students attending UNO shall be the (i) student's name, (ii) year at the University, (iii) dates of attendance, (iv) academic college and major field of study, (v) enrollment status (e.g. undergraduate or graduate; full-time or part-time), (vi) participation in officially recognized activities and sports, (vii) degrees, honors and awards received, (viii) most recent educational agency or institution attended, (ix) University email address, and (x) hometown. Non-public directory information regarding students attending UNO shall be the (i) local address, (ii) permanent address, and (iii) telephone listings. Public directory information will be available to the public upon request and may be included in student directories published electronically. Non-public directory information is not available to the public, but is available to University faculty, staff, and students for University purposes. Directory information will be released by the Registrar in accordance with this policy upon inquiry, unless the student has requested that specific items not be released. The student's request to have directory information withheld should be filed at the Office of the Registrar. (Policies of the Board of Regents, Section 5.10.) An explanation of this Act and its application at UNO is available to all students. Copies may be obtained online at <https://www.unomaha.edu/registrar/ferpa> (<https://www.unomaha.edu/registrar/ferpa/>)

**3.1 Mandated Release of Information** UNO shall disclose to a victim of any crime of violence the results of any disciplinary proceeding conducted against the alleged perpetrator of such crime with respect to such crime. (Policies of the Board of Regents, Section 5.10)

**4. Sponsorship of Speakers with Student Fees** The purpose of a speakers program is to advance the general educational purposes of the University by putting before the University community a broad range of ideas in a variety of contexts. The organizations administering speaker programs should make every attempt to provide balance on all subjects presented. All students are encouraged to join programming groups and/or give their input on speaker selection. (Policies of the Board of Regents, Section 5.6.1)

## III. UNO Policies

**1. Counseling/Medical Records** Information exchanged with and/or maintained by a professional counselor/psychologist or medical personnel about a student client will remain confidential, except under legal compulsion.

**2. Demonstrations** The University acknowledges the rights of members to express their views by peaceful demonstration. UNO is an academic community founded upon a belief in rational dialogue and mutual respect among its members. The opportunities for communication within the University are many and varied, and the University welcomes suggestions for enlarging or improving them. The nature of the academic community demands that all members strive to maintain the rational dialogue which is the cornerstone of the University. There is no conceivable issue, be it a question of academic and administrative policy or of students rights and freedoms, that cannot be approached within the framework of free discussion.

### a. Demonstration Procedures

Members of the academic community, including the guests of the University, have the right of extensive latitude in making their opinions known. It is understood, however, that in exercising this right the rights of others must not be jeopardized. The public exploration and resolution of differing views can be successful only when groups and individuals discuss the issues in forums where the right to disagree and to speak freely and be heard is preserved. Within this context, the University community recognizes peaceful demonstration as a legitimate means of expressing one's opinion.

The preservation of freedom of speech, and the recognition of the right to peaceful demonstration as part of that freedom, is possible only in an orderly environment in which individuals are not endangered by force or violence and in which they are free from coercion and interference in the exercise of their rights or in carrying out their legitimate activities.

Campus demonstration forms are available in the Administrative Office of the Milo Bail Student Center and must be submitted and approved with all necessary signatures at least 48 hours (two business days) before the proposed demonstration. Board of Regents bylaws state that, in cases of the disruption of normal University activities, the Chancellor or his/her designee will, in accordance with University policies and procedures, take necessary steps to restore the University to its normal function. The Chancellor or his/her designee may, in the event of refusal to disperse upon request, impose temporary action, including suspension of those persons disrupting the normal function of the University. The determination as to whether disciplinary action will be initiated for violations of University rules and regulations by students will be made by the Vice Chancellor for Student Success.

The University community may impose behavioral restrictions which are necessary to preserve the orderly functioning of the University and the right of all to be heard. Such restrictions fall into two categories:

#### i. Prevention of violence or the use of force:

Demonstrations which coerce individuals or which constitute a hazard to the safety of any persons or which threaten destruction of property are not protected by freedom of speech provisions and will not be tolerated. Similarly, a hostile audience will not be allowed to interfere with a peaceful demonstration.

#### ii. Protection from interference with University operations:

The University community may restrict conduct which interferes with the holding of classes, the carrying forward of University business, properly organized and scheduled University events, or the discharge of responsibility by any University officer, employee or student. Although the mere presence of demonstrators in public areas within buildings does not necessarily constitute interference, demonstrators cannot be allowed physically to obstruct access to University facilities. Noise and boisterous activity is objectionable when it prevents others from exercising their rights and duties.

Persons engaging in disruptive action shall be subject to disciplinary measures, including separation from the University, and also to charges of violation of the law.

#### b. Response to Disruptive Behavior

The response of the University to any disruptive behavior must ultimately depend on the judgment of the officials who are in charge. However, the following guidelines should be observed:

i. Every effort will be made to end the disruption through reason and persuasion. These efforts shall include a clear indication of the willingness to discuss issues and to make clear the procedures for discussion and arbitration of the issues involved. Discussion of the issues will not be conducted under conditions of duress.

ii. If the discussion method fails, the individuals involved will be notified that they are in violation of University regulations and they will be asked to cease the activity. In the event the alleged violators do not cease the activity within a reasonable length of time, temporary sanctions, which may include conduct probation and if necessary, suspension, may be imposed on the scene. However, unless both the student and the University officials agree to a postponement, the University must hold disciplinary hearings within five (5) school days or the temporary sanctions will be dissolved. Such disciplinary hearing shall be held, as far as possible, in accordance with the established disciplinary procedures of the University. No temporary

sanction shall be made part of a student's permanent record. If a student is found innocent of the action for which temporary sanctions were imposed, no record of the temporary sanction or of the hearing shall become part of any of the student's files or records and the student shall be given the opportunity to make up work which was not completed because of the disciplinary action.

iii. If the use of institutional sanctions and discussion methods are not effective in ending the disruptions, or when alleged violators are not members of the University community, extra-institutional methods (including the invoking of police force) may be used. Non-members of the University community who are engaged in disruptive behavior may be referred to civil authorities for appropriate action.

iv. Evidence regarding the activity of nonstudent members of the University community who are alleged to have engaged in disruptive behavior may be referred to their supervisors for appropriate action.

The University community abhors the use of force as a method for settling disagreement and will always make exhaustive attempts to deal with issues by rational methods. When, however, such rational efforts prove ineffective or when imminent danger to life or property exists, more forceful methods shall be used to protect the rights and property of members of the community.

**3. Distribution of Printed and Other Materials.** Students are free to express their beliefs and concerns in a variety of ways. Printed and other materials offered free of charge may be distributed at any location on the campus as long as such distribution does not interfere with normal traffic or functions of the University. Such materials may be distributed by any UNO-affiliated person provided such is accomplished in an orderly manner within the framework of University policies and the law. If specific space for distribution of material is desired, a location may be reserved in a designated area of the Milo Bail Student Center, in accordance with existing policies and procedures governing space reservations. Special care is requested of any and all parties distributing literature to prevent littering of the campus and surrounding areas. Such activity shall be conducted so as not to interfere with the rights of others or the normal activities of the University. Any material offered for sale, solicitation of donations, or posting on University bulletin boards must comply with UNO policy concerning these matters. Contact the Director of the Milo Bail Student Center if more specific information is desired.

**4. Information Services.** The facilities of UNO Information Services are available to students, faculty and staff of this institution for the purpose of instruction, research, and other activities as defined by the Chancellor. The computer facilities are University property and their operation is part of University operations. Executive Memorandum No. 16 of the President of the University of Nebraska states the University policy on responsible use of University computers and information systems. Executive Memorandum No. 16 may be accessed on the Internet at: [www.nebraska.edu/about/exec\\_memo16.pdf](http://www.nebraska.edu/about/exec_memo16.pdf). The Student Code of Conduct addresses offenses related to the properties and operation of the University, and, therefore, also applies to computer use and facilities as it applies to all other University resources.

#### **5. Title IX. How Title IX Affects Your Educational Experience.**

1. It is the policy of the University of Nebraska to administer all of its educational programs and related supporting services in a manner which does not discriminate based upon age, race, ethnicity, color, national origin, gender, gender identity, sex, pregnancy, disability, sexual orientation, genetic information, veteran's status, marital status, religion or political affiliation.

Any unwanted conduct of a sexual nature, whether verbal, physical, written, or pictorial, which has the purpose or effect of creating a hostile environment for the person subjected to the conduct, or any solicitation of sexual conduct of any nature when submission to or

rejection of such contact is used as the basis for either implicitly or explicitly imposing favorable or adverse terms and conditions of academic standing constitutes sexual harassment and will not be condoned or tolerated. Moreover, sexual misconduct including stalking, dating or domestic violence, sexual exploitation, and sexual assault is prohibited.

b. Appropriate corrective action will be taken toward any student or employee who is found to have violated UNO's non-discrimination, sexual harassment, and/or sexual misconduct policies. Further, UNO commits itself toward the assurance of non-retaliation toward any person who reports harassment, sexual misconduct, or discrimination or who participates in an investigation of such conduct.

c. If you suspect or experience discrimination, sexual harassment, or retaliation toward yourself or others, please keep records or other evidence of specifics and report the conduct.

If you do not feel comfortable telling a person to stop inappropriate behavior, or if the behavior does not cease once you have made the request to do so, you may seek assistance from an administrator, professor, or counselor. Persons designated by the University as Officials with Authority are required to report sexual discrimination, harassment, or misconduct reported to them. Other employees are expected to provide assistance and report.

d. Title IX, Disability or Discrimination Inquiries:

Associate Vice Chancellor for Diversity, Equity, Access and Inclusion  
Eppley Administration Building #211  
Phone: 402.554.3664

Title IX Coordinator  
Eppley Administration Building #211  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

## **Student Code of Conduct**

### **University of Nebraska Student Code of Conduct ("Code")**

Students at the University of Nebraska are members of an academic community in which academic integrity and responsible conduct are essential for the community to function. To ensure that students know what is expected of them, the University has adopted the Standards of Academic Integrity and Responsible Conduct ("Standards").

- Section I - Persons & Organizations Subject to the Standards
- Section II - Standards of Academic Integrity and Responsible Conduct
- Section III - University Responses to a Violation of the Standards
- Section IV - Enforcement of Standards
- Section V - Temporary Suspension
- Section VI - Miscellaneous Procedural Matters

All allegations of sexual misconduct, including sexual harassment under Title IX of the Education Amendments of 1972 (Title IX), sexual assault, sexual harassment, sexual violence, dating violence, domestic violence, or stalking are investigated and addressed following the procedures set forth in Executive Memorandum No. 38.

### **SECTION I**

#### **Persons & Organizations Subject to the Standards**

##### **A. Students**

1. The term "student" includes all persons enrolled at the University, including online and non-degree seeking individuals.

2. All students are subject to the Standards of Academic Integrity and Responsible Conduct as set forth in this Code while they are enrolled as an undergraduate student or a graduate student
  3. For purposes of the Standards, a student is considered to be enrolled starting one (1) week before the first day of classes of the first semester or session for which the student has registered for classes, or when the student engages in University sponsored activities whichever occurs first. A student's enrollment ends when the student graduates, withdraws from the University, or fails to register for classes for three (3) consecutive semesters, with summer term considered to be a semester, or no longer has a continuing student relationship with the University.
  4. As a general rule, the Standards do not apply to graduate students when the graduate students are fulfilling their employment responsibilities, – but the Standards of Academic Integrity apply to conduct that is related to the courses in which graduate students are enrolled. Further, as a general rule, the Standards apply to graduate students with assistantships, but they do not apply to conduct that is related to teaching responsibilities. Therefore, the Standards do not affect graduate student academic freedom.
    - a. The Standards of Responsible Conduct apply to students enrolled at the College of Law, but students at the College of Law are subject to the Law College Honor Code and not the Standards of Academic Integrity set forth in this Code.
    - b. The Standards of Responsible Conduct do not apply to post-doctoral fellows and medical/health profession residents not enrolled in credit courses.
  5. Students who are accused of committing a violation of the Standards while they are enrolled at the University may still be held responsible for the violation even if they later withdraw from the University prior to a resolution of the alleged violation.
- B. Organizations** - The Standards apply to recognized student organizations, which are organizations that have been authorized by the University to use University facilities. Any student organization that is registered with the University, including student clubs, student organizations operating online, and fraternities and sororities, or similar programs, is a recognized student organization for purposes of the Code.
- C. Effect on Academic Sanctions** - The University may address academic misconduct through proceedings under the Code as well as through proceedings implemented by an instructor or academic department. Specifically, imposition of academic sanctions on a student by an instructor or academic program does not prevent the University from instituting proceedings against the student under the Code. In addition, the Code does not prevent an academic program from imposing academic sanctions on students who engage in unprofessional conduct as defined by program specific policies or professional licensure requirements.
- D. Locations in which the Standards Apply**
1. The term "on-campus" includes all University premises, including all University of Nebraska locations; physical campuses, including all adjacent streets and sidewalks, and any University affiliated programs; events or activities, including those located in other states or countries; and the use of any University electronic systems. The term "off-campus" means any location that is not on-campus.
  2. The Standards of Academic Integrity apply regardless of where the conduct occurs.
  3. The Student Code of Conduct applies to conduct that occurs on-campus and, in the situations set out below, to conduct that occurs off-campus.
    - a. Pursuant to Regents By-Law 5.5, the Student Code of Conduct should not be applied as a matter of course to off-campus conduct simply because the conduct also violates federal, state, or local law.
    - b. The Student Code of Conduct applies to conduct that occurs off-campus in the following situations:
      1. The Code states that it applies to conduct that occurs off-campus.
      2. The conduct occurs in or on the grounds of a university-approved housing unit.
      3. The conduct occurs at events or during travel authorized, funded, or sponsored by the University.
      4. The conduct occurs at events or during travel funded or sponsored by a student organization.
      5. The conduct poses a risk to the health and safety of individuals and application of the Code is reasonably necessary to educate the student about the risks of the conduct or to help the student avoid engaging in the conduct in the future.
      6. The conduct poses a serious risk to the health or safety of individuals and is of the type that the student could easily engage in on-campus.
      7. The conduct was intentional and caused, or attempted to cause, physical injury to a university employee or another student.
      8. The conduct could, or was intended to, cause harm on-campus.
      9. A conduct officer:
        1. determines that the conduct in a particular matter distinctly and clearly implicates the University's interests;
        2. prepares a written explanation of the interests and how the conduct implicates them; and
        3. provides the written explanation to the student or student organization.

## SECTION II

### Standards of Academic Integrity and Responsible Conduct

The Standards are all structured in the same way. They contain a general category of conduct that violates the Code, followed by a list of specific types of conduct. The list is not exhaustive and does not reflect all conduct that may be in violation of the Code. The word "include(s)" before a list should be read as saying that the types of conduct in the list are *examples* of conduct that is covered by the general category rather than an *exclusive* list. For example, the first violation that appears below is "Cheating." The words "which includes" come next, followed by ten (10) examples. If a student engages in conduct that is similar to those examples and that people would normally think of as cheating, then that student has engaged in cheating in violation of the Code.

The words "means" before a list should be read as saying that the general category covers only the types of conduct in the list. In other words, the list is *exclusive*. For example, one of the general categories is "Hazing Students." The words "which means" come next, followed by a definition and three situations in which hazing may occur. A student may be found responsible for Hazing under the Code only if the conduct occurs in one of those three situations.

Nothing in the Standards of Responsible Conduct may be construed to apply to conduct or words that are protected by the First Amendment to the United States Constitution or by Article I of the Nebraska Constitution. Likewise, nothing in the Standards of Responsible Conduct may be construed in a manner that is inconsistent with the Board of Regents Policy, *Commitment to Free Expression; Guide for Facilities Use; and Education*. [link; update name and link as necessary]

#### A. Standards of Academic Integrity

Students are expected to approach and complete their academic work with integrity. They are expected to do their own work, to be honest in the statements they make, to refrain from harming others, to refrain from

improperly helping others, and to follow the rules. Students must read instructions and syllabi carefully so that they know what their instructors expect in terms of academic integrity.

Students who are unsure whether or not particular conduct is appropriate should ask their instructors or university administrators. Failing to act with integrity is a violation of the Code. A student fails to act with integrity when they engage in or attempt to engage in any of the following conduct.

1. ***Cheating***, which includes, but is not limited to:
  - a. Copying from another student's exam, assignment, or project.
  - b. Using materials during an exam or for an assignment that are not authorized by the instructor.
  - c. Using devices during an exam that are not authorized by the instructor.
  - d. Taking any materials out of the exam room (for example, the exam itself or scratch paper) that the exam instructions prohibit students from taking.
  - e. Making an electronic copy of part or all of an exam, unless the instructions authorize making a copy.
  - f. Possessing a copy of an exam or assignment that the student knows or should have known that they are not authorized to have.
  - g. Working on an exam or assignment with someone else, unless group work has been authorized by the instructor.
  - h. Taking an exam for another student, or allowing their exam to be taken by someone else.
  - i. Taking all or part of work that someone else prepared and submitting it as one's own.
  - j. Taking all or a substantial part of an assignment submitted for one course and submitting it in another course, without the authorization of the instructor for that course.
2. ***Dishonesty, Falsification, and Fabrication***, which includes, but is not limited to:
  - a. Making false statements to avoid taking an exam or submitting an assignment at the scheduled time.
  - b. Making false statements to avoid a penalty for failing to take an exam or submit an assignment at the scheduled time.
  - c. Making up or purposefully misstating information or sources in any assignment or research project.
  - d. Engaging in plagiarism by presenting the words or ideas of another person as one's own.
  - e. Making changes to a graded exam or assignment and then representing that the changes were part of the original exam or assignment.
3. ***Harmful Academic Action Towards Others***, which includes, but is not limited to:
  - a. Interfering with another person's research or academic work.
  - b. Knowingly making false charges that another student violated these Standards.
4. ***Improperly Helping Others***, which includes, but is not limited to:
  - a. Helping another student on an exam or an assignment when the student is not authorized to receive help.
  - b. Knowingly helping another student violate these Standards, including, but not limited to, sharing an instructor's teaching materials without permission.
  - c. Unauthorized distribution, electronically or otherwise, of an instructor's course materials.
5. ***Failing to Follow the Rules***, which includes, but is not limited to:
  - a. Failing to follow the instructions of an exam proctor.
  - b. Failing to follow testing center rules.

## **B. Standards of Responsible Conduct**

Students are expected to conduct themselves responsibly. Students must remember that they are members not only of the University community but also of the community in which the University is located. This means that students are expected to make responsible decisions about the use of drugs and alcohol, to behave appropriately as a member of the academic community, and to refrain from conduct that threatens the safety of the community.

Failing to act responsibly is a violation of this Code. Engaging in any of the following conduct is considered a failure to act responsibly:

1. ***Using, Possessing, Manufacturing, Selling, or Distributing Illegal Drugs, Narcotics or Controlled Substances, except as expressly permitted by law.***
2. ***Using, Possessing, Selling, or Distributing Prescription Drugs when not legally permitted or authorized.***
3. ***Using, Possessing, or Distributing Drug Paraphernalia.***
4. ***Being in the physical presence of unauthorized alcohol or in the physical presence of illegal drugs***, which includes, but is not limited to:
  - a. Being in a residential room of a University residence hall or university-approved housing in which illegal drugs or unauthorized alcohol are present.
  - b. Being on campus in a vehicle in which illegal drugs or alcohol are being used.
  - c. Being off campus on University approved activities, or otherwise representing the University, in which illegal drugs or unauthorized alcohol are present.
  - d. Being in the presence of illegal drugs or unauthorized alcohol in these locations may not be a violation if the student establishes they were unaware of the presence of illegal drugs or unauthorized alcohol.
5. ***Misuse of Alcoholic Beverages***, which includes, but is not limited to:
  - a. Using, possessing, or providing alcoholic beverages on campus without University authorization.
  - b. Being intoxicated to the point of becoming incapacitated or posing a danger to oneself or others.
  - c. Driving while under the influence of alcoholic beverages or drugs in violation of law.
  - d. Possessing or consuming alcoholic beverages while under the age of twenty-one (21), except when expressly permitted by law.
6. ***Providing Alcoholic Beverages to Underage Students at Off-Campus Parties and Events***, which includes, but is not limited to:
  - a. Providing alcoholic beverages to underage individuals.
  - b. Making alcoholic beverages available on premises that the students control when they know that underage individuals are likely to be present, the beverages are left in a place easily accessible to underage individuals, and some or all of the beverages are consumed by underage individuals.
    - I. A student will be considered to have control of premises if they were on the premises at the time alcoholic beverages were furnished to underage individuals and
      1. they are the lessee or owner of the premises;
      2. they obtained authorization from the lessee or owner to use the premises; or
      3. they have legal access to the premises.
    - II. A student will be considered the lessee if they lease the premises for any purpose, regardless of the length of the lease.
  - c. Purchasing or delivering alcoholic beverages for an event where some or all of the beverages are consumed by underage individuals when the student knew that underage individuals would likely be present and that the alcoholic beverages would likely be easily accessible to them.
  - d. Putting out alcoholic beverages at an event where some or all of the beverages are consumed by underage individuals when the student

knew that underage individuals would likely be present and that the alcoholic beverages would likely be easily accessible to them.

7. **Engaging in, or attempting to engage in, behavior that may cause harm to an individual or property**, which includes, but is not limited to:
  - a. Physical abuse or unwelcome contact, such as hitting, pushing, kicking, choking, biting, or spitting.
  - b. Threatening to commit an act of violence for the purpose of terrorizing another person or persons.
  - c. Threatening another person with imminent physical harm.
  - d. Restraining another person, without legal authority to do so unless it can be shown that there was a reasonable basis to believe that restraining the person was necessary to protect the restrained person, self or others from physical harm.
  - e. Harassing another person, by intentionally engaging in a course of conduct that serves no legitimate purpose and that would seriously terrify, threaten, or intimidate a reasonable person.
  - f. Harassing another person due to their status as a member of a protected class in a manner that is so severe, persistent, or pervasive as to limit or deny a reasonable person's ability to participate or benefit from the University's programs, activities, or employment.
  - g. Taking pictures or making recordings of another person without the person's consent in any place where a person would have a reasonable expectation of privacy, including, but not limited to: the person's bedroom; in the person's living quarters in a residence hall; in a locker room; or in a restroom.
  - h. Taking without permission, destroying, damaging, or vandalizing property that belongs to the University, to University employees, to a student organization, or to others.
  - i. Taking money without permission that belongs to others.
  - j. Accessing, transferring, altering, or destroying without authorization electronic files or devices that belong to the University, or other persons.
  - k. Taking, duplicating, or using the identification card, keys, or credentials of another without authorization.
  - l. Failing to comply with the campus tobacco policy.
8. **Engaging in Conduct that Disrupts Classes, University Operations, Activities, or Order**, which includes, but is not limited to:
  - a. Interfering with an instructor's ability to conduct class by failing to follow the instructor's rules or instructions regarding behavior.
  - b. Being present in a location on campus without proper authorization.
  - c. Obstructing, impeding, or blocking entrances to or hallways in University buildings, roads, sidewalks or windows on campus, or entrances to campus.
  - d. Yelling, screaming, or making loud noises with bullhorns or other such devices.
  - e. Engaging in protests, sit-ins, or demonstrations at times or in locations where those kinds of activities are not permitted.
9. **Failing to Comply with University Housing Policies**, which means:
  - a. Violating any student housing unit policy or regulation whether as a resident or visitor. Visit [housing.unomaha.edu] for applicable policies and regulations.
10. **Hazing Students**, which means:
  - a. Any action taken or situation created that intentionally or recklessly endangers the physical or mental health or safety of a student when that activity is performed:
    - i. in the course of a student organization member considering the student for membership, continued membership, or affiliation with the organization;
    - ii. in the course of a student organization considering the student for membership, continued membership, or affiliation with the organization; or
  - iii. in response, either in whole or in part, to an expression of interest by the student in becoming a member of the organization.
- b. Hazing is a violation regardless of whether it occurs on or off campus.
- c. Permission or approval of the student being hazed is not a defense to hazing.
- d. Examples of hazing activity include, but are not limited to, paddling, beating, or branding a student, depriving a student of sleep for a prolonged period, sexually penetrating a student or touching the student in a lewd manner, subjecting the student to prolonged exposure to the elements, depriving the student of food or water, leaving the student in a remote location without a means of return, subjecting the student to conduct designed to shock the student, or having the student engage in criminal conduct, engage in humiliating conduct, perform prolonged calisthenics, consume items that are not normally consumed by people, consume items in quantities that are not normally consumed by people, or consume alcohol.
11. **Doing Private Acts in Public**, which includes, but is not limited to:
  - a. Engaging in sexual acts such as intercourse or masturbation in public, exposing one's private body parts in public, or urinating or defecating in public.
12. **Misusing University Computer and Network Systems**, which includes, but is not limited to:
  - a. Engaging in conduct prohibited by Sections 5 and 6 of the Policy for Responsible Use of University Computers and Information Systems. (Executive Memorandum 16).
13. **Falsification**, which includes, but is not limited to:
  - a. Knowingly providing false information to the University for the purpose of obtaining something of value, such as admission to the University or a University program, an award, a scholarship, an identification card, membership on an athletic team, or the use of University facilities.
    - i. This Standard applies from the time of application for admission to the University, regardless of when the student actually enrolls.
14. **Engaging in Conduct that Creates a Threat to Community Safety**, which includes, but is not limited to:
  - a. Possessing weapons in violation of Campus Weapons Policies. [link; update name and link as necessary]
  - b. Using weapons to cause physical harm to others.
  - c. Possessing or using fireworks.
  - d. Making, possessing, or using false forms of identification such as driver licenses and University identification cards.
  - e. Tampering with fire or safety equipment.
  - f. Intentionally making false reports of fires, bombs, or other emergencies.
  - g. Failing to comply with requests for identification or other lawful commands from emergency personnel, police officers, or University employees that are reasonably related to the employee's job responsibilities
15. **Failing to Comply with any University or Campus Policy, Rule or Regulation**, which means the violation of any University policy, rule, or regulation published in hard copy or available electronically on any University website. Electronic copy published on any University website shall supersede hard copy.
16. **Violation of Law**, which means:
  - a. Engaging in conduct that is sufficient to constitute a violation of federal, state, or local law that causes, or could cause, harm to the campus community to the extent the University's interests are distinctly and clearly involved.
17. **Abuse of University Disciplinary Proceedings**, which includes but is not limited to:

- a. Failing to comply with the notice from a Conduct Board or University official to appear for a meeting or hearing as part of the Disciplinary Proceedings.
- b. Knowingly falsifying, distorting, or misrepresenting information before a Conduct Board.
- c. Disrupting or interfering with the orderly conduct of a Conduct Board proceeding.
- d. Filing a frivolous or knowingly false report(s).
- e. Attempting to intimidate or coerce an individual from reporting potential violations of the Code, participating in an investigation or disciplinary proceeding, or otherwise making use of the Disciplinary Procedures.
- f. Attempting to influence the impartiality of a member of a Conduct Board prior to, and/or during the course of, the Conduct Board proceeding.
- g. Attempting to harass (verbal or physical) and/or intimidate a member of a Conduct Board prior to, during, and/or after a disciplinary proceeding for purposes of disruption of the conduct process.
- h. Failing to comply with the University response(s) imposed under the Student Code.

**18. *Sexual misconduct or any other unwelcome sexual, sex based, or gender-based conduct*** which includes, but is not limited to:

- a. Sexual assault;
- b. Sexual harassment;
- c. Dating violence;
- d. Domestic violence;
- e. Stalking or;
- f. Sexual exploitation
- g. Sexual harassment under Title IX.

The definitions of terms in 18(a-g) appear in Board of Regent Policy 2.1.8. and Executive Memorandum No. 38. All allegations of sexual misconduct, including sexual assault, sexual harassment, sexual violence, dating violence, domestic violence, stalking and sexual exploitation are investigated and addressed following the procedures set forth in the University of Nebraska Response to Allegations of Student Sexual Misconduct, adopted pursuant to Executive Memorandum No. 38.

**C. Exception for Seeking Emergency Help**

Students should seek emergency help for themselves or other individuals if they have been drinking alcohol or using illegal drugs and suffer a physical injury or have problems functioning.

Those problems include difficulty walking, talking, breathing, or staying conscious. They also include being mentally confused, having a seizure, or being cold or pale. Students have died from alcohol poisoning and drug overdoses. Students should seek emergency assistance by contacting 911.

The University will not take disciplinary action against students for using or possessing alcohol, if the use or possession was part of the incident for which they received emergency help or sought emergency help for another person, or if they were involved in the care of that person. The University will not take disciplinary action against students for using or possessing illegal drugs or unauthorized prescription drugs if the use or possession was part of the incident for which they received emergency help or sought emergency help for another person, or they were in the immediate vicinity of that person.

The Conduct Officer will determine if the student is eligible for this exception after meeting with the student. Students may still be charged by law enforcement officials for violations of federal, state, or local laws.

Additionally, the policy is not a means to excuse students from other violations of the Student Code.

As a condition of not taking action against them, however, the University may require students to meet with a Conduct Officer and to participate in an alcohol or drug educational program that is designed to help increase their awareness of their alcohol or drug-related behavior.

**D. Responsibility of Student Organizations**

1. A student organization is responsible for conduct that the organization engaged in, facilitated, or authorized, whether expressly or impliedly. Whether an organization engaged in, facilitated, or authorized conduct is a factual question that requires an evaluation of the totality of the circumstances to determine whether it is fair and reasonable to hold the organization itself responsible. The relevant circumstances include, but are not limited to, the following:
  - a. Whether the conduct was planned, approved, or engaged in by one or more officers or authorized representatives of the organization who were acting in their capacities as officers or authorized representatives.
  - b. Whether the conduct was the result of a policy or practice of the organization.
  - c. Whether a significant number of members were involved or engaged in the conduct.
  - d. Whether the conduct occurred at or in connection with an activity or event funded, sponsored, publicized, or advertised by the organization.
  - e. Whether the conduct occurred at a location over which the organization had control at the time of the conduct.
  - f. Whether the conduct occurred at an event that reasonable people would associate with the organization.
  - g. Whether the officers or authorized representatives of the organization could have reasonably foreseen that the conduct could occur and, if so, whether they failed to take reasonable steps to prevent the conduct.
  - h. Whether the conduct is attributable to the organization under the organization's own policies, including local or national risk management guidelines.

**SECTION III**

**University Responses to Violations of the Standards**

If a student or student organization is found to be responsible for a violation of the Standards, the University's response may involve requirements designed to educate the student about the risks of the conduct, to assist the student in refraining from the conduct in the future, or to protect others. The University's response may also involve sanctions to the student or the student organization for engaging in the conduct and to deter the student or student organization from engaging in the conduct in the future.

**A. University's Response**

1. The University's response may include one (1) or more of the following:
  - a. **Written Warning**
    - i. This is a warning by a Hearing Officer or the University Conduct Board that the student receiving the warning committed a violation of the Standards and that future violations may result in a harsher response.
    - ii. The warning may also include advice on steps that the student may take to avoid future violations.
  - b. **Probation for a specified period of time**
    - i. Probation may include conditions that must be satisfied.
    - ii. The conditions must be reasonably related to the violation or the reasons for the violation.
      1. Examples of conditions for students include the completion of educational programs and behavioral evaluations.
      2. Examples of conditions for student organizations include completing educational programs and adopting policies

and procedures to minimize the risk of the wrongful conduct occurring in the future. Other examples include not engaging in specified recruitment practices holding specified events, or participating in specified events.

iii. The failure to satisfy a condition of probation may be treated as an independent violation of the Standards of Responsible Conduct

iv. A violation of the Standards while a student or student organization is on probation may result in a more severe response to the new violation than if the new violation was considered in isolation.

**c. Expulsion from University Housing**

i. The student is permanently barred from living in or being present on the premises of any University residence hall or housing unit.

**d. Suspension from University Housing**

i. The student may not live in or be present on the premises of any University residence hall or housing unit for a specified period of time.

ii. Conditions may be imposed on the student returning at the end of the specified period, but any such conditions must be reasonably related to the reasons for the suspension.

**e. Mandatory Relocation**

i. The student is required to move to a different room, University residence hall, or housing unit.

**f. Loss of Privileges for a Specified Period of Time**

i. Loss of a privilege to engage in any activity or experience not required to satisfy graduation requirements, including but not limited to:

1. Prohibition or limitation on the use of University electronic resources such as, internet access, email access, computers, or tablets.
2. Prohibition or limitation on the use of University media resources, such as communal televisions, projectors, etc.
3. Prohibition or limitation on the use of University wellness/recreation center equipment.
4. Prohibition or limitation on on-campus dining.
5. Prohibition or limitation on use of on-campus transportation.
6. Prohibition or limitation on use of University purchasing cards or accounts.
7. Prohibition or limitation on use of University keys and/or card access.
8. Prohibition or limitation on the use of personal media devices.
9. Restriction on access to campus.

**g. Restitution**

i. Requiring the student to return to the owner money or property that the student wrongfully took.

ii. Requiring the student to pay the owner for property destroyed or damaged.

**h. Performance of Service to the University Community**

i. The service must be reasonable in type and duration.

ii. When possible, the service should be designed to make amends for the violation, to educate the student about the harmful consequences of the violation, or to allow the student to develop their academic or professional skills.

**i. Completion of Educational Programs, Assignments, or Behavioral Evaluations that are reasonably related to the violation**

i. These may include, but are not limited to, academic integrity programs, anger management programs, completing presentations or written assignments, substance abuse evaluations, and other such programs and evaluations that

are designed to help the student identify and address factors that may have contributed to the violation. Students may be responsible for the costs or fees associated with any such programs or evaluations.

**j. Employment Restrictions**

i. Prohibition or limitation on University student employment.

**k. Revocation of Admission and/or Degree**

i. Admission to or a degree awarded from the University may be revoked for fraud, misrepresentation, or other violation of the Standards in obtaining the degree, or for other serious violations committed by a student prior to graduation that may have resulted in suspension or expulsion.

**l. Withholding Degree**

i. The University may permanently withhold awarding of a degree or withhold the award of a degree pending the completion of Disciplinary Procedures, including the completion of all University responses imposed.

**m. No Contact**

i. A No Contact order may prohibit, but is not limited to, the following:

1. Approaching one (1) or more specified individuals at any time.
2. Calling one (1) or more specified individuals at any time.
3. Sending via email or by any other means, any communication to one (1) or more specified individuals at any time.
4. Contacting or communicating with one (1) or more specified individuals through a third-party.

ii. If the student subject to the No Contact order believes contact with one (1) or more of the specified individuals is necessary, any such contact must be made through the Student Conduct Office or with the expressed permission of a Conduct Officer.

**n. Loss of Status as a Recognized Student Organization**

i. The loss may be permanent or for a specified period of time.

ii. Conditions may be imposed on the organization for regaining its status at the end of the specified period, including the condition that the members comply with the Code of Conduct during the specified period.

**o. Suspension for a Period of Time**

i. Suspension is a temporary separation from the University of Nebraska.

ii. During the suspension period the student is prohibited from entering University property, functions, events, and activities without prior written approval of the Vice Chancellor responsible for student conduct or their designee. The University response may be enforced with a trespass action as necessary.

iii. A notation will be made on the student's transcript but will be removed after the suspension period ends.

iv. Conditions, including the reapplication for admission, may be imposed on the student returning at the end of the specified period, but any such conditions must be reasonably related to the reasons for the suspension.

**p. Expulsion**

i. Expulsion is a permanent separation from the University of Nebraska.

ii. An expelled student is precluded from registration, class attendance or participation, and residence on campus.

iii. An expelled student is prohibited from entering University property, functions, events, and activities without prior written approval of the Vice Chancellor responsible for student conduct or their designee. This University response may be enforced with a trespass action as necessary.

iv. A notation will be made on the student's transcript.

2. If there is a dispute about whether a student or a student organization complied with any of the conditions imposed as part of the response to a violation, the dispute must be resolved at a hearing before a Hearing Officer.
3. The factors relevant to the determination of the appropriate response(s) include, among others, the nature and seriousness of the conduct, the harm that the conduct caused or might have caused, the student's academic progress or experience, the student or student organization's acceptance of responsibility for the conduct, the student or student organization's efforts to conceal or avoid responsibility for the conduct, the student or student organization's explanations for the conduct, the student or student organization's prior record of violations, the interests of the University, and the imposition of any sanctions pursuant to procedures other than those authorized by this Code (for example, sanctions imposed by a faculty member or by civil authorities).

## SECTION IV

### Enforcement of the Standards

#### A. Definitions

1. **University Day.** This section contains various deadlines that are stated in days. The term "University Day" means a weekday on which the campus offices are open. Check the academic calendar on the campus website to determine the days on which the campus offices are closed. [link to calendar]
2. **E-Mail Address of Record.** This section also contains references to the "e-mail address of record." That term means the student's University assigned e-mail address. Because important notices may be sent to students by e-mail, it is extremely important that students make sure they check that email regularly.

#### B. The Persons Involved in Enforcement of the Standards

1. **Conduct Officer.** A Conduct Officer is responsible for investigating alleged violations of the Standards, for presenting the University's information and position in hearings, and for exercising the discretion that the Code specifically grants to Conduct Officers. The Conduct Officer may propose administrative resolutions.
2. **Hearing Officer.** A Hearing Officer has the authority to hear and resolve allegations that a student or student organization violated the Standards and if the Officer determines that a violation occurred, for determining the University's response. Unless otherwise agreed upon through an administrative resolution, a Hearing Officer may not designate suspension or expulsion as a response to a violation by a student or loss of status as a response to a violation by a student organization. Only the University Conduct Board may do so.
3. **University Conduct Board.** The University Conduct Board has the authority to hear and resolve charges that a student or a student organization violated the Standards and if the Board determines that a violation occurred, for determining the University's response. The procedures for selecting the members of the Board and the requirements for a quorum are set out in Section VI.
4. **Appeals Officer or Board.** An Appeals Officer or Appeals Board may hear appeals authorized by this Code. The procedures for selecting members of the Appeals Board and the requirements for a quorum are set out in Section VI. An appeal heard by the Appeals Board must be heard before an appeals panel of no fewer than three (3) members of the Appeals Board. The appeals panel shall select its own Chair. All members of the appeals panel possess voting privileges.
5. **Appointments.** Conduct Officers, Hearing Officers, and Appeals Officers are appointed by the Vice Chancellor responsible for student conduct or by their designee. A person may be appointed as a Hearing Officer, Conduct Officer, or Appeals Officer regardless of whether the person is an employee of the University. The person may be appointed for all types of cases or may be appointed for a particular case or type of case. Although a person may be appointed as a Hearing Officer, a Conduct Officer, and an Appeals Officer, the person may only serve as one of those in the same case.

#### C. Investigating Potential Violations

1. When the University receives information about a potential violation of the Standards, a Conduct Officer may conduct an investigation to determine if there is a reasonable basis to believe that a student or a student organization has engaged in conduct that violates the Standards.
2. In the course of the investigation, the Conduct Officer may contact the student or the officers of the student organization that is the subject of the investigation. Before discussing the alleged violation(s) with the student or officers, the Conduct Officer must state in writing:
  - a. that the Conduct Officer is investigating an alleged violation of the Standards;
  - b. what the alleged violation is;
  - c. that the student or officer is not required to discuss the alleged violation with the Conduct Officer;
  - d. that the student or officer has the right to be accompanied by an advisor when the student meets with the Conduct Officer; and
  - e. that the student or the organization may choose as the advisor anyone, including an attorney, but that the student or the organization is responsible for any fees that the advisor may charge. The student's advisor may provide guidance to the student, but may not otherwise directly participate in the conduct process.
3. The Conduct Officer must complete the investigation within thirty (30) University days after written notice about a possible violation was first received by the Conduct Officer. The Vice Chancellor responsible for student conduct or their designee may grant the Conduct Officer extensions of no more than an additional sixty (60) University days if the Conduct Officer applies in writing for an extension within the initial thirty (30) day period and shows that exceptional circumstances exist that warrant an extension of time. More than one (1) extension may be granted.
4. If the Conduct Officer determines that there is not a reasonable basis to believe that the student or student organization violated the Standards, the Conduct Officer should not take any further action in the matter.
5. If the Conduct Officer determines that there is a reasonable basis to believe that student or the student organization engaged in conduct that violates the Standards, the Conduct Officer has the discretion:
  - a. to take no further action in the matter;
  - b. to seek an administrative resolution of the matter; or
  - c. to set the matter for hearing.
    - In exercising discretion, the Conduct Officer should consider all the relevant circumstances, including the nature and seriousness of the alleged violation, any sanctions that may have been imposed pursuant to procedures other than those authorized by this Code (for example, sanctions imposed by a faculty member or by the civil authorities), the past conduct of the student or student organization, the ease or difficulty of proving the alleged violation, the interests of fairness, the interests of those harmed by the alleged violation, and the interests of the University.
6. If the Conduct Officer determines that suspension or expulsion may be an appropriate University response, and unless an administrative resolution is agreed upon, the Conduct Officer must set the matter for hearing before the University Conduct Board. If suspension or expulsion is not a potential University response, the matter will be set before a Hearing Officer unless either the Conduct Officer or the student requests the matter be set before a University Conduct Board.

- a. During the week preceding final examinations and the week(s) of final examinations, University breaks, and summer sessions a University Conduct Board may not be available. Accordingly, a Respondent may waive their right to a hearing before a University Conduct Board.

7. A matter that is set for hearing before a University Conduct Board must consist of no fewer than three (3) members of the Conduct Board, at least one (1) of whom must be a faculty member and at least one (1) of whom must be a student. The Chair of the Conduct Board is responsible for conducting the hearing and resolving any procedural and evidentiary issues that may arise. The Conduct Board shall select its own Chair. All members of Conduct Board possess voting privileges.

#### **D. Instituting Proceedings**

1. A Conduct Officer institutes a proceeding under this Code by sending a request for an informal meeting, an administrative resolution, or a notice of hearing to a student or student organization. The student or student organization against whom a Code violation has been alleged is referred to as the "Respondent."
2. The request or notice of hearing must be in writing and sent by e-mail to the Respondent's e-mail address of record. If the Respondent is a student organization, the request or notice of hearing must be sent by e-mail to:
  - a. one of the officers of the organization at the officer's e-mail address of record, and
  - b. the organization's faculty advisor of record, if any, or if the organization is a fraternity or sorority, the person listed as the chapter's advisor, if any, in the records maintained by the Office of Fraternity & Sorority Life.
3. The contents of the request are set out below in subsection E. The contents of the notice are set out below in subsection F.

#### **E. Informal Meeting**

1. An informal meeting is an opportunity for the Respondent to discuss the alleged misconduct with a Conduct Officer. During an informal meeting, the Conduct Officer may proceed with administrative resolution of a complaint pursuant to Section F(1) if the Conduct Officer determines administrative resolution is appropriate and is accepted by the Respondent.
2. A written request for an informal meeting must inform the Respondent:
  - a. that the Conduct Officer intends to address an alleged violation(s) of the Standards;
  - b. what the alleged violation(s) is;
  - c. that the student or officer is not required to discuss the alleged violation(s) with the Conduct Officer;
  - d. that the student or officer has the right to be accompanied by an advisor when the student meets with the Conduct Officer; and
  - e. that the student or the organization may choose as the advisor anyone, including an attorney, but that the student or the organization is responsible for any fees that the advisor may charge. The student's advisor may provide guidance to the student, but may not otherwise directly participate in the conduct process. The process shall not be unduly delayed based on the availability of the Respondent's advisor.

#### **F. Administrative Resolutions**

1. An administrative resolution is an agreement between the University, through the Conduct Officer, and the Respondent in which:
  - a. the Respondent admits the violation and agrees to the response(s) stated in the agreement, or
  - b. the Respondent does not admit the violation but agrees to the responses stated in the agreement. If the parties reach an agreement, the agreement must be in writing and signed by the parties. An electronic signature is sufficient.

2. A written request for an administrative resolution must contain:
  - a. an explanation of what an administrative resolution is;
  - b. a statement of the charge(s) against the Respondent, including the time and place of the alleged violation(s); and
  - c. a statement of the response(s) proposed by the Conduct Officer. The request must also explain what the Respondent must do to accept or reject the proposal and inform the Respondent that the matter may be set for hearing if the Respondent rejects the proposal. If the parties fail to reach an administrative resolution, the Conduct Officer has the discretion to take no further action in the matter or to set the matter for hearing.
3. If the Respondent does not respond to the written request for an administrative resolution within five (5) University days, and unless the University's proposed response is suspension or expulsion, the proposed administrative resolution will be deemed accepted by the Respondent. The Conduct Officer may grant the Respondent an extension of time to respond to the Administrative Resolution, upon the request of the Respondent and at the sole discretion of the Conduct Officer.
4. The Conduct Officer may propose an administrative resolution at any time prior to the beginning of a hearing before a Hearing Officer or the University Conduct Board. A proposal for an administrative resolution that is made after a notice of hearing is sent may be made orally or in writing.

- G. **Hearings** - A hearing is an opportunity for the parties to be heard before a Hearing Officer or the University Conduct Board. A University Conduct Board will hear matters that may result in suspension or expulsion. All other matters will be heard by a single Hearing Officer, unless a University Conduct Board is requested by the Conduct Officer or the Respondent. If a matter is set for a hearing, a written notice of hearing must be sent regardless of whether a written request for an administrative resolution was previously sent.

#### **Notice of Hearing**

1. The notice of hearing for a student must contain the following information:
  - a. Source of the misconduct complaint(s).
  - b. Statement of alleged facts constituting misconduct under the Code or other policy.
  - c. Citation of the specific provision(s) of the Code or other policy alleged to have been violated.
  - d. Description of the pertinent information (e.g. records, statements, images or other information) to be presented.
  - e. Date, time and place of the hearing before the Hearing Officer or Conduct Board. Each hearing shall be scheduled at least five (5) University days after the date the notice has been sent.
  - f. A statement that the student or student organization accused of misconduct may be accompanied by legal counsel or other advisor at the hearing before the Conduct Board, to be provided at the expense of the student or student organization, and that such legal counsel or advisor may advise the student or student organization, but may not directly participate in the hearing.
  - g. That the student or student organization accused of misconduct is under no obligation to make any statement at the hearing relevant to the alleged misconduct, and that refusal to make a statement will not be considered as an indication of responsibility.
  - h. That the student or student organization accused of misconduct has the right to inspect any pertinent information the Conduct Officer intends to present at the hearing, no fewer than five (5) University days prior to the hearing, in the Office of Student Conduct and Community Standards and that the student or student organization will be advised in writing prior to the hearing of any pertinent information subsequently discovered, which the Conduct Officer intends to present at the hearing and given an opportunity to inspect such information.

- i. A statement that if the student or student organization intends to present evidence, including witnesses, that information must be provided to the Conduct Officer no fewer than two (2) University days in advance of the hearing.
2. The notice of hearing must be sent at least five (5) University days before the hearing date. The hearing must be held no later than thirty (30) University days after the notice of hearing was sent. The time limits in this paragraph may be lengthened or shortened if the parties agree to do so. The time limits may also be lengthened if one of the parties makes a written request to the Vice Chancellor responsible for student conduct and the Vice Chancellor or their designee determines that there is a good reason for doing so. Under no circumstances may the hearing be held more than sixty (60) University days after the notice of hearing is sent.

### **Disqualification**

1. The notice of hearing must be provided to the Hearing Officer or to the members of the hearing panel at least three (3) University days before the hearing so that the officer or members can decide whether they need to disqualify themselves.
2. Hearing Officers or panel members must disqualify themselves if they believe that they cannot decide the matter fairly and impartially or if there is a reasonable basis why others may perceive the officers or members as being unable to decide the matter fairly and impartially.
3. The name of the Hearing Officer or a list of the names of the members of the hearing panel must be provided to the Respondent at least three (3) University days before the hearing so that the Respondent can decide whether to challenge the Hearing Officer or any member of the hearing panel on grounds of lack of fairness or impartiality. The list of names of the members of the hearing panel must identify the Conduct Board Chair ("the Chair") and must also state the member's status (faculty, staff, or student). The e-mail address of the Hearing Officer or the Chair must also be provided to the Respondent.
4. The Respondent may make a challenge by sending an e-mail to the Conduct Officer and to the Hearing Officer or the Chair in which the Respondent states the factual basis for challenging the impartiality or fairness of the officer or member. The e-mail must be sent no later than two (2) University days before the hearing. The failure to make a timely challenge to the officer or member waives the challenge unless the Respondent shows, as determined by the Vice Chancellor responsible for student conduct or their designee, that there are extraordinary circumstances that excuse the Respondent's failure.
5. If the Respondent challenges the Hearing Officer, the officer must withdraw from the proceeding if the officer believes that the officer cannot decide the matter fairly and impartially or if there is a reasonable basis why others may perceive the officer as being unable to decide the matter fairly and impartially.
6. If the Respondent challenges a member of the hearing panel, the Chair must promptly forward the Respondent's e-mail to the members of the panel. The member who is the subject of the challenge must withdraw from the proceeding if the member believes that the member cannot decide the matter fairly and impartially or if there is a reasonable basis why others may perceive the member as being unable to decide the matter fairly and impartially. If the member does not withdraw from the proceeding, the other members of the hearing panel may disqualify the member if they conclude by a majority vote that the standard for disqualification has been met.
7. If the Hearing Officer withdraws from the proceeding, the hearing must be conducted by a different Hearing Officer and the name of that officer must be promptly provided to the Respondent. If a Conduct Board member withdraws or is disqualified from the proceeding, the member must be replaced by a new Conduct Board member and the name of the new Conduct Board member must be promptly provided to the Respondent.

### **Pre-hearing Conference**

1. Prior to a hearing a pre-hearing conference may be held to answer procedural questions and settle those matters which may be agreeably concluded.

### **Recording & Conducting the Hearing**

1. The electronic or printed items that the Conduct Officer plans to use at the hearing may be made available to the Hearing Officer or Conduct Board for review before the hearing. The Respondent, however, must be given the opportunity to review the items before they are made available to the Hearing Officer or Conduct Board no fewer than five (5) University days in advance of the hearing. Any items that are made available to the Hearing Officer or Conduct Board must be presented as evidence at the hearing. If the Respondent intends to present evidence, including witnesses, that information must be provided to the Conduct Officer no fewer than two (2) University days in advance of the hearing. Any evidence not disclosed within the deadlines set forth in this paragraph will only be considered at the sole discretion of the Hearing Officer or Chair of the Conduct Board. Regents By-Law 5.4(f) provides that the "decision of the [conduct] board must be based solely upon evidence introduced at the hearing."
2. The Conduct Board shall make a confidential verbatim record of each hearing. Such verbatim record shall be made by such method of recording or recording device as the University deems suitable. The recording shall be the property of the University. The Vice Chancellor responsible for student conduct or their designee has the authority to decide which recording means will be used.
3. At the beginning of the hearing, the Hearing Officer or Chair should state for the record:
  - a. the date, time, and place; and
  - b. their name and role as the Chair or Hearing Officer.
4. If the hearing is before a hearing panel, the Chair should:
  - a. have the other members of the Conduct Board identify themselves, and
  - b. state whether there is a quorum. If there is not a quorum, then the hearing must be rescheduled unless all parties waive on the recording any objection to the lack of a quorum.
5. The Hearing Officer or Chair should then identify the other persons present, ask the Conduct Officer to read the alleged violation(s), and ask the Respondent if the Respondent admits to the alleged violation(s).
6. The Hearing Officer or Chair must conduct the hearing in a manner that facilitates the presentation of relevant evidence by both the Conduct Officer and the Respondent. Both the Conduct Officer and the Respondent have the right to call witnesses and present their respective cases. The Hearing Officer or Chair has the discretion to allow the use of a question-and-answer format or allow a witness to make an oral statement about what the witness knows about the matter. The Hearing Officer or the members of the hearing panel may then ask questions to clarify what the witness said or to elicit more detailed information.
7. The Hearing Officer or Chair has the discretion to allow the parties to question the witnesses directly or to require the parties to submit suggested questions for the Hearing Officer or Chair to ask. In exercising this discretion, the Hearing Officer or Chair should consider all the relevant circumstances, including whether there is animosity between the Respondent and the witness, whether the charges involve violence, threats, or harassment of the witness by the Respondent, and whether direct questioning would be more efficient or would better enable the Respondent to present their information.
8. The Hearing Officer or Chair has the discretion to:
  - a. allow the parties to make opening statements, closing statements, or both, with reasonable time limits;
  - b. allow witnesses to testify by videoconferencing technology;

- c. require that the witnesses who have not yet testified wait somewhere other than the hearing room until they are called to testify; and
  - d. schedule separate hearings if charges have been brought against multiple respondents or multiple charges have been brought against a single respondent.
9. The Respondent has the right to be present for the hearing. If the Respondent is a student organization, then one of its officers has the right to be present for the hearing. The hearing is closed to the public.
  10. The Conduct Officer has the burden of demonstrating the alleged violation(s) by the greater weight of the evidence. The greater weight of the evidence means evidence sufficient to make the alleged violation(s) more likely true than not true. If the evidence is evenly balanced, or if it weighs in favor of the Respondent, then the Respondent is not responsible for the alleged violation(s).
  11. The Conduct Officer will present evidence first, followed by the Respondent. Courtroom rules of evidence do not apply. Evidence may be presented if:
    - a. it is relevant to the charges, the University response, or the credibility of the witnesses; and
    - b. it is sufficiently reliable that a reasonable person would take it into account in making an important decision. Evidence may be excluded if it merely repeats evidence that has already been presented. The Hearing Officer or Chair will be solely responsible for the determination of the admissibility of evidence.
  12. The Respondent's advisor may not speak on behalf of the Respondent during the hearing and may not directly participate in any aspect of the hearing. The Respondent, however, may consult with the Respondent's advisor during the hearing. The Hearing Officer or Chair may limit the length and frequency of consultations so that they do not unreasonably delay the hearing or unreasonably interfere with the presentation of evidence.

### **Hearing Stages**

1. If the Respondent is present and contests the charge(s), a hearing must be conducted in two (2) stages. At the end of each stage a Conduct Board must go into closed session to deliberate and make its decisions by majority vote. If the Respondent is contesting only the appropriate response, the hearing will move immediately to the second stage.
  - a. The first stage is to decide whether the Respondent is responsible for the violation. If the Respondent is a student organization, the Hearing Officer or Conduct Board must also conclude that it is more likely than not that the student organization engaged in, facilitated, or authorized the wrongful conduct, either expressly or impliedly.
    - i. If the Hearing Officer or Conduct Board decides that the Respondent is not responsible, the hearing is over.
  - b. The second stage is to decide the appropriate response(s). The hearing will move to the second stage only if the Hearing Officer or Conduct Board determines that the Respondent is responsible or if the Respondent admits the charges. The second stage shall be conducted immediately after the Conduct Board decides the Respondent is responsible. Only evidence that is relevant to the issue of the appropriate response(s) may be presented during the second stage.
2. At the conclusion of the hearing, the Conduct Board must go into closed session to deliberate and make its decision. The decision must be made by a majority vote.
3. If the Respondent fails to appear at the hearing, the Hearing Officer or Conduct Board shall proceed with the hearing if the Hearing Officer or a quorum of the hearing panel members are present.

### **Notice of Decision**

1. No later than seven (7) University days after the hearing, the Respondent must be notified by letter of the decision(s) and response(s),

if any. The letter must inform the Respondent of the right to appeal and include a copy of subsection G. The letter must also inform the Respondent of the name and e-mail address of the person to whom the documents required to appeal must be sent. The person must be the Vice Chancellor responsible for student conduct or their designee.

2. The letter must be sent to the Respondent's e-mail address of record. If the Respondent is a student organization, then the letter must be sent to one of the officers at the officer's e-mail address of record and to the organization's faculty advisor of record, if any, or if the organization is a fraternity or sorority, the person listed as the chapter's advisor, if any, in the records maintained by the Office of Fraternity & Sorority Life.
3. In the case of a crime of violence, the University shall provide to the victim the final results of any institutional disciplinary proceeding against the alleged perpetrator. Crimes of violence include:
  - a. arson;
  - b. assault offenses;
  - c. burglary;
  - d. criminal homicide – manslaughter by negligence;
  - e. criminal homicide-murder and nonnegligent manslaughter;
  - f. destruction, damage or vandalism of property;
  - g. kidnapping; and
  - h. robbery.

### **Effective Date of Response & Request to Suspend Response**

1. The response to a violation takes effect on the day when the letter of decision is sent. The Respondent may request that the response be suspended while the appeal is pending by e-mailing or hand delivering a letter to the Vice Chancellor responsible for student conduct or their designee no later than five University days after the letter of decision was sent. In the letter, the Respondent should state that they are appealing the decision, explain how the Respondent will be harmed if the response is not suspended, and also explain why suspending the response will not adversely affect the University or other persons. The Respondent should also attach a copy of the letter of decision.
2. The Vice Chancellor or their designee should promptly review the letter and decide whether to grant or deny the request. In making the decision, the Vice Chancellor or their designee should consider whether the harm that the Respondent may suffer if the response is not suspended outweighs the harm that the University and other persons may suffer if the response is suspended. Before making the decision, the Vice Chancellor or their designee may request that the Conduct Officer explain why they believe that the request should be granted or denied.
3. If the request is granted but the Respondent waives their right of appeal, the response will be immediately reinstated. Waiver of the right of appeal is discussed below in subsection H.

### **H. Appeals**

1. The Respondent may appeal the decision of the Hearing Officer or University Conduct Board to the Appeals Officer unless the Respondent requests the appeal be heard by an Appeals Board. An appeal by the Respondent is limited to the following grounds:
  - a. the evidence presented at the hearing was insufficient to allow a reasonable person to conclude that the charges were more likely true than not;
  - b. the response was clearly excessive in light of all the circumstances; or
  - c. the Hearing Officer or University Conduct Board failed to follow the procedures and as a result of the failure, there is a substantial likelihood that the decision is wrong.
2. Evidence that was not presented at the hearing may not be considered on appeal. Newly discovered evidence may be grounds for a rehearing. Newly discovered evidence is discussed below in subsection J.

3. In order to appeal, a Respondent must send an e-mail to the person identified in the letter of decision and attach a letter that explains in detail the reasons why the decision should be overturned within ten (10) University days of the date of the letter of decision. A Respondent who does not comply with this section waives the right of appeal.
4. Upon receipt of an appeal the Appeals Officer or Chair of the Appeals Board will correspond with the parties regarding the Respondent's appeal. The Conduct Officer may send an e-mail to both the Respondent and to the Appeals Officer or Chair and attach a letter that explains in detail the reasons why the decision should or should not be affirmed. The e-mail must be sent by the date specified by the Appeals Officer or Chair in their correspondence.
5. The Appeals Officer or Chair has the discretion to request the Respondent and the Conduct Officer to make an oral presentation. The presentation may be made to the Appeals Officer or the Appeals Board in person, by telephone, or by videoconferencing technology. The Appeals Officer or the Chair should inform the parties beforehand of any time limitations on their presentations and also inform them that the Appeals Officer or any member of the Appeals Board may ask the parties questions during or after their presentations, and that the Respondent's advisor, if any, may not make a presentation. If there is a presentation, the University will record the presentation and any subsequent questions.
6. The Appeals Officer or Appeals Board must decide the appeal within twenty (20) University days after the receipt of the notice of appeal. Upon notice to the parties, the Appeals Officer or Chair may extend the deadline for the date of the decision letter by up to twenty (20) University days. The decision may affirm the decision being appealed, overturn the decision being appealed and specify that the charges be dismissed or that a new hearing be held, or modify any University response that was clearly excessive. The decision of the Appeals Officer or Appeals Board is final.
7. The Respondent and the Conduct Officer must be notified of the decision by an e-mail sent to the Conduct Officer and the Respondent at their e-mail addresses of record. If the Respondent is a student organization, then the email must be sent to one of the officers at the officer's e-mail address of record and to the organization's advisor of record, if any, or if the organization is a fraternity or sorority, the person listed as the chapter's advisor, if any, in the records maintained by the Office of Fraternity & Sorority Life. The letter must inform the Conduct Officer and Respondent that the decision is final.
3. If the Vice Chancellor or their designee determines that the requirements have not been met, then the request must be denied.
4. If the Vice Chancellor or their designee determines that the requirements have been met, then a new hearing must be held before a Hearing Officer or Conduct Board. If suspension or expulsion was sought in the original hearing, however, the new hearing must be held before a Conduct Board.
5. The new hearing may be held before the same Hearing Officer or Conduct Board that originally heard the matter or before a different Hearing Officer or Conduct Board. The decision in the new hearing must be based on the recording of the original hearing and the new evidence presented at the new hearing.
6. After the expiration of the sixty-day (60) period, a student who was expelled may seek a rehearing by sending a letter by certified mail to the Vice Chancellor or their designee. In that letter, the student must explain why the three (3) requirements listed above are satisfied and also explain why it would be manifestly unjust not to grant the student a new hearing. The letter must be sent no later than one year after the letter of decision was sent to the student.
7. If the Chancellor or their designee determines that the requirements have not been met, then the request must be denied. The decision of the Chancellor or their designee is final. If the Chancellor determines that the requirements have been satisfied, then a new hearing must be held before a Conduct Board.

## SECTION V - Temporary Suspensions

### A. Grounds

1. The Vice Chancellor responsible for student conduct or their designee may temporarily suspend a student if there is credible information that the student's conduct or presence on campus presents a clear threat to the physical safety of individuals, or is so disruptive that temporary suspension is necessary to preserve the rights of other students to pursue an education. A student may be temporarily suspended for the reasons stated in this paragraph even though the student's conduct may not violate the Student Code of Conduct or Appendix A to the Code (Response to Allegations of Student Sexual Misconduct).
2. In determining whether to suspend a student temporarily, the Vice Chancellor or their designee should consider whether measures other than suspension would be adequate to address the threat to physical safety or the right of individuals to pursue an education. Those measures include, among others:
  - a. requiring the student to leave University Housing or to move to a different room or residence hall;
  - b. preventing the student from attending class;
  - c. limiting the areas on campus in which the student may be present; and
  - d. prohibiting the student from having contact with one or more specified individuals.
3. If one or more of those measures would be adequate, then the Vice Chancellor or their designee should require that they be implemented instead of suspending the student temporarily. A student may request at any time to meet with the Vice Chancellor or their designee to contest the implementation or continued implementation of the measures.
4. If a student is temporarily suspended, the Vice Chancellor or their designee must provide the student with a Notice of Temporary Suspension. The notice must be sent to the student's e-mail address of record and must:
  - a. state the factual basis for the student's temporary suspension and explain why the student's conduct or presence on campus presents a clear threat, significant risk, or is so disruptive that temporary suspension is necessary; merely reciting the language of the Code is insufficient;

### I. Effect on Graduation or Transcript Request

The University may withhold a degree or transcript until conduct proceedings (including appeals) have ended. The University should confer the degree or release the transcript after all investigations and proceedings have ended unless the response to the violation affects the student's eligibility for the degree (for example, the student is expelled or must complete an educational program prior to receiving the degree).

### J. New Evidence

1. The Respondent or Conduct Officer may seek a rehearing if the Respondent or Conduct Officer discovers new evidence after the hearing. To obtain a rehearing, the Respondent or Conduct Officer must meet three requirements:
  - a. the evidence is in fact new
  - b. the evidence could not have been discovered with reasonable diligence before the hearing; and
  - c. there is a reasonable basis to believe that the new evidence would have changed the decision(s) and/or response(s).
2. The Respondent or Conduct Officer must explain in a letter to the Vice Chancellor responsible for student conduct or their designee why the three (3) requirements are met. The letter must be emailed to the Vice Chancellor or their designee no later than sixty (60) University days after the letter of decision was sent to the Respondent.

- b. state that the student has a right to a meeting with the Vice Chancellor or their designee within three (3) University days after the temporary suspension becomes effective to present information to show that the requirements for a temporary suspension have not been satisfied and that the temporary suspension should therefore be lifted;
  - c. state the time, date, and place of the meeting with the Vice Chancellor or their designee and state that the student may be accompanied by an adult advisor of their choosing, including an attorney, but that the student is responsible for any fees that the advisor may charge;
  - d. state that after the expiration of the three (3) -day period, a student may seek to have the temporary suspension lifted by making a Request for Reinstatement; and
  - e. include a copy of Section V of the Code.
5. After the expiration of the three (3) -day period, a student who has been temporarily suspended may seek reinstatement by making a Request for Reinstatement ("the Request") on the ground that:
    - a. the requirements for a temporary suspension were not met when the student was temporarily suspended and are not currently met, or
    - b. circumstances have changed such that the requirements for a temporary suspension are no longer met.
  6. The Request must be in writing, state the reasons for request, and include the evidence that supports the Request. The Request must be sent to the Vice Chancellor responsible for student conduct or their designee by e-mail or certified mail or may be hand-delivered to the Vice Chancellor's office.
  7. The Vice Chancellor or their designee must make a decision on the Request as soon as reasonably practicable. Before making a decision, the Vice Chancellor or their designee has the discretion to seek additional information, to ask a Conduct Officer to review and comment on the Request, or to schedule a meeting with the student and their advisor.
  8. If the temporary suspension was based on alleged conduct that constitutes a violation of the Code and formal proceedings have not been instituted against a student who has been temporarily suspended, proceedings must be instituted within five (5) University days of the effective date of the temporary suspension. The conduct process must be resolved within twenty (20) University days of the effective date of the temporary suspension. The Vice Chancellor or their designee may extend the time limit for the hearing for up to an additional fifteen (15) University days if the parties agree to an extension or if either party establishes that extraordinary circumstances exist that warrant an extension. The Vice Chancellor or their designee may extend the time limit for the hearing for a longer period if the student consents.
  9. The fact that a student was temporarily suspended should not be taken into account by the Hearing Officer or Conduct Board in determining whether the student violated the Code.

## SECTION VI - Miscellaneous Procedural Matters

### A. Inter-Institutional Authority

1. If University students or student organizations engage in conduct that violates the Standards on any University campus or in a course offered by another University campus, the University campuses may enter into an agreement whereby:
  - a. the University campuses agree which campus will conduct an investigation in whole or in part, institute formal proceedings, and conduct those proceedings; and
  - b. if the proceedings result in the issuance of a University response, which campus will enforce the University response.

### B. University Conduct Board Membership and Quorum

1. The Vice Chancellor responsible for student conduct of each University institution will specify the number, qualifications, term, and selection process for members of the University Conduct Board.
2. The Vice Chancellor responsible for student conduct at each University institution must determine whether the institution will have an Appeals Officer, an Appeals Board, or both. If the Vice Chancellor determines that the institution will have an Appeals Board, then the Vice Chancellor for each institution will specify the number, qualifications, term, and selection process for the members of the Board.
3. The Vice Chancellor responsible for student conduct must specify the number of members that a Conduct Board or Appeals Board must have and, if the number is more than three (3), the number that will constitute a quorum.

### C. Interpretations of the Code

1. Words in this Code should be given their ordinary meaning unless the context indicates that a different meaning was intended.
2. Any question of interpretation or application of the Code shall be referred to the Vice Chancellor responsible for student conduct or their designee.

### D. Amendments

1. The Board of Regents may amend this Code at any time, in whole or in part. There may be times when unexpected issues arise that require prompt action or that involve errors or omissions in the Code. Examples include a change in federal, state, or local law, the adoption of a new Campus or University policy, the repeal of an existing Campus or University policy, the discovery of a drafting error, or the failure to anticipate a particular situation or type of conduct.
2. If an unexpected issue arises, the Code may be amended pursuant to the following procedure:
  - a. First, the Provost of the University of Nebraska must approve the amendment.
  - b. Second, the General Counsel of the University of Nebraska must approve the amendment.
  - c. Third, the amendment must be reported to the Board of Regents at the next regularly scheduled meeting of the Board.
3. The Provost and the General Counsel may approve an amendment only if each of them separately determines that:
  - a. the content of the amendment is appropriate and reasonably necessary, and
  - b. the subject matter of the amendment either requires prompt action or involves minor changes that correct errors or omissions in a manner consistent with the purpose and scope of the Code. An amendment takes effect when both the Provost and the General Counsel have approved the amendment. The Board has the authority to rescind any such amendment when the amendment is reported to the Board.

**E. Effective Date** - The provisions of this Code apply to cases in which formal charges are brought after the date on which this Code was approved by the Board of Regents. Amendments to this Code apply to cases in which formal charges are brought after the date that the amendment takes effect.

**F. Periodic Review** - The University of Nebraska Student Code Conduct will be reviewed at least every four (4) years.

# Discrimination and Sexual Harassment Policies

The University of Nebraska at Omaha does not discriminate in its academic, admissions or employment policies and abides by all federal, state, and regental regulations pertaining to the same. The University of Nebraska at Omaha is an affirmative action/equal opportunity institution.

## Discrimination Policies

Americans with Disabilities Act (ADA) & Section 504 Grievance

Procedure: [https://www.unomaha.edu/office-of-equity-access-and-diversity/\\_docs/grievance-procedure.pdf](https://www.unomaha.edu/office-of-equity-access-and-diversity/_docs/grievance-procedure.pdf) ([https://www.unomaha.edu/office-of-equity-access-and-diversity/\\_docs/grievance-procedure.pdf](https://www.unomaha.edu/office-of-equity-access-and-diversity/_docs/grievance-procedure.pdf))

## Sexual Harassment Policies

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in the education program or activity that the University operates. The University is required by Title IX of the Education Amendments of 1972 (Title IX) and the accompanying regulations not to discriminate in such a manner. This requirement not to discriminate extends to admission and employment. Inquiries about the application of Title IX and the accompanying regulations may be referred to a University Title IX Coordinator or the Assistant Secretary for Civil Rights of the Department of Education or both.

Beginning with the University of Nebraska charter in 1869, Nebraska law has provided that no person shall be deprived of the privileges of this institution because of sex. Discrimination on the basis of sex is also prohibited by federal law. All members of the University community are expected to conduct themselves in a manner that maintains an environment free from sexual misconduct. Sexual misconduct, which includes domestic violence, dating violence, sexual harassment, sexual assault, sexual exploitation, and stalking, is unacceptable behavior under University of Nebraska policy and against the law. The University of Nebraska has programs to promote awareness of and to help prevent sexual misconduct, and to assist members of the university community who are affected by such behavior.

UNO Title IX Coordinator

Phone: 402.554.2120

Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

### Important Resources:

University of Nebraska Sexual Misconduct Policy: <https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/index.php> (<https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/>)

For additional assistance or information regarding gender discrimination or sexual misconduct contact the Title IX Coordinator at 402.554.2120

## Graduation

### 120-Hour Requirement for Undergraduate Degree

The number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. See Degree Completion Guarantee below.

### Bachelor's

An undergraduate degree awarded by a college or university upon successful completion of a program of study. Common degree types include bachelor of arts (B.A. or A.B.), and bachelor of science (B.S.). A bachelor's is required before starting graduate studies.

## Major

A program of courses that meets the requirements for a degree in a particular field of study.

- Majors consist of a minimum of 30 hours of undergraduate or graduate coursework;
- Majors are discipline and content specific with a coherent plan of study; (Ensure that the program of study follows the appropriate undergraduate or graduate academic guidelines)
- Majors have limited overlap with other majors;
- Majors provide both depth and breadth within a specific-content area; and
- Majors are not printed on diplomas, but recognized on transcripts.

## Concentrations

Are a subset of a major with a limited number of hours required in a focused area.

- Concentrations generally consist of 12-18 undergraduate credit hours or at least 9 graduate credit hours. The BMS concentrations have 30 hours of coursework;
- Concentrations share a core set of requirements for the major;
- Concentrations may overlap with other concentrations within a major;
- Concentrations have some distinct or unique requirements that differentiate from other concentrations or within the major; and
- Concentrations are recognized on transcripts.

## Minors

A program of study requiring fewer courses than a major. Some majors require a minor and other majors do not require a minor.

- Minors generally consist of 15-18 hours of undergraduate coursework, must include 9 hours as 3000 level or higher, or 9 hours of graduate coursework;
- Minors provide an opportunity for a secondary set of skills and knowledge in addition to a major;
- Minors cover an area outside of the major; and
- Minors are recognized on transcripts.

## Certificates

- Certificates generally consist of 12-18 hours of coursework; (Ensure that the program of study follows the appropriate undergraduate or graduate academic guidelines)
- Certificates provide an opportunity for a recognized specific set of skills and knowledge;
- With departmental approval, the certificate coursework may be applied to a graduate or undergraduate degree program; and
- Certificates provide an independent or professional credential that is awarded in addition to, or independently from, a graduate or undergraduate degree.

## Degree Completion Guarantee Board of Regents Resolution

The four-year guarantee for graduation relies on mutual commitment from the student to follow a list of practical guidelines while attending college,

and from the university to ensure that required courses or acceptable alternatives are available.

Students must have appropriate high school preparation, pursue a course of study that is intended for four-year completion and follow these prudent practices:

- Select a major early in college and stay with that major.
- Work closely with academic advisors to develop a four-year curricular plan.
- Sign up early for classes during each semester's pre-registration period.
- Register for and complete 15-18 credit hours per semester with acceptable grades.
- Work at a job fewer than 20 hours per week.
- When a required course is not available, notify the department chair in a timely fashion.

In turn, the university guarantees the student will be able to enroll in courses that permit graduation in four years. If that is not possible, the university will provide mutually acceptable alternatives or substitutions. Of course, not all students are in a position to graduate in four years. Some may need or prefer to work more hours and attend school part-time, or they may be enrolled in a program that requires more than four years. Others may just choose a different pace or the opportunity to take a wider range of courses that are not directly related to their field of study. This program is designed for those who want to complete their degree program as quickly as possible.

The Four-Year Graduation Guarantee (<https://nebraska.edu/offices-policies/provosts-office/academic-affairs/four-year-graduation-guarantee/>) was approved by the University of Nebraska Board of Regents in 2002. The program recognizes the importance of Nebraska undergraduate students being able to earn their bachelor's or first-professional degrees in timely fashion.

## Double Major

To pursue a double major, a student only needs to fulfill the college requirements of his/her primary college. The degree awarded will be associated with the major pursued at the primary college. The student will also have to fulfill the university general education curriculum, as well as the major requirements for both subject areas. The student would be awarded one degree (e.g. a BS) with the double majors (e.g. in Secondary Education and English).

\*Note: No additional hours are required if the student can complete the additional major within the minimum hours required for the degree.

## Process of Declaring Additional Majors

A student wanting to declare an additional major must first check with the department of the desired major to determine if it is allowed, then the student must complete a Change of Program form ([https://www.unomaha.edu/registrar/\\_forms/ChangeAcademicProgram.pdf](https://www.unomaha.edu/registrar/_forms/ChangeAcademicProgram.pdf)) with the appropriate signature and file it with the Office of the University Registrar.

## Double Degree <sup>1</sup>

For UNO to award a double degree, a student needs to meet all the college requirements for both degrees. The student also must fulfill the university general education curriculum. In addition, the student must complete at least 30 semester hours in each field and a minimum total of 150 semester hours.

The University awards double degrees to students who are earning different degrees. For example, it is possible for a student to be awarded both a Bachelor of Science (BS) degree with a major in Biology and a Bachelor of

Science in Education (BSED) degree with a major in Elementary Education since these are two separate degrees.

The University does not award the same degree twice. For example, it is not possible for a student to be awarded two Bachelor of Science (BS) degrees with majors in Biology and Political Science or two Bachelor of Science in Education (BSED) degrees with majors in Secondary Education and Library Science. Instead, the student would be awarded one BS degree with two respective majors or one BSED degree with two respective majors.

<sup>1</sup> A double degree is not the same as a dual degree. A dual-degree program refers to a specifically approved combination of degree programs.

## Candidacy for a Second Baccalaureate Degree

A student who has met the requirements for a baccalaureate degree at the University of Nebraska at Omaha may earn additional, different baccalaureate degrees by completing a minimum of 30 additional semester hours at the University for each additional degree, and by also satisfying all degree requirements for each degree. At the undergraduate level, each degree earned must be unique.

A plan of study for the additional hours, approved by the department head primarily concerned, must be filed in the Office of the Dean of the College offering the degree by the completion of the fifteenth (15<sup>th</sup>) additional hour. Students must consult an academic advisor prior to starting this program. Two baccalaureate degrees may be awarded simultaneously when the student becomes eligible to receive them.

## Application for Degrees

Every student working toward a degree or certificate program at UNO, must apply for their degree in order to receive degree conferral and their diploma. All applications for degree must be filed via MavLINK. Deadlines can be found on the Academic Calendar (<https://www.unomaha.edu/registrar/academic-calendar.php>). Directions and guidelines on completing this process can be found on the Registrar website at <http://registrar.unomaha.edu/graduate.php>.

All requirements for graduation must be completed and certification by the appropriate College must be on file in the Office of the University Registrar no later than the close of business on the fifteenth (15<sup>th</sup>) working day, following the last day of finals for a particular semester. This includes the satisfaction of all grades of Incomplete.

## Outstanding Debts and Fees Owed to the University

Diplomas and official transcripts will not be released for students who have outstanding debts or fees owed to the University of Nebraska System. The student is responsible for contacting the Office of Cashiering and Student Accounts at the respective campus to make arrangements to clear his/her account.

## Degrees with Honors

The baccalaureate degrees with honors are awarded as follows:

- Cum laude: Have a scholastic average for their entire undergraduate career of 3.51 or above, but below 3.63
- Magna cum laude: Have a scholastic average for their entire undergraduate career of 3.63 or above, but below 3.87
- Summa cum laude: Have a scholastic average for their entire undergraduate career of 3.87 or above

To qualify for honors, a student must have earned at least 60 semester hours within the University of Nebraska system, 30 hours of which must be completed at the University of Nebraska at Omaha and in which letter grades of "A," "B," "C," or "D" are received.

Students who declare Academic Amnesty are not eligible to graduate with honors.

Grades awarded in all courses taken at all colleges and universities attended are included in computing the Grade Point Average (GPA) for determining eligibility for honors. It should be noted that the GPA included on the UNO transcript reflects only courses taken at UNO, UNL, UNMC, and UNK.

## Degrees with Honors Extra Muros

These degrees are awarded to transfer students who have not completed the required 60 semester hours of credit within the University of Nebraska system required for cum laude, magna cum laude, or summa cum laude honors.

To be eligible for Honors Extra Muros the transfer students must meet both the following standards and requirements:

- Have a minimum of 24 graded credit hours from UNO
- Have a minimum of 77 graded credit hours

If those requirements have been met, baccalaureate degrees with Honors Extra Muros are awarded as follows:

- Cum laude: Have a scholastic average for their entire undergraduate career of 3.51 or above, but below 3.63
- Magna cum laude: Have a scholastic average for their entire undergraduate career of 3.63 or above, but below 3.87
- Summa cum laude: Have a scholastic average for their entire undergraduate career of 3.87 or above

## Attendance at Commencement

Two commencement ceremonies are held at the University of Nebraska at Omaha during the academic year – one in May and one in December. Academic regalia is required for degree candidates to participate in the ceremony. Students not wearing academic regalia will not be permitted to participate in the ceremony.

## Financing Your Education

- Office of Financial Support and Scholarships (p. 49)
- Federal Financial Aid Policies (p. 49)

## Office of Financial Support and Scholarships

The Office of Financial Support and Scholarships is committed to making higher education accessible by minimizing financial barriers for students so they may realize their educational goals. We strive to provide services of the highest quality to support the academic mission and goals of the university and its students.

**For information about the various forms of scholarships, grants, work-study and loans, and how to apply:**

Office of Financial Support and Scholarships  
103 Eppley Administration Building  
Omaha, NE, 68182  
402.554.2327

financialaid.unomaha.edu (<http://financialaid.unomaha.edu>)

## Federal Financial Aid Policies

### Treatment of Title IV Aid When a Student Withdraws

#### Return of Funds Policy for Title IV Aid Recipients Who Withdraw

The Higher Education Amendments of 1998, as well as the program integrity regulations in 2010, established provisions which may require a certain percentage of federal financial aid (Title IV funds) to be returned to the Department of Education when a student completely withdraws from all classes. When a student is considered to have withdrawn, the University is required to determine the amount of earned and unearned Title IV aid.

Federal financial aid funds are awarded to a student under the assumption that the student will attend school for the entire period for which the assistance is awarded. When a student withdraws from all courses for any reason – including medical withdrawals – the student may no longer be eligible for the full amount of Title IV funds that they were originally scheduled to receive. If a student has received Title IV financial aid, a refund must be calculated under the Federal Return of Title IV Funds policy. The refunds are based on the number of days attended for the semester, divided by the total number of days in the semester (minus any scheduled breaks of at least five days in length). Funds are deposited back to the financial aid accounts in accordance with federal regulations.

There are three types of withdrawals that fall under the return to Title IV (R2T4) federal calculation regulations:

1. **Official Withdrawals** – student withdraws from all courses through MavLINK or contacts the Office of the University Registrar to initiate an official withdrawal.
2. **Unofficial Withdrawal** - If a student began attendance and has not officially withdrawn fails to earn a grade in at least one course offered over an entire period, the institution must assume, for Title IV purposes, that the student has unofficially withdrawn. UNO grading policy requires faculty to differentiate between two different types of failing grades – either an F (earned failing grade awarded to students who complete the course but fail to achieve the course objectives; and an FW grade (awarded to students who did not officially withdraw from the course, but who failed to participate in course activities through the end of the term). For FW grades, faculty report the last date a student last participated in any academically related activity. This date then becomes the basis for the withdrawal calculation. Therefore, a student cannot avoid the federally required return of Title IV Financial Aid by stopping out of classes but remaining enrolled and taking failing marks.
3. **Modular Withdrawals** – A student does not complete all modules the student was scheduled to attend (modules are classes that do not span an entire semester).
  - If a student is enrolled in a standard, term-based program offered in modules and ceases attendance at any point prior to completing the payment period or period of enrollment, unless the school obtains written confirmation from the student at the time of the withdrawal that he or she will attend a module that begins later in the same payment period or period of enrollment, the student is considered a withdrawal for Title IV purposes.
  - If written confirmation of future attendance is received from the student but the student does not return as scheduled, the student is considered to have withdrawn from the payment period or period of enrollment and the student's withdrawal date and the total number of calendar days in the payment period or period of enrollment would be the withdrawal

date and total number of calendar days that would have applied if the student had not provided written confirmation of future attendance.

### **How a Withdraw from Class or School Affects Financial Aid**

Though your aid is posted to your account at the start of each period, you earn the funds as you complete the period. If you withdraw during your payment period or period of enrollment, the amount of Title IV program assistance that you have earned up to that point is determined by a specific formula. If you received (or your school or parent received on your behalf) less assistance than the amount that you earned, you may be able to receive those additional funds. If you received more assistance than you earned, the excess funds must be returned by the school and/or you.

### **How “Earned” Financial Aid is Calculated**

The amount of assistance that you have earned is determined on a pro rata basis. This calculation must be completed within 30 days of the date the school determines that the student has withdrawn. The school is required to return any unearned funds within 45 days. The calculation is completed by the Office of Financial Support and Scholarships. For example, if you completed 25% of your payment period or period of enrollment, you earn 25% of the assistance you were originally scheduled to receive. That means that 75% of the disbursed aid is considered to be “unearned” and must be returned to the federal government. The total number of days used in the calculation will exclude any scheduled breaks of 5 or more days.

Once you have completed more than 60% of the payment period or period of enrollment, you earn all the assistance that you were scheduled to receive for that period.

**IMPORTANT:** You may receive a partial cancellation of your tuition and fees because of your withdraw. UNO’s refund policy is separate from the federal regulations on repayment of unearned aid. It is possible that financial aid will not cover a student’s balance following the return of funds calculation – even after the tuition and fees cancellation policy has been applied.

### **What Happens When a Student Fails to Begin Attendance?**

Federal regulations require that a procedure be in place to know whether a student has begun attendance in all classes for purposes of the Federal Pell Grant Program. Instructors will be contacted to verify attendance for all Pell Grant recipients if they withdraw from class. The Pell Grant will be recalculated based on the student’s enrollment status to reflect only those classes for which the student actually began attendance. Instructors will also be contacted to verify attendance for Federal Direct Loan recipients if they withdraw from all classes. If a student does not begin attendance in any class in the loan period they will lose eligibility and the Federal Direct Loan will be canceled.

### **Student Notification of Results of Calculation**

Upon completion of the Return of Title IV Funds calculation, students will receive notification indicating the amount of aid that will be returned. UNO will return the required funds on the student’s behalf to the appropriate federal program(s) by charging the student’s account. Students will be able to view the return and any resulting account balance on MavLINK after the return of funds has been processed. The student is responsible for all charges resulting from a Return of Title IV calculation.

### **Which Funds are Subject to the Return of Funds Calculation?**

The Title IV funds that are covered by this law, in order of their required return are:

1. Unsubsidized Direct Loans
2. Subsidized Direct Loans
3. Federal Perkins Loan
4. Direct PLUS Loan

5. Federal Pell Grant
6. Federal Supplemental Educational Opportunity Grant (FSEOG)
7. Federal TEACH Grant
8. Federal Iraq Afghanistan Service Grant

### **Post-Withdrawal Disbursements**

If a student has accepted Title IV, HEA financial aid by the date of the withdrawal, but the financial aid has not disbursed, the student may be eligible for a post-withdrawal disbursement. If the amount disbursed to the student is less than the amount the student earned, and for which the student is otherwise eligible, he or she is eligible to receive a post-withdrawal disbursement for the earned aid that was not received.

Under these circumstances, a R2T4 calculation must be performed to determine whether the student is actually eligible for a post-withdrawal disbursement. If your post-withdrawal disbursement includes loan funds, the University must get your permission before it can disburse them. You may choose to decline some or all of the loan funds so that you don’t incur additional debt. The University may automatically use all or a portion of your post-withdrawal disbursement of grant funds for tuition, fees, and room and board charges (as contracted with the school). The University needs your permission to use the post-withdrawal grant disbursement for all other school charges.

Students will be notified of post-withdrawal disbursement eligibility within 30 days of the date of withdrawal determination. The school must return the Title IV funds within 45 days of the date the school determines the student withdrew.

## **Return of Title IV Funds Procedure**

When a student officially, or unofficially withdraws (i.e. quits attending class), during the first 60 percent of the semester, and has received or was eligible to receive federal Title IV funds, the Office of Financial Support and Scholarships is required to perform a Return of Title IV funds calculation. Each semester the Office of Financial Support and Scholarships will review those students who have received, or could have received Title IV assistance, and who have officially withdrawn from all classes.

Additional students who must also be considered are those who have not formally withdrawn, but have stopped attending classes (unofficial withdrawals). UNO grading policy requires faculty to report the last date a student who failed a class participated in any academic activity. Each semester an “All F” report will be run to determine students who have not officially withdrawn, but instead have unofficially withdrawn from all of their classes.

The calculation steps are as follows:

**Step One:** Establish the withdrawal date and determine how much Title IV aid was earned by the student. The percentage of enrollment period completed by the student is calculated by dividing the number of days a student attended by the total number of days in the semester (percent of aid earned), and then multiplying that percentage by the total amount of Title IV aid disbursed, or could have been disbursed.

**Step Two:** Determine the Title IV aid to be disbursed to student. If the student received less Title IV aid than earned from step one, a post-withdrawal disbursement may be made. This situation may occur in a case where federal aid was approved, or a loan certified, but not yet disbursed before the student withdrew.

**Step Three:** Determine the amount of unearned Title IV aid that must be returned by UNO. UNO must return the lesser of the amount of Title IV aid which the student does not earn, or the amount of institutional charges the student incurred for the semester multiplied by the percentage of Title IV aid not earned. Title IV funds that have to be returned by the school will result in

a university obligation to the student. The student will receive a bill from the Cashiering and Student Accounts Office.

**Step Four:** Determine the amount of unearned Title IV aid to be returned by student. Any federal grant and federal loan funds that are calculated to be returned by the student will be returned by the school so a federal overpayment situation does not result and will be included in the amount billed in step three. The balance of any loan not paid by the school will go into repayment in accordance with the terms of the promissory note.

An aid recipient should contact the Office of Financial Support and Scholarships prior to withdrawal from the University. Upon request, the Office of Financial Support and Scholarships will provide written examples of various return of funds calculations.

Below is an example of the Return of Title IV Funds calculation.

<b>Title IV Return of Funds</b>	<b>Amount</b>
Institutional Charges	\$5,000
Title IV Loans	\$2,000
Title IV Grants	\$1,000
Total Title IV aid	\$3,000

Student withdrew on 29th day of a 116-day enrollment period.

Percent Earned  $29/116 = 25\%$

Percent Unearned  $100\% - 25\% = 75\%$

Amount of Title IV aid unearned  $\$3,000 \times 75\% = \$2,250$

UNO is responsible for returning the lesser of unearned Title IV aid (\$2,250 from above) or unearned institutional charges ( $\$5,000 \times 75\% = \$3,750$ ). UNO will return aid as follows:

- Title IV Loans \$2,000
- Title IV Grants \$250

Aid the student must personally return - student's aid is returned on his/her behalf by the school and therefore becomes part of the bill that must be repaid to the school. The balance of student's loan not paid by the school will go into repayment in accordance with the terms of the promissory note.

## Standards of Satisfactory Academic Progress

Federal regulations require a student to maintain satisfactory academic progress in the course of study he/she is pursuing in order to receive federal financial assistance. The Satisfactory Academic Progress Policy standards are applied consistently within all institutionally-defined categories of students (undergraduate, master's and doctoral level students) and enrollment levels (full-time and part-time), regardless of whether the student previously received financial aid.

In order to comply with these regulations, the University of Nebraska at Omaha has established the following Satisfactory Academic Progress (SAP) policy.

### Satisfactory Academic Progress Requirements

Satisfactory Academic Progress standards are reviewed annually after the final posting of Spring semester grades and apply to a student's entire academic record. Students returning to UNO following a withdrawal or dismissal will be evaluated upon receipt of the electronic Student Aid Report. To maintain eligibility, you must meet the following criteria:

1. **Grade Point Average (GPA) Standard** You must be in "good academic standing" at UNO. For undergraduates, this is defined as having an earned UNO cumulative GPA of at least 2.00. For graduate students, this is defined as having an earned UNO cumulative GPA of at least 3.00.
2. **Pace of Progression** You must have successfully completed ("D" grade or higher) at least 67% of the total credit hours which you have attempted at UNO, plus any transfer hours accepted from other schools, upon completion of the Spring semester.
  - Grades of Failing (**F**); No-Credit (**NC**); No Report (**NR**); Unsatisfactory (**U**); Incomplete (**I**); In Progress (**IP**); Audit (**AU**); and Withdraw (**W**); are considered **unsuccessful** completion of credit hours attempted. A grade of Failing (F) is used in calculating grade point averages.
3. **Maximum Time to Degree Completion** Undergraduate student must complete degree requirements within 180 attempted credit hours, master's degree students must complete degree requirements within 70 credit hours at the graduate level and doctoral students must complete degree requirements within 125 credit hours. For this requirement, students will be suspended from financial aid eligibility the semester following the semester their attempted hours exceed their limit.

Attempted hours include both hours attempted at UNO **and** any transfer hours accepted from other schools you have attended. All credit hours for repeated courses will be included in the attempted hours calculation. Also, if the number of credit hours you still need to graduate, in addition to the number of hours you have already attempted exceeds the maximum attempted hour total above, your aid eligibility will be cancelled.

A course retaken beyond the first retake of a previously **passed** course **cannot** be included in the credit hour total when determining the total number of hours for disbursement of aid. "W" grades are not considered in this retake calculation, even though they are considered in the completion rate calculation in #2 above.

### Please be aware of how each of the following affect your GPA and Pace of Progression

**Impact of earning an incomplete grade:** An incomplete course counts as credit hours attempted but will not count as credit hours completed/earned until a passing grade has been assigned. An incomplete grade such as a withdrawn course can negatively affect a student's Pace and financial aid eligibility.

**Impact of withdrawing from a course:** Withdrawing from a course counts as credit hours attempted but will not count as credit hours completed/earned. A withdrawn course can negatively affect a student's Pace and financial aid eligibility.

**Impact of repeating courses on GPA and Pace of Progression:** Repeating a course counts as attempted credit hours for each time the course is taken. If credit is earned (repeats as well), it will also count as completed/earned credit hours in Pace and Maximum Time to Degree Completion calculations. However, a course retaken beyond the first retake of a previously **passed** course **cannot** be included in the credit hour total when determining the total number of hours for disbursement of aid.

**Impact of transfer credits on GPA and Pace of Progression:** only transfer credits accepted by UNO will be counted as both attempted and completed hours.

## Reinstatement of Eligibility

Students who do not meet one or more of the SAP standards are no longer eligible to receive federal student aid and will be notified by email. Financial aid programs include, but are not limited to, all federal grants, loans and

work-study, state grants, and most University of Nebraska at Omaha need-based grants and scholarships.

If you have incurred circumstances such as a death of a close family member, serious illness or injury to yourself, or other serious extenuating circumstances that you feel have significantly contributed to your academic situation, you may appeal the Grade Point Average Standard or Pace of Progression. **Appeals will not be allowed for maximum credit hour issues or multiple retake issues.**

#### Appeal Procedures:

1. All appeals are completed via your To-Do List in MavLINK.
2. The appeal must provide a **full explanation** of why the standards were not originally met, and what changes students have made to ensure all SAP standards will be met in future semesters. Supporting documentation is required and can be uploaded via MavLINK after you submit the appeal.
3. No more than **three** appeals will be allowed per student for his/her entire academic career at UNO.
4. Appeals and supporting documentation must be submitted by the following deadlines: Fall semester by October 1st, Spring semester by March 1st, and Summer semester by July 1st.

#### Possible Appeal Outcomes:

1. **Appeal Denied:** If your appeal is denied, you will receive an email notification as to what steps you can take, if any, to regain aid eligibility.
2. **SAP Probation:** Financial aid eligibility is reinstated for **one semester only**, with the expectation that all SAP standards will be met after that semester. Upon review, if all SAP standards are not met in this timeframe, students will then become ineligible for aid.
3. **SAP Academic Plan:** In cases where an appeal is approved, but it is not possible to meet all SAP standards in one semester, you will be prescribed an individualized academic plan. You will remain aid eligible as long as you continue to meet the plan requirements. If you cease to meet the plan criteria before you meet the minimum SAP standards, you will become ineligible for aid.

ALL APPEAL DETERMINATIONS BY THE OFFICE OF FINANCIAL SUPPORT & SCHOLARSHIPS ARE FINAL.

## Veteran Standards of Progress Policy

A veteran and/or eligible person must make satisfactory progress toward an approved educational objective. Standard of Progress will be determined utilizing the Satisfactory Academic Progress policy as listed in the college catalog consisting of overall grade point average, pace, program length, maximum time for completion, attendance and/or conduct.

## Tuition and Fees

- Tuition and Fees (p. 52)
- Residency for Tuition Purposes (p. 54)

## Tuition and Fees

### Tuition, Fees, Refunds, and Deposits Deadlines

Tuition and fees for the fall and spring semesters are payable in full on Sept. 23 (fall semester) and Feb. 23 (spring semester). Please see the schedule below for approximate billing dates and due dates. Each time a student fails to meet a payment due date, a Late Payment Fee (<https://www.unomaha.edu/accounting-services/cashiering-and->

[student-accounts/tuition-fees-and-refunds/late-payment-fees.php](https://www.unomaha.edu/accounting-services/cashiering-and-)) will be assessed to the tuition account. Note: Failure to receive the billing notice will not excuse the student from payment responsibility, nor the late payment penalties. Students may review their tuition and fees account using MavLINK or on Cashiering and Student Accounts website (<http://cashiering.unomaha.edu/>).

UNO accepts major credit cards for payment of tuition and fees online only. Credit card payments may be made via MavLINK and are subject to a 2.75% convenience fee on domestic credit cards and 4.25% on international credit cards. Payments by check, cashier's check, or money order may be mailed to the Cashiering and Student Accounts Office, 109 Eppley Administration Building, 6001 Dodge Street, Omaha, NE 68182. When mailing, please use the remittance form on the tuition and fees statement.

Payments of cash, check, money order, or cashier's check may also be brought to the Cashiering and Student Accounts Office during regular business hours or deposited in the after-hours drop box located outside of the office.

### Fall Semester

- For students who register March through the first week of the semester:

Bill Date: end of August

Tuition Due: Sept. 23

### Spring Semester

- For students who register November through the first week of the semester:

Bill Date: end of January

Tuition Due: Feb. 23

### Summer Sessions

Students will be billed at the end of each month through July for their summer registrations. Tuition and fees will be due and payable in full by the 23rd of each month.

Students who fail to pay tuition and fees by the due date will be assessed a Late Payment Fee.

Failure to make payment on an account will prohibit registration for future semesters. If an account remains unpaid, it may be forwarded to a collection agency.

Students waiting until after the initial due date for payment of tuition and fees to register or add courses will be required to pay the late registration fee and the late payment fees retroactively.

Failure to pay tuition or fees when due, or to meet payments on loans when due, may result in cancellation of registration, legal action, collection efforts and withholding of transcripts. Outstanding financial obligations from previous semesters must be paid prior to registration. Failure to do so will prohibit registration for future semesters.

The university reserves the right to change the amount of tuition or fees at any time and to assess charges for laboratory/special instructional fees, breakage, lost property, fines, penalties, parking, books, supplies, food or special services not listed in this schedule

## Application Fee

The application fee is payable at the time the application for admission form is filed. This fee is non-refundable and does not apply toward tuition or any other fee. Residency for the purpose of assessing tuition is determined by the status of the applicant at the time the application for admission is filed.

The undergraduate application fee is not applicable toward the graduate application fee and vice versa.

## Undergraduate Application Fee

Application Fee \$45.00

## Graduate Application Fee (Graduate College)

Application Fee \$45.00

---

## Tuition

Tuition rates are established by the Board of Regents. Tuition is subject to change. Tuition charges are assessed per credit hour.

**2021-2022 On- or Off-Campus Tuition Rates**  
(<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-rates.php#on-off-campus>)

**2021-2022 Online Tuition Rates** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-rates.php#online>)

---

## Audit Fees

The audit fee is set at one-half of the resident undergraduate or graduate tuition rate. The audit tuition rate is effective only during the first week of the semester. In addition, students registering for audit must pay all student fees. Registration for audit requires the permission of the instructor and is subject to available class space after credit registration ends. Students who register to take a course for credit and who later change to audit registration will be required to pay the full resident or non-resident tuition rate. Audit fees are refundable in accordance with the Tuition Refund Schedule.

---

## University and Student Fees

Fees rates listed are for the 2021-2022 academic year and are subject to change.

**On- or Off-Campus Fees** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/student-fees.php#fees>)

**Online Fees** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/student-fees.php#online>)

**Laboratory/Special Instruction Fees (Non-refundable)** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/course-fees.pdf>)

---

## Refund Schedule

Students who drop one or more courses or who completely withdraw will be obligated to the university for that portion of tuition cost based on the refund schedule. Students who completely withdraw are obligated to pay the non-refundable portion of tuition and fees for the course(s) from which

they are withdrawing. Refunds are computed from the date application is received by the Registrar, not from the date of withdrawal of classes.

See Withdrawal from Classes policy. Only tuition, technology and library per credit fees are refunded. The UPF flat fee is non-refundable. No other fees are refundable after the first week of classes. Trip fees may not be refundable after a certain point. Please check with the department sponsoring the trip for refundability timelines, otherwise for all other fees, please refer to the fee schedule.

Students are not relieved from the payment of tuition and fees if they withdraw before a tuition due date, or if payment of tuition and fees has been extended by the Office of Financial Support and Scholarships. Students who have received financial aid are subject to special refund rules as established by the U.S. Department of Education. A financial aid recipient should first contact the Office of Financial Support and Scholarships prior to any official withdrawal from the university to ensure he or she fully understands the financial implications of withdrawal.

Failure to make payment will prohibit registration for future semesters and the release of academic transcripts. If an account remains unpaid, it may be forwarded to a collection agency.

## Regular Semester

Before the first official day of the semester, 100 percent refunded.

First week of classes, 100 percent refunded.

Second week of classes, 75 percent refunded.

Third week of classes, 50 percent refunded.

Fourth week of classes, 25 percent refunded.

Fifth week of classes, 0 percent refunded.

## Summer Sessions (5 and 6 weeks)

Before first official day of semester, 100 percent refunded.

First three days of classes, 100 percent refunded.

Remainder of first week, 50 percent refunded.

Second week of classes, 25 percent refunded.

Third week of classes, 0 percent refunded.

## Summer Evening and Special Contracts (7 and 8 weeks)

Before first official day of semester, 100 percent refunded.

First three days of classes, 100 percent refunded.

Remainder of first week, 75 percent refunded.

Second week of classes, 50 percent refunded.

Third week of classes, 25 percent refunded.

Fourth week of classes, 0 percent refunded.

Courses that run less than ten weeks have unique refund schedules. Students considering withdrawal from such a course should check with the Office of the University Registrar for the applicable refund schedule.

---

## Special Service Fees

Graduation Fee	\$35.00
Late Application for Degree	\$70.00

## Residency for Tuition Purposes

### Regulations for Determination of Residency for Tuition Purposes

Residency requirements are subject to change by the Board of Regents and/or the Nebraska State Legislature.

#### Preamble

Pursuant to Article VII, Section 10 of the Constitution of the State of Nebraska, and Neb. Rev. Stat., 85-501 and 85-502, the University has been authorized to develop regulations and make determinations regarding Nebraska residency for tuition purposes. These regulations provide the bases upon which university staff shall determine, on a uniform intercampus basis, whether an individual qualifies as a Nebraska resident for tuition purposes.

It should be emphasized that the statutes provide a set of minimum standards which will govern a determination of resident status for tuition purposes only. In some instances, it will be possible that an individual may qualify as a "resident" of Nebraska for one purpose (such as securing a Nebraska driver's license) and still not meet the standards established by the Board of Regents for resident tuition status. Individuals seeking a Nebraska residency determination for tuition purposes should, therefore, carefully study all aspects of the law and these regulations before seeking resident tuition status.

### Applying for Residence Classification for Tuition Purposes

The statutes of Nebraska provide that all state educational institutions shall charge nonresident tuition for each nonresident of Nebraska who matriculates at any state institution. Nonresident status is determined in accordance with these statutes and current institutional policies, and is based upon evidence provided in the application for admission and related documents. Additional written documents, affidavits, verification, or other evidence may be required as deemed necessary to establish the status of any applicant. The burden of establishing exemption from nonresident tuition is the responsibility of the student. Erroneous classification as a resident or willful evasion of nonresident tuition may result in disciplinary action as well as payment of required tuition for each semester attended.

Individuals seeking to establish resident status for tuition purposes will be required to have established a home in Nebraska for at least 12 months unless it is not required by the specific category listed on the residency application form. However, any individual who has moved to Nebraska primarily to enroll in a post-secondary institution in Nebraska will be considered a nonresident for tuition purposes for the duration of his/her attendance. Enrolling more than half-time for any term at a university, college, or community college in Nebraska during the 12 months immediately preceding the term or semester for which residence status is sought, will be considered as strong evidence that an individual moved to Nebraska primarily to enroll in a post-secondary institution in Nebraska. Students who have been classified as a nonresident and feel they qualify for resident status should review the "Application for Residence Classification for Tuition Purposes (<https://www.unomaha.edu/admissions/undergraduate/docs/residency-application.pdf>)." A student should submit both the application and supporting documentation by the deadline noted within the application.

## Nebraska State Income Tax Credit

Individuals who do not qualify for resident tuition status and/or reside outside of Nebraska but pay Nebraska income tax, and the spouses or dependents of such individuals, are entitled to tuition credit upon documented evidence of such payment to the State. The tuition credit granted shall equal up to the amount of Nebraska income tax paid for the immediately preceding calendar year except that the remaining obligation cannot be less than the amount of the resident tuition.

Applications for the Non-Resident Nebraska Income Tax Tuition Credit are available at UNO's Cashiering and Student Accounts Office, 109 Eppley Administration Building, 402.554.2324. Additionally, the form can be downloaded from the Cashiering and Student Accounts website (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tax-information/>). Specific qualifications and guidelines regarding the tax credit are provided on the applications.

## Midwest Student Exchange Program

The University of Nebraska at Omaha (UNO) participates in the Midwest Student Exchange Program (MSEP), an interstate initiative established by the Midwestern Higher Education Compact (<https://www.mhec.org/>) to increase educational opportunities for students in its member states. This program serves residents from Indiana, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, and Wisconsin.

Graduate students: The MSEP program enables residents from these states to enroll at reduced tuition rates. Students may review eligibility requirements/guidelines and complete the MSEP Agreement Form. (<https://www.unomaha.edu/graduate-studies/financing-your-degree/midwest-student-exchange-program.php>)

Undergraduate students: Those who are academically qualified are awarded scholarships to help offset the costs of out-of-state tuition. For more information visit the UNO Advantage Scholarship (<https://www.unomaha.edu/admissions/financial-support-and-scholarships/types-of-aid/scholarships/uno.php#advantage>).

## Metropolitan Advantage Program (MAP) Tuition Reduction Program for Eligible Iowa Students

Eligible students include current residents and/or graduates of high schools within specific Iowa counties who meet UNO's admission requirements. The following counties are currently eligible for the Metropolitan Advantage Program: Cass, Crawford, Fremont, Harrison, Mills, Monona, Montgomery, Page, Pottawattamie, Shelby, and Woodbury. International students on a visa are not eligible for Metropolitan Advantage Program rates. Additionally, these rates are not applicable toward distance education (online) courses.

Undergraduate students: Transfer students who are currently full-time and residing on one of the Iowa community college campuses may be eligible. In addition to Metropolitan Advantage Program, a student may be eligible for the UNO Advantage Scholarship. Please visit the website (<https://www.unomaha.edu/admissions/financial-support-and-scholarships/types-of-aid/scholarships/uno.php#advantage>) for more information.

## Contact Information

If you have questions regarding residency or residence regulations, contact the offices listed below:

Undergraduate Students  
UNO Undergraduate Admissions  
6001 Dodge Street,  
111 Eppley Administration Building  
Omaha, NE 68182  
Phone: 402.554.2393

Graduate Students

UNO Office of Graduate Studies  
6001 Dodge Street  
203 Eppley Administration Building  
Omaha, NE 68182  
Phone: 402.554.2341

## General Education Curriculum

### University General Education Requirements

To ensure that each graduate of UNO possesses certain academic skills, experiences the breadth of a liberal education and develops an appreciation for the diversity that exists in the nation and world, the faculty have adopted University general education requirements. The requirements apply to all incoming first year and transfer students. Students enrolled in UNL-administered programs should contact their advisors to determine the applicable requirements.

Learn more (<https://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/a-b-agreements.php>) about Institution-Wide General Education Agreements, Community College General Education Guides, and Program-Specific Transfer Agreements by Institution.

### Choice of Catalog Policy

Students will be required to complete the General Education requirements outlined in the catalog year in which the student enters the University. The General Education requirements for those students who do not enroll for one consecutive academic year will be updated to the catalog year in which the student re-enrolls at the University.

### The University General Education Curriculum consists of:

- Fundamental Academic Skills (p. 55)
- Distribution Requirements (p. 56)
- Diversity Requirements (p. 56)

Some diversity courses may simultaneously count towards Humanities/Fine Arts and Social Science general education requirements.

UNO has **5 Academic Focus Areas** These help organize UNO's many different academic majors and general education courses into broadly related, interdisciplinary fields of study. These can help you identify academic majors and general education courses most relevant to you given your specific strengths and interests.

**\*\*Students must earn a grade of C- or better for the course to count toward general education completion.**

Learn more (<http://www.unomaha.edu/general-education/approved-courses/>) about the approved general education courses.

## Fundamental Academic Skills

### Fundamental Academic Skills (15 Hours Total)

Proficiency in reading, quantitative skills, and written/oral expression are essential for professional success and effective citizenship. The courses in fundamental academic skills are designed to provide the foundation for advanced academic study.

## English and Writing:

### 9 Hours

Nine hours, to include ENGL 1150/ENGL 1154 and ENGL 1160/ENGL 1164 and one additional three-hour Single Writing Instruction course or a minimum of three (3) writing intensive courses that contains multiple writing assignments and written instruction. Writing in the Discipline course(s) are determined by the student's major. Students may "test out" of ENGL 1150/ENGL 1154 and/or ENGL 1160/ENGL 1164. Contact the Department of English for more information.

The work of the university is to construct and share knowledge. Because this work is done largely by means of the written word, it is important for students to gain control over written language. Proficiency in reading, research, and written expression is essential for professional success and effective citizenship. The foundational writing courses (Composition I and Composition II) provide instruction in general academic literacy while writing in the discipline course(s), preferably taken in the student's major, introduce research and language practices specific to the disciplines.

After completing Composition I, successful students shall be able to do the following:

- Closely read, critically interpret, evaluate, and respond to other writers' texts;
- Write papers with a clear thesis, logical structure, and cohesive, well-developed paragraphs;
- Write papers with clear, varied, well-constructed sentences, with usage and mechanics conforming to standard edited English; and
- Demonstrate an understanding of writing as a complex, recursive process whereby ideas are explored, developed, and communicated to a particular audience for a particular purpose.

After completing Composition II, successful students shall be able to do the following:

- Demonstrate further development of the writing skills learned in Composition I;
- Locate and evaluate information in print and electronic sources and integrate the information into their own texts, citing the sources appropriately;
- Analyze arguments in other writers' texts; and
- Craft well-informed, carefully reasoned arguments of their own, using the genre appropriate for the rhetorical context (e.g. position paper, proposal, evaluation).

After completing the writing in the discipline course(s), students shall be able to do the following:

- Demonstrate further development of the writing skills learned in foundational composition courses;
- Engage in the major discipline's research practices, using the databases, bibliographies, and documentation conventions appropriate to the discipline;
- Use the writing strategies and genres expected in the relevant academic and professional communities; and
- Demonstrate command of the major discipline's discourse practices, vocabulary, and style.

**Note:** Consult with an advisor in your major to determine the appropriate writing in the discipline course(s).

## Quantitative Literacy:

### 3 Hours

Students must complete one of the following 3-credit hour courses – MATH 1120, MATH 1130, MATH 1220, STAT 1100 or STAT 1530

Quantitative Literacy involves using mathematical, computational, or statistical methods, with significant applications across a wide variety of disciplines. It emphasizes the process of formulating, solving, interpreting, and applying equations of different types to solve many different real-world problems.

Successful students shall be able to do the following:

- Solve real-world problems;
- Draw inferences based on a set of data or quantitative information; and
- Justify conclusions derived from quantitative information

All students will still be required to meet any additional math requirement and/or math prerequisites in their program of study, and are highly encouraged to consult with their academic advisor before enrolling in a particular course

Students are considered proficient in meeting their general education Quantitative Literacy requirement if they have an ACT MATH score of 23 or higher or an SAT MATH score of 540 or higher or SAT2016 of 570 or higher. Click here (<https://www.unomaha.edu/college-of-arts-and-sciences/mathematics/academics/advising/ug-advising/#placement>) for additional information about how Math courses can fulfill Quantitative Literacy requirements, and for information about Math placement exams. Placement exams are designed to help ensure that you are in the correct course based on your academic skill level.

## Public Speaking:

### 3 Hours

Students must complete one of the following 3-credit hour courses – CMST 1110 or CMST 2120. Students may “test out” of CMST 1110. Contact the School of Communication for more information.

The goal of the public speaking requirement is to help students acquire the knowledge and skills needed for effective oral communication in academic, career or community life.

Successful students shall be able to do the following:

- Create and develop messages demonstrating effective audience analysis and adaptation;
- Create and develop messages demonstrating effective information gathering, analysis, and evaluation;
- Create and deliver messages demonstrating effective organizational development and use of supporting materials from credible sources; and
- Present appropriate messages, including effective use of language, nonverbal delivery, and visual information/technology.

## Distribution Requirements

### Distribution Requirements (25 Hours Total)

Beyond the fundamental academic skills, courses within the distribution requirements provide students with the opportunity to: 1) understand, analyze, and explore the human condition; 2) understand the complex dynamics that make up the world particularly the challenges, problems and factors that lead to social stability and change as essential for contributing to and living in contemporary society; and 3) understand the

nature of scientific inquiry and the operation of the natural, physical and technological world for making personal and public policy decisions.

## Natural and Physical Sciences:

### 7 Hours from at least Two Different Disciplines with One Lab

Understanding the nature of scientific inquiry and the operation of the natural, physical, and technological world is essential for making personal and public policy decisions.

Successful students shall be able to do the following:

- Identifying appropriate methods to solve problems related to various natural/physical phenomena
- Synthesizing evidence using discipline specific criteria;
- Drawing conclusions, limitations, and/or implications related to the phenomena being investigated

## Humanities/Fine Arts:

### 9 Hours from at Least Two Disciplines

The humanities and fine arts seek to help students understand, analyze, and explore the human condition. Studying the humanities and fine arts thus contributes to personal growth and well-being as well as to living in and contributing to various communities.

Successful students shall be able to do the following:

- Demonstrating knowledge of the human condition using discipline appropriate criteria;
- Respond to the human condition using discipline specific criteria;
- Explaining how context (historical, cultural, etc.) influences the creation or interpretation of the topic of study.

## Social Sciences:

### 9 Hours from at Least Two Different Disciplines

Understanding the complex dynamics that make up the world, particularly the challenges, problems, and factors that lead to social stability and change is essential for contributing to and living in contemporary society.

Successful students shall be able to do the following:

- Describing signature ideas, concepts, theories, or perspectives using the language of the discipline;
- Analyzing Implications, conclusions, or consequences of a particular issue relevant to the discipline
- Evaluating evidence of truth-claims;

Many of the courses within the distribution requirements can also be used to satisfy the diversity requirement.

## Diversity Requirements

### Diversity Requirements (6 hours total with 3 credit hours in each of the following areas)

A general education requires exposure to cultures and institutions around the world, as well as within one's own society, in order to promote intellectual flexibility, cultural understanding, and informed citizenship. The university seeks to foster cultural understanding to assist its students to become responsible citizens in a diverse world.

## U.S. Diversity:

### 3 Hours

Courses in this category focus on significant cultural, economic, historical, political, and/or sociological aspects of one or more underrepresented groups in the United States.

Successful students shall be able to do the following:

- Demonstrate knowledge of the role and contributions of one or more underrepresented groups in the development of the United States;
- Demonstrate specific knowledge of cultural, historical, social, economic, and/or political factors that shape aspects of one or more diverse groups;
- Recognize and articulate differences, expectations, and/or challenges experienced by one or more underrepresented groups; and
- Explain ways in which identity is developed and how it is transmitted within and by members of the group or groups.

## Global Diversity:

### 3 Hours

Courses in this category focus on significant cultural, economic, geographical, historical, political, and/or sociological aspects of one or more countries or nations (including indigenous nations) other than or in comparison to the United States.

Successful students shall be able to do the following:

- Recognize the cultural, historical, social, economic, and/or political circumstances that produce different social and cultural systems;
- Demonstrate specific knowledge of the cultural, historical, social, economic, and/or political aspects of one or more countries or nations other than the United States;
- Explain the interrelations among global economic, political, environmental and/or social systems; and
- Explain ways in which identity is developed and how it is transmitted within and by members of the group or groups.

NOTE: Many of the courses within the diversity requirements can be used to satisfy the distribution requirement.

## Community Engagement Opportunities

As a UNO student, community engagement activities provide you with diverse ways to achieve your education while building your resume and networking in the community. Some examples include volunteering, taking a class that brings you out into the community to complete your coursework, capstone projects and research involving a community organization, and much more.

## Office of Civic and Social Responsibility

The Office of Civic and Social Responsibility (OCSR) is dedicated to developing engaged, civic-minded citizens and leaders for our communities. UNO believes service and engagement are vital components for the educational development of all students and for a sustainable, healthy community. Learn more on the Civic and Social Responsibility website (<https://www.unomaha.edu/student-life/civic-and-social-responsibility/>).

## Service Learning Academy

Service learning is an experiential, collaborative method of teaching that incorporates community projects that promote academic learning. These projects are directly linked to academic curriculum and meet community-identified needs while engaging students in their community and provide real-world context to coursework. As such, service learning course "classrooms" often exist in the community and engage community partners as co-teachers. Throughout the course students reflect on their experiences, consider the relationship to their reading and research, relevance to community growth, and impact on their personal values, development, and professional skills.

Every semester, there are a variety of courses in all UNO colleges that use service learning as a method of instruction. By choosing a service learning course, students are able to:

- Apply textbook knowledge to the real world and engage with homework
- Use and develop strengths
- Discover new skills & talents
- Explore their leadership style
- Learn to communicate with others and work in teams
- Sharpen skills that employers want such as problem solving, critical thinking, innovation, and creativity
- Explore the assets in the community
- Build their résumé

To search for service learning courses, choose service learning under the Program tab in the class search function.

To explore service learning course options and project examples, please visit the Service Learning Academy (<http://www.unomaha.edu/servicelearning/>) website.

## Community Engaged Scholarship Transcript Designation (CESTD)

The CESTD is a transcript designation that documents and recognizes undergraduate students for their community engagement experiences. This designation offers incentive and competitive edge for students who choose to tailor their involvement and academic work in a way that capitalizes on UNO's comparative advantage.

- Completion of 1 community based-learning experience (3 credit hours)
- Completion of 6 hours of service-learning coursework
- Completion of 135 volunteer/community service hours (outside of the classroom)
- Completion of written reflection piece (one for each category along with a final reflection).
- Minimum 3.0 Cumulative GPA at graduation

## Barbara Weitz Community Engagement Center (CEC)

As a metropolitan university, UNO encourages its students to be active and civically engaged members and leaders in a diverse and evolving society. The CEC is a unique place where UNO students can access

volunteer opportunities, service events, service learning inquiries, service learning projects and events, student jobs and internships, and community engagement-based events. The CEC is home to over 35 university and community building partner organizations that work side by side in flexible office spaces to improve the quality of life for those they serve.

Learn more about the CEC (<https://www.unomaha.edu/community-engagement-center/>).

## Universitywide Learning Communities

An Academic Learning Community (ALC) is a group of students who learn together. Students take coursework together, participate in projects with one another, and work to build learning in a particular area.

## UNO Air Force ROTC

### What is Air Force ROTC?

Air Force ROTC (AFROTC) is an educational program designed to train leaders of character for tomorrow's Air and Space Force and build better citizens for America. Here at AFROTC Detachment 470, we offer small, seminar classes with emphasis placed on individual training and leadership development.

Through UNO's Department of Aerospace Studies, AFROTC offers students a course of study leading to a commission as a Second Lieutenant in the United States Air Force and United States Space Force. Students have opportunities to explore and evaluate Air and Space Force career opportunities while earning a college degree.

### Program Details:

The AFROTC program consists of two phases: the General Military Course (GMC) and the Professional Officer Course (POC). Each phase requires four semesters of study. Each semester consists of an Aerospace Studies class, a two-hour Leadership Lab (LLAB), and three hours of physical training (PT) per week. Currently, the program can be modified to meet the academic needs of the student, to include a three-year model. *NOTE: In very special situations with very driven and capable students, two-and-a-half-year-students can compress the GMC phase into one semester.*

During summer breaks, AFROTC cadets have various training and internship opportunities allowing them to shadow Air and Space Force officers. These opportunities expose students to various real-world leadership challenges and help students make informed choices regarding their future careers.

### Interested?

Students interested in the program may enroll in the GMC with no military obligation; however, students new to AFROTC must speak with a member of the Department of Aerospace Studies faculty or staff for enrollment approval and instructions

If you are interested, please call 402.554.2318 or email [unoafrotc@unomaha.edu](mailto:unoafrotc@unomaha.edu).

Additional information can be found at the following links:

UNO Air Force ROTC website (<https://www.unomaha.edu/air-force-rotc/>)  
UNO Air Force ROTC Facebook ([https://www.facebook.com/UNOAFROTC/?ref=br\\_rs](https://www.facebook.com/UNOAFROTC/?ref=br_rs))  
Air Force ROTC official website (<https://www.afrotc.com/>)

## Army ROTC Military Science Studies

Military science is an elective managerial training program designed to develop college men and women for positions of leadership and responsibility as junior officers in the U.S. Army, Army Reserve or Army National Guard, or for subsequent managerial careers in civilian industry. Its curriculum encourages reflective thinking, goal setting, and problem solving through an interdisciplinary study of leadership and managerial principles. Specifically, the program is structured to develop skills in the following areas: interpersonal-motivation, decision making, communication and general supervision. Compatible with any academic major, the program enhances the student's development in college and is open to undergraduate and graduate students.

The Army ROTC Program offers two-, three- and four-year programs of instruction. The program itself is essentially divided into two parts: the basic course (**1000- to 2000-level courses**) and the advanced course (**3000- to 4000-level courses**). The program includes a Leadership Lab that is mandatory for all cadets of two hours per week designed to provide hands on practical exercises to support the classroom portion **LEADERSHIP LAB (0 Credit Hours)**. The basic course, normally taken during the freshman and sophomore years, is designed to familiarize the student with the military, the role of an Army officer and the fundamentals of effective leadership. It is open to all students, and incurs no obligation whatsoever. Thus, it affords an opportunity to see what ROTC is all about, at the same time qualifying one to enter the advanced course.

It is the advanced course, however, which represents the real officer development portion of ROTC. While the basic course provides fundamental knowledge in leadership, the advanced course refines and further develops managerial talents through leadership seminars and extensive practical application. Additionally, the student develops basic military skills common to the Army. Students successfully completing the advanced course will be commissioned as Second Lieutenants in the U.S. Army, Army Reserves or Army National Guard. Students desiring active duty must first complete their baccalaureate degree. Admission into the advanced course is by Military Science Department approval.

## Military Science Minor Requirements

Code	Title	Credits
MILS 2020	UNITED STATES MILITARY HISTORY	3
MILS 3010	ADAPTIVE TACTICAL LEADERSHIP	3
MILS 3020	LEADERSHIP IN A CHANGING ENVIRONMENT	3
MILS 3070	ADVANCE CAMP	3
MILS 4000	LEADERSHIP LABORATORY	1
MILS 4010	DEVELOPING ADAPTIVE LEADERS	2
MILS 4020	LEADERSHIP IN A COMPLEX WORLD	2
<b>Total Credits</b>		<b>17</b>

## Nurse Program

Army ROTC at Creighton University provides a Nurse Program that offers students the opportunity to earn their nursing degrees, acquire their commission and continue on to their residency before beginning to serve. This program provides guaranteed employment with competitive wages and benefits for 8 – 12 years and retirement as early as 20 years. This is an excellent choice as most Officers will still be young enough to do another complete retirement in the civilian sector while collection their military pension (50% of their base pay). The nursing program at Creighton ROTC is one of the best in the nation and cadets will be challenged to perform to their full potential.

Students with prior military service, Reserve/National Guard service or four years of high school JROTC, however, may be given equivalency credit for the basic course and allowed to proceed directly into the advanced course. Likewise, other students are afforded the same opportunity for the two-year program through an accelerated six-week summer program in lieu of the basic course. All ROTC students are eligible to compete for two- and three-year scholarships. Advanced course students receive \$150 a month for a living allowance.

Prior to commissioning, all contracted cadets must complete at least one undergraduate course from each of the following three fields of study: written/oral communication, military history and computer literacy. (See the military science department for a list of UNO courses which satisfy this requirement).

The Army Reserve Officer Training Corps Program was established at the University of Nebraska at Omaha in July 1975, when an agreement between Creighton University, the University of Nebraska at Omaha and the Department of the Army was signed. This agreement affords UNO students the opportunity to participate in the Army ROTC Program at Creighton University.

The department of military science, an accredited instructional department of the College of Arts and Sciences at Creighton University. The department functions in accordance with the academic standards and policies of Creighton University and the Department of the Army, and adheres to the rules of the University of Nebraska at Omaha in the administration of the program for UNO students.

## Army Reserve/Army National Guard Program

Students who are members of the Army Reserve or National Guard and who have attained sophomore status may enroll in the ROTC advanced course without taking any basic course classes. They must graduate not later than eight months after commissioning.

Those students qualifying for this two-year program may receive \$150 per month for a living allowance and will also receive 50 percent tuition assistance if in the Army National Guard.

For more information, go to the Creighton Army ROTC website (<https://www.creighton.edu/groups/armyrotc/>) or call us at 402.280.1176

## Goodrich Scholarship Program

The Goodrich Scholarship Program began in 1972 through Senator Glenn Goodrich's enabling budget amendment. The program offers a merit- and need-based scholarship to eligible students who will attend only the University of Nebraska at Omaha.

The Goodrich Scholarship Program now boasts over 1,900 alumni who, for over 45 years, have continued to connect with and contribute to their communities as lawyers, educators, doctors, social workers, engineers, artists, business professionals, elected officials, directors of non-profit organizations, technologists, writers, and law enforcement officers, among many others.

Learn more about the Goodrich Scholarship Program (<http://www.unomaha.edu/goodrich/>)

## University Honors Program

The mission of the University of Nebraska at Omaha's University Honors Program is to foster an enhanced and supportive learning environment responsive to the educational needs of highly able and/or exceptionally motivated undergraduate students. This is accomplished through participation in interdisciplinary Honors colloquia (special seminars), small

Honors-only sections of general education courses, collaborative projects with faculty noted for excellence, and through increased opportunity for undergraduate research and creative activity.

The University Honors Program is university wide. Students are admitted to the University Honors Program as entering first-year students by holistic review of an essay and letter of support (received directly from the recommender) as well as ACT or SAT scores and high school GPA. Students already enrolled at UNO are admitted to the University Honors Program after considering their UNO performance and GPA as well as a recommendation from a UNO faculty member.

Transfer students from other universities' Honors Programs will be eligible if they were members in good standing in their previous programs and meet the UNO Honors Program entrance and transfer requirements. Students who transfer to UNO with at least 50 credit hours may be admitted to the University Honors Program with a cumulative or transfer GPA of 3.5 and with a letter of support from a faculty member at their previous institution or UNO.

Participants who complete a minimum of 24 credit hours in University Honors Program work with a 3.5 GPA or higher will have the notation "University Honors Program" printed on their diplomas, on the official transcript of credits and in the graduation program. Transfer students who complete a minimum of 15 credit hours in University Honors Program work with a 3.5 GPA or higher will receive similar printed recognition.

## Program Options and Requirements

Only Honors students are able to enroll in Honors sections of courses (section numbers in the 90s, such as HIST 1120-098 or CMST 1110-099).

The requirements below apply to students in both the first-year and transfer programs:

- Students must complete an Honors portfolio documenting their undergraduate research experience, community engagement, and campus citizenship by the end of the fifth week of the semester in which they plan to graduate.
- Students must present at the Honors Symposium (usually in the semester in which they graduate).
- The GPA needed for graduation with University Honors Program completion is 3.5 or higher.
- All Honors work must be completed with a grade of B or better.
- Students are expected to undertake at least one Honors course/option each semester at UNO.
- No more than 10 Honors credit hours may be undertaken in any single semester.
- Students may sit out of Honors for ONE semester without losing Honors priority registration privileges.

## Entering First-Year Students

Students in the University Honors Program complete the curricular requirements below (full details are available on the University Honors Program's website).

Curriculum Requirements (24 hours):

- 1 Honors-only general education course in the first semester (section numbers in the 90s)
- 2 colloquia courses (either HONR 3000, HONR 3020, or HONR 3030)
- 3 credit hours of thesis/capstone/creative project/practicum
- 12 further Honors credit hours (options include coursework, internship, extending thesis hours, etc.)

- Presentation at the Honors Symposium and completion of Honors Portfolio

## Transfer Students

Transfer students (already earned 50+ credits) in the University Honors Program complete the curricular requirements below (full details are available on the University Honors Program's website).

Transfer Students' Curriculum Requirements (15 hours):

- 2 colloquia courses (either HONR 3000, HONR 3020, or HONR 3030)
- 3 credit hours of thesis/capstone/creative project/practicum
- 6 further Honors credit hours (options include coursework, internship, extending thesis hours, etc.)
- Presentation at the Honors Symposium and completion of Honors Portfolio

Students may also participate in the National Collegiate Honors Council National Honors Semesters. Honors credit is limited to members of the Honors Program.

### For more information:

University Honors Program Office  
208 Kayser Hall  
402.554.2696  
402.554.4396 FAX  
[honors.unomaha.edu \(http://www.unomaha.edu/honors-program/\)](http://www.unomaha.edu/honors-program/)

## UNO Success Academy

The UNO Success Academy is a learning community aimed at supporting select groups of first-year and incoming transfer students. The Success Academy provides students with a foundation for future success through a wide range of meaningful activities, including participation in the US 1010 (Critical Thinking for the Modern Day College Student) class. The program exists to help prepare students to take advantage of their time on campus and support their transition to university life.

Success Academy aims to help students make connections with other students, staff, faculty, and the UNO campus, with program benefits including access to one-on-one academic and career coaching, support from a peer mentor, access to the program office in the Milo Bail Student Center, and the opportunity to earn scholarship dollars through an incentive program.

Learn more about the Success Academy (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/success-academy/>)

## Thompson Learning Community

Students receiving a college scholarship from the Susan T. Buffett Foundation and attending UNO are William H. Thompson Scholars. William H. Thompson was the father of Susan T. Buffett and served as Professor of Psychology and Dean of the College of Arts and Sciences at Omaha University, which became UNO.

The Susan T. Buffett Foundation and the University of Nebraska are collaborating to provide Thompson Scholars a unique educational experience aimed at enhancing their academic success. TLC aims to make your transition to college and your entry into a major field of study as smooth and educationally rewarding as it can be. TLC will promote your academic success through common courses, academic workshops, and connections with faculty. Additionally, your transition will be supported

through your relationship with other scholars, an upper-class UNO Mentor, social programming and other opportunities for you to connect with UNO.

Learn more about the Thompson Learning Community (<https://www.unomaha.edu/academic-affairs/thompson-learning-community/>)

## TRIO Project Achieve

Project Achieve is open to University of Nebraska Omaha undergraduates who qualify as first-generation, limited income, and/or disabled college students. The program consists of academic skills development as well as financial aid, academic, career, and personal counseling. Activities and services emphasize development of skills necessary for becoming more efficient and independent learners.

Project Achieve uses a flexible and personalized approach. Each student is encouraged to participate in activities which meet his, her, or their own learning needs. Students and staff work together in assessing students' skills in relation to education and career goals. Personal interviews, review of academic records, checklists and diagnostic tests may be used in this process.

Learn more about Project Achieve (<https://www.unomaha.edu/project-achieve/>)

## Jim and Shirley Young Scholars Program

The Jim and Shirley Young Scholars Program is a scholarship program that supports a select group of first-generation college students attending UNO. Students in Young Scholars participate in a variety of activities such as weekly study sessions, various social and academic events, and service projects throughout the school year, and have a support system at UNO that includes a mentor with whom they meet regularly. In addition to this support, the program provides a financial scholarship to the students selected for the program.

Learn more about the Jim and Shirley Young Scholars Program (<http://www.unomaha.edu/youngscholars/>)

## Student Success and Academic Support Services

- Student Success (p. 60)
- Academic Support Services (p. 63)
- Testing Services (p. 64)

## Student Success Student Success Services

The services provided by the Division of Student Affairs are designed to promote the growth and development of the whole student – intellectually, physically, emotionally, socially, financially, environmentally, occupationally and spiritually – to allow students to develop skills that lead to success both during school and throughout life. An integrated, holistic approach to inclusion, civic and social responsibility, wellness, achievement, and involvement programs links students to both curricular and co-curricular learning by providing support, activities, and engagement that enriches the student experience on campus and better prepares them to be an active and engaged citizens in our global community.

## Wellness

### Counseling and Psychological Services (CAPS)

#### Caring Staff

Our office is staffed by licensed mental health practitioners and a graduate assistant who are eager to create a vibrant and safe campus community. Each person is committed to providing you support and encouraging your personal success in identifying and reaching your goals.

#### Personal Counseling

Concerns, struggles, and changes are all normal parts of life. Sometimes we can work through them on our own; other times, talking to a professional can help. CAPS offers a safe, confidential atmosphere in which personal concerns can be openly explored and discussed. Topics often include anxiety, depression, alcohol and drug issues, goal setting, grief and loss, relationships, sexual identity, self-esteem, and stress. CAPS also provide referrals, making available a large number of professional resources at UNO and in the community. Appointments may be made by stopping by the office at the Wellness Center, 102 H&K, or by calling 402.554.2409. Learn more on the Counseling and Psychological Services website (<https://www.unomaha.edu/student-life/wellness/counseling-center/>).

### Health Services

Health Services offers on-campus appointments with Board Certified Professionals and various medical services. These medical services include examinations for wellness, women's reproductive health, men's health, illness, injury, and STI/HIV testing. Labs, x-rays, and vaccinations are offered on-site and over the counter medications are available upon request. Provider visit costs are included in your student fees. In addition to medical services, Health Services offers health and wellness education. We welcome questions about your health. Appointments with a physician, nurse practitioner, or registered nurse can be made in person or by phone. Walk-in patients are seen as schedules permit. Health Services is located in the Wellness Center, 102 H&K. Hours are Monday through Friday, 8 A.M. to 5 P.M. To schedule an appointment, please call 402.554.2374.

#### Costs

Most services offered by Health Services are included in student fees, with the exception of x-rays, physicals, immunizations, and laboratory tests. For these services, either students can pay at the time of service or the clinic can submit a claim to the student's insurance plan. Health services accepts insurance plans from United Healthcare, Blue Cross Blue Shield, Aetna, Coventry, Midlands Choice, and Tricare; Medicare and Medicaid are not accepted.

#### Immunizations

Health Services offers Flu shots, Measles, Mumps, Rubella, Chickenpox, Meningococcal, Tetanus, and Hepatitis A and B.

### Student Health Insurance

The major medical student insurance policy is available to UNO undergraduate students enrolled in at least seven (7) credit hours or a degree-seeking graduate student. This reasonably priced policy is designed to provide benefits for medical and dental expenses.

#### Graduate Assistants

All new graduate assistants (GAs) receive insurance information. GAs are offered a subsidized plan. GAs must return the form accepting the Bronze Plan or decline all insurance; otherwise they will be automatically enrolled in the student plan which provides more extensive coverage for lower cost. The GA's cost is added to their MavLINK tuition statements and paid per

semester with their student fees. GAs should refer to their graduate packet for more information or call the Health Services office.

### Campus Recreation

Campus Recreation (Campus Rec) supports students on their journey to living a healthy and balanced lifestyle while at UNO. If you are enrolled in at least one credit hour on-campus, a Campus Rec membership is included as part of your University Program and Facilities (UPF) Fees. There is no need to purchase a membership separately while taking an on-campus class. A valid membership is determined on a semester basis. If you are enrolled in an online, remote, research, or thesis class, a Campus Rec membership would need to be purchased. Campus Rec is located in the H&K Building. Learn more on the Campus Recreation website (<https://www.unomaha.edu/student-life/wellness/campus-recreation/>).

## Accessibility Services

The Accessibility Services Center (ASC) provides leadership in facilitating equal access to all campus opportunities for students with disabilities.

#### Student Accommodations

ASC provides individualized services to students with disabilities to establish appropriate accommodations and supports, and to remove barriers through consultation, collaboration, and accommodations. ASC inspires students to become responsible decision makers, problem-solvers, and self-advocates to request and access their accommodations.

#### Requesting Accommodations

Once you are admitted to UNO, requesting accommodations can be done in three easy steps. If you are not sure if you qualify for support services, do not hesitate to contact ASC at 402.554.2872 or stop by the ASC in 104 Health and Kinesiology Building. Learn more about requesting accommodations on the Accessibility Services Center website (<https://www.unomaha.edu/student-life/inclusion/disability-services/>).

### Request for Reasonable Accommodation in Field Placements

The University of Nebraska at Omaha (UNO) supports students with disabilities and encourages their full participation in all academic programs, including field placements of all kinds. "Field placements" for the purpose of this document include any practicum, field experience, clinical practice, internship, training, clinic, or work experiences (or similar) conducted for academic credit. In accordance with Section II of the Americans Disabilities Act and Section 504 of the Rehabilitation Act, UNO's Accessibility Services Center is the designated office to work with students with disabilities to provide reasonable accommodation so they may enjoy the same benefits, experiences, and opportunities as persons without disabilities.

## Student Conduct and Community Standards

The university has an obligation to maintain conditions under which the work of UNO can go forward freely, in accordance with the highest standards of quality, institutional integrity, and freedom of expression, with full recognition by all concerned of the right and privileges, as well as the responsibilities, of those who comprise the UNO community. UNO expects students to maintain standards of personal integrity that are in accordance with the goals of the institution. This means that students are expected to assume responsibility for their actions; observe national, state, and local laws and university policies; and respect the rights and property of other people. As members of the academic community, students are subject to the responsibilities laid out by the university and are urged to become familiar with all documents that pertain to your rights and responsibilities. View the full Student Code of Conduct (<https://www.unomaha.edu/student-life/student-conduct-and-community-standards/policies/code-of>

conduct.php). For more information, contact the Office of Student Conduct and Community Standards visit the Student Conduct and Community Standards website (<https://www.unomaha.edu/student-life/student-conduct-and-community-standards/>) or call 402.554.3537.

## Inclusion

### The Office of Military & Veteran Services

The Office of Military and Veteran Services exists to encourage a military community on campus, online, and overseas. This office supports UNO's military community by providing military and veteran students with resources and services developed to help them succeed. Learn more on the Military and Veteran Services website (<https://www.unomaha.edu/student-life/inclusion/military-and-veteran-services/>).

### Gender & Sexuality Resource Center

The Gender and Sexuality Resource Center welcomes and encourages people of all genders and sexualities to participate in the center's offerings. The GSRC fosters and promotes equity, access, and inclusion for all genders and sexualities through education, resources, advocacy, and activism. This office provides specific programs and services for women, lesbian, gay, bisexual, queer spectrum, trans spectrum, intersex, asexual spectrum, non-straight, and gender non-conforming (LGBTQIA+) peoples, and survivors of interpersonal violence in the UNO community. Learn more on the Gender and Sexuality Resource Center website (<https://www.unomaha.edu/student-life/inclusion/gender-and-sexuality-resource-center/>).

### Multicultural Affairs

The Office of Multicultural Affairs (MCA) is responsible for developing and maintaining programs and services to ensure the successful recruitment, retention, and graduation of underrepresented students on UNO's campus. Through scholarship aid, academic services, and personal support, students are empowered to attain their educational and professional goals. Cultural programming includes celebrating cultural months (including Black History Month, Latino Heritage Month, Native Heritage Month, and Diversity Month) as well as three annual Native American events. MCA is inclusive of all UNO students. Learn more on the Multicultural Affairs website (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>).

### Summer Scholars Pre-College Program

The Summer Scholars Program provides college bound high school juniors the opportunity to enroll in a course at UNO to earn college credits, prepare for college life and connect with University of Nebraska at Omaha faculty, staff, and students. The goal of the Summer Scholars Program is to expose high school students to the dynamics of a college campus environment through a five-week pre-college summer session. Participants learn about college academic coursework, time management, college admissions, ACT/SAT preparation, college scholarships, and the financial aid process. They interact with university faculty and staff, explore career options and participate in community service activities. In addition to the academic benefits of the program, the scholars receive an increased awareness of social and cultural issues. Outside of the classroom, the Summer Scholars spend a week living at the Scott Residence Hall on UNO's Scott Campus. Learn more about Summer Scholars (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/bridge-program-and-scholarships.php>).

## Office of Civic & Social Responsibility

The Office of Civic and Social Responsibility (OCSR) is dedicated to developing engaged, civic-minded citizens and leaders for our communities. UNO believes service and engagement are vital components for the educational development of all students and for a sustainable, healthy community. Learn more on the Civic and Social Responsibility website (<https://www.unomaha.edu/student-life/civic-and-social-responsibility/>).

## The Collaborative

The Collaborative creates programs that empower students to affect positive change within the community. The Collaborative is a program that connects UNO students with nonprofit organizations for an all-encompassing professional experience during the academic year. The Collaborative has several student worker positions available, and they receive ongoing education about the nonprofit sector.

### Maverick Food Pantry

The Maverick Food Pantry contributes to UNO's culture of caring by providing healthy, sustainable, and culturally sensitive food items to those in immediate need as well as connecting them with resources in the greater Omaha area for long-term support. UNO students, faculty, and staff can anonymously request a food package online and pick up the package in the Barbara Weitz Community Engagement Center within 24 hours of the request. Maverick Food Pantry's model uses volunteers to sort donations, assemble food packages, and assist those picking up packages.

### 60 Minutes of Service

OCSR offers monthly opportunities for students to complete service projects. Stop by the CEC on the first Wednesday of every month from 12 P.M. to 1 P.M. to serve with Omaha nonprofit organizations and enjoy a free lunch.

### Signature Service Days

Each academic year, UNO sponsors multiple days of service in which volunteers engage in service projects around the community for a day. On a Signature Service Day, UNO students, faculty, and staff, along with our K-12 partners, Metro Community College, and community volunteers, come to the CEC and are transported into the community to complete service projects.

### Clinton Global Initiative University

OCSR provides support to Clinton Global Initiative University (CGI U) applicants. CGI U connects students, university representatives, topic experts, and celebrities to discuss and develop innovative solutions to pressing local and global challenges. OCSR provides mentorship to students creating their own commitments to action that address issues on campus, in local communities, or around the world.

## New Student and Family Programs (NSFP)

New Student and Family Programs helps you and your family transition to UNO. Learn more on the New Student and Family Programs website (<https://www.unomaha.edu/student-life/achievement/new-student-and-family-programs/>). NSFP is primarily responsible for Campus Visit (<https://www.unomaha.edu/admissions/visit/>) experiences and New Student Orientation (<https://www.unomaha.edu/student-life/achievement/new-student-and-family-programs/orientation/>).

### Ambassadors

Our Ambassadors serve as guides for your transition experience. They are university students committed to helping first-year and transfer students by sharing all of the need-to-know information about policies and procedures, student services, academic support programs, and opportunities for involvement. The goal of our Ambassadors is to ensure that you know all about the university and to inspire you to make the most of your college experience.

## Academic & Career Development

The Academic and Career Development Center (ACDC) empowers students to explore, develop, and succeed at UNO and beyond. ACDC builds bridges between students and on-campus support, community members, and local

employers. Learn more on the Academic and Career Development Center website (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/>).

## Undeclared Majors

It's great to be undeclared at UNO! ACDC is dedicated to advising undeclared students and helping them choose a major before the completion of 36 credit hours. ACDC guides students to choose an academic major with confidence and keep on track for graduation. In addition to advising appointments, ACDC offers a variety of resources to support students in the exploration process.

## Career Development

ACDC is here to help you transition successfully from backpack to briefcase. ACDC advisors help with résumé and cover letter reviews, and you can even schedule a mock interview to help prepare for interviews. Students also have access to exclusive job postings in Handshake (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/career-development/handshake.php>) to find part-time jobs, internships, and full-time careers.

## Student Involvement

Getting involved is an important part of the college experience. With new organizations being created almost every week, there is something for everyone. Learn more on the Student Involvement website (<https://www.unomaha.edu/student-life/involvement/>).

## Student Organizations

There are tons of ways to get involved at UNO. Joining organizations that complement your studies or appeal to your personal interests can enrich your college experience. Organizations on campus are created to suit the diverse interests of students that range from academics to volunteerism to art and music and beyond. They are a great way to get involved, make new connections, and share a common interest with your peers.

## Fraternity & Sorority Life

OMAHA GREEKS shapes amazing individuals with fascinating life stories into students who are independent thinkers and hard workers. OMAHA GREEKS operate up the five pillars of leadership opportunities, lifelong friendship, commitment to philanthropy, reach beyond Omaha, and academic achievement.

## Student Government

Student Government represents UNO students to administration, faculty, and staff, as well as the University of Nebraska Board of Regents and the community. They strive to lead, support, and make lasting, positive contributions to the student body.

## Maverick Productions

Concerts, comedians, great giveaways, and tons of interactive events are just some of what Maverick Productions (MavPro) offers to UNO students. As the programming board at UNO, MavPro strives to bring the best events to campus. In doing so, the Maverick Community is brought together through #MavSPIRIT.

## Team Maverick: Student Employment Program

Team Maverick is an intentional student employment program within the Division of Student Affairs at UNO. There are numerous positions on campus that allow students to gain work experience and develop their leadership skills. Team Maverick student employees are dedicated to guaranteeing excellence in the programs and services offered across the Division of Student Affairs. Team Maverick takes pride in helping offices hire outgoing, friendly individuals who are seeking an engaging

and challenging employment experience. Students interested can view on-campus job opportunities by visiting UNO Human Resources website (<https://unomaha.peopleadmin.com/>) to get started.

## Housing & Residence Life

Housing and Residence life creates a positive residential experience and supports the evolving needs of students at UNO. Six different on-campus housing options are available to UNO students: Maverick Village (MV) and University Village (UV) on Dodge Campus; Scott Court (SC), Scott Crossing (SX), Scott Hall (SH), and Scott Village (SV) on Scott Campus. Housing and Residence life is proud to offer apartment, traditional, and graduate-style housing to UNO students. Learn more on the Housing and Residence Life website (<https://www.unomaha.edu/student-life/housing-and-residential-life/>).

### Gender-Inclusive Housing

Students and allies of all sexual orientations, gender identities, and gender expressions are eligible to live in designated Gender-Inclusive Housing. Apartment features are the same as other housing facilities.

## Academic Support Services

### Math-Science Learning Center

The Math-Science Learning Center (<https://www.unomaha.edu/college-of-arts-and-sciences/math-science-learning-center/>) (MSLC) provides UNO students the assistance they need to conquer academic challenges in Math and Science. Model students serve as tutors, supplemental instruction leaders and study group facilitators trained to assist their peers in achieving academic success. The MSLC houses meeting alcoves, study/tutoring space, tutorial computers and reserve study materials. It also offers academic consultation for students seeking to increase their overall learning effectiveness and efficiency.

The Math-Science Learning Center is located in 107 Durham Science Center.

### Speech Center

The UNO Speech Center assists all UNO students, faculty, and staff in preparing oral presentations and/or incorporating them into their courses.

The Speech Consulting Room provides consulting and coaching services for all UNO students, graduate students, faculty, and staff from all disciplines, assistance to faculty in support of Speaking Across the Curriculum effort at UNO and assessment documentation for the UNO oral communication general education requirement.

The Speech Center (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/speech-center/>) is located in 183 and 185 Arts & Science Hall, or can be reached at 402.554.3201.

### Writing Center

The Writing Center invites UNO student, faculty, and staff in all university divisions to work with a writing consultant on any university-related writing project. You may use this free service to work on your writing assignments, application essays, business letters or other projects. Our goal is to help you become an effective, independent writer; we will not edit papers for you; instead we will help you develop the ability to edit your own work.

Graduate students may reserve an hour-long appointment instead of the standard half hour, since graduate-level essays are often lengthy. You may wish to work with one of our Graduate Consultants. To schedule an appointment, call the Writing Center at 402.554.2946 or visit the Writing Center website (<http://www.unomaha.edu/college-of-arts-and-sciences/writing-center/>).

## UNO Libraries

The University of Nebraska Omaha (UNO) libraries include the Dr. C.C. and Mabel L. Criss Library (Criss Library) and the KANEKO-UNO Library. The Libraries fulfill the UNO mission through our dynamic services, highly qualified and adaptive personnel, unique and extensive collections, and accessible learning spaces and environments.

The KANEKO-UNO library, located within the KANEKO gallery at 11<sup>th</sup> and Jones Streets in Omaha's Old Market, is a distinctive space for study, research, collaboration, and investigation. With a focus on stimulating and celebrating creativity, the space and collection inspire visitors to expand their awareness and knowledge within an atmosphere of flexible learning.

Criss Library is centrally located on UNO's Dodge campus, and is an inclusive and engaged space for teaching, learning, research, and service. Collaborative spaces include: flexible seating on our lower and main levels; group study rooms equipped with monitors, screen sharing technology, and whiteboards; and four instruction labs, including two with laptops and configurable seating. For focused learning, the library has individual study rooms, and maintains quiet study space throughout the third floor.

The Creative Production Lab offers one-on-one help for students, faculty, and staff to explore their creative interests and learn how to use cutting-edge hardware and software, including virtual reality, laser cutting, 3D printing and scanning, and multi-media production.

The Archives & Special Collections acquires and preserves unique, rare, and specialized materials, and provides expertise on incorporating these materials into creative projects. The department's diverse collections include the University Archives, U.S. Senator Chuck Hagel Archives, as well as other special collections including regional history, rare books, and the Arthur Paul Afghanistan Collection.

Additional spaces of note include: an outdoor garden patio, café, theater room, and the H. Don and Connie Osborne Family Art Gallery.

The library's collection supports the teaching, learning, research, and creative needs of students, faculty, and staff through a variety of formats including, print and e-books, physical and streaming media, digital image collections, journals, newspapers, electronic databases, and government documents. Material not available in the Criss Library collection can be borrowed from other libraries via Interlibrary Loan.

Librarians are available both in person and online to answer questions, help students and faculty use library resources, and assist with research when and where it is needed. Librarians also offer instruction sessions tailored toward a particular course or assignment.

For additional information, visit [library.unomaha.edu](http://library.unomaha.edu) (<http://library.unomaha.edu/>).

## Testing Center

### Testing Center

The University of Nebraska at Omaha (UNO) Testing Center provides a variety of services to UNO students, faculty and staff. These services extend into the Omaha community and beyond to persons needing testing related assistance. The types of services include university placement exams, certification/licensure exams, online distance education exams, admission exams, proficiency exams, national exams, career assessments, personality indicators, departmental challenge exams, correspondence exams and testing accommodations for students with disabilities. The Testing Center will also consider special requests associated with individual needs. For more information regarding testing services, please contact:

The University of Nebraska at Omaha  
Testing Center  
522 Kayser Hall

Omaha, NE 68182-0318

402.554.4800

[testingcenter.unomaha.edu](http://testingcenter.unomaha.edu) (<http://testingcenter.unomaha.edu/>)

## National Exams

The Testing Center may be able to provide information for many nationally administered exams including computer-based testing for Educational Testing Service exams. Among exams offered are the Graduate Record Exam (GRE), PRAXIS series exams, Law School Admission Test (LSAT), ACT Assessment, Miller Analogies Test (MAT), Test of English as a Foreign Language (TOEFL), Test of English for International Communications (TOEIC), College-Level Examination Program (CLEP), DSST exams formerly known as DANTES Subject Standardized Tests, NCAA Coaches Certification Exam, Major Field Test (MFT), and many other certification/licensure exams.

## Placement Exams

Placement exams include the English Placement Proficiency Exam (EPPE), Math Placement Exam, French Placement Exam (FPE), and the Spanish Placement Exam (SPE).

## English Placement

The English Placement/Proficiency Exam (EPPE) is required for undergraduate students (first-time freshmen and transfer students) and international students, including some applying for graduate studies. Students should check with their UNO academic advisor to see whether they are exempt from taking the EPPE. The EPPE is a 90-minute essay. Examinees should allow approximately two hours for an exam session. A student may take the EPPE twice in a calendar year.

## Chemistry Placement

Entrance into CHEM 1180 General Chemistry I depends on a student's ACT or SAT Math Sub-Score or their score on the Math Placement Exam. CHEM 1180 placement is determined according to the following criteria.

ACT Math Sub-Score – 25+

SAT Math Sub-Score Placement of 570+ (590+ for 2012-2016 scores)

OR

Math Exam Score – 6 with placement into:

Code	Title	Credits
MATH 1220	COLLEGE ALGEBRA	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
MATH 1330	TRIGONOMETRY	3
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	5
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
STAT 1530	ELEMENTARY STATISTICS	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
MATH 1940	CALCULUS FOR BIOMEDICINE	5

Math Exam Score - 7 with placement into:

Code	Title	Credits
MATH 1220	COLLEGE ALGEBRA	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
MATH 1330	TRIGONOMETRY	3
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	5
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4

STAT 1530	ELEMENTARY STATISTICS	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
MATH 1940	CALCULUS FOR BIOMEDICINE	5
MATH 1950	CALCULUS I	5

A student may challenge their ACT or SAT Math Sub-Score placement by taking the Math Placement Exam. The exam must be taken before the opening of enrollment for the term in which CHEM 1180 is to be taken. Math Placement scores within the last two years are acceptable for placement into CHEM 1180.

Alternative CHEM 1180 Criteria:

Math Exam Placement above or completion of MATH 1320 or MATH 1340 (with a C- or greater)

OR Completion of CHEM 1120 (with a B- or greater)

OR Completion of CHEM 1140 (with a C- or greater)

Please refer to the Math Placement section for additional information on the Math Placement exams.

## Math Placement

Entrance into certain Math courses is contingent on a student's ACT or SAT Math Sub-Score, or their score on the Math Placement Exam. Placement is determined according to the following criteria.

ACT Math Sub-Score	SAT Math Sub-Score	SAT 2016 Sub-Score	Math Exam Score	Placement Course(s)
0-18	220-450	230-490	1	MATH 1000 (only a score "1" is eligible)
19-22	460-530	500-560	3	MATH 1220 or STAT 1530
23-24	540-560	570-580	4	MATH 1220, MATH 1320, MATH 1370 or STAT 1530
23-24	540-560	570-580	5	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370 or STAT 1530
25	570-580	590-600	6	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370, STAT 1530, MATH 1930, or MATH 1940
26+	590+	610+	7	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370, STAT 1530, MATH 1930, MATH 1940, or MATH 1950

**A student may challenge their ACT or SAT Math Sub-Score placement by taking the Math Placement Exam.**

The Math Placement Exam is an adaptive, computer-based test and is untimed. A two to five-hour testing window is scheduled which includes check-in, instructions, testing, and check-out. An on screen calculator is available during the exam, therefore personal calculators are not allowed. A student may take the Math Placement Exam twice in a two-year period. ACT or SAT Math Sub-Score placement is valid for five years after the test date. Math Placement Exam results are valid for two years.

## Foreign Language Placement

French and Spanish placement is required for any student with prior language experience who wants to enroll in their first UNO French or Spanish course. Native speakers should contact a French or Spanish advisor in the Foreign Language Department for permission to enroll. A student with no prior French or Spanish experience does not need to take a placement exam. A student who is placed into French or Spanish at the 1120-level or higher may be eligible for retroactive credit for UNO courses they test out of. The student must earn a final course grade of "C" or better in the course they are placed into in order to receive retroactive credit.

Both exams include a short listening comprehension section; a written section; and a short composition section. Exam time is one hour and 30 minutes, not including check-in, instructions, and check-out. Examinees should allow approximately two hours for an exam session. A retest is not permitted less than one year after the prior test. Results are valid for one year.

## Accommodated Testing

The University of Nebraska at Omaha (UNO) supports students with disabilities and encourages their full participation in all academic programs, including field placements of all kinds. "Field placements" for the purpose of this document include any practicum, field experience, clinical practice, internship, training, clinic, or work experiences (or similar) conducted for academic credit. In accordance with Section II of the Americans Disabilities Act and Section 504 of the Rehabilitation Act, UNO's Accessibility Services Center is the designated office to work with students with disabilities to provide reasonable accommodation so they may enjoy the same benefits, experiences, and opportunities as persons without disabilities. For more information please visit the Accessibility Services Center website (<https://www.unomaha.edu/student-life/inclusion/disability-services/>).

## Credit by Examination at UNO

Credit by Examination allows students the opportunity to gain academic credit for prior learning they have acquired by self-study or experience. Tests may be taken in many subject areas and credit may be earned by achieving acceptable scores on these tests. Benefits include saving tuition dollars and shortening the time it takes to earn a degree.

Two types of examinations may be taken for credit at UNO: The College-Level Examination Program (CLEP) and UNO's Special Examination Program.

Many postsecondary institutions now offer credit on the basis of CLEP examinations annually. The CLEP exams include General Examinations and Subject Examinations. Both are designed to measure factual knowledge and understanding, problem-solving ability, and mastery of college-level, introductory course content in a wide range of disciplines.

UNO's Special Examination procedure involves "challenging" one of the courses taught at this university by attempting a Departmental Examination. These examinations are constructed by the department for the purpose of measuring knowledge in a particular course being offered at UNO. Credit is granted for the course upon successful completion of the examination.

- An examination may not be attempted more than once.
- A student who has failed to earn credit in an attempted college course may not receive Credit by Examination in the same course. Neither will credit be granted to raise a grade earned in any course.
- A maximum of 30 hours Credit by Examination (the College of Business has a limit of 24 hours) may be applied toward graduation, e.g., CLEP, by Challenge, etc.
- Credits earned by examination may not be used as part of the terminal residency requirements, so you should check the requirements of your college.
- Students taking Departmental Examinations must be registered at UNO at the time they attempt the exam. (Registration is not required to take CLEP exams.) You must be a UNO student to have the credit applied to UNO.
- Students attempting Credit by Examination in courses in which they are currently enrolled must do so before they have completed one month of the course.
- Credit by examination will not be given for courses that are prerequisites for courses that the student has already earned credit. For exceptions, check with the department.
- Credit earned on a General Examination will be reduced by the amount of comparable credit already earned in the division.

The fee for each CLEP exam is \$80.00, plus a separate nonrefundable service fee of \$25.00. There is a \$10.00 fee for optional essays. You must pay separately for each exam you take. CLEP exams and optional essays are free for military personnel with proper ID (the Center's \$25.00 fee is still required). There is a \$25.00 charge for each Departmental Exam (Challenge Exam). In addition to the cost of taking the examinations, payment for recording hours earned through CLEP and Challenge Exams shall be assessed at the rate of one-half resident tuition per credit hour. The \$25.00 fee for Departmental Exams is applied to the overall payment for credit earned. Visit the CLEP informational bulletin (<http://clep.collegeboard.org/>) for more details. (Fees are subject to change.)

Credit earned by examination will be recorded as "CR" on the transcript, and this credit will not be used in calculating grade point average.

If you need additional information or have any questions, feel free to stop by (522 KH) or call the Testing Center at 402.554.4800. Questions regarding Departmental Challenge Examinations other than those noted should be directed to the appropriate department.

## Additional Campus Services and Support

### Academic & Career Development Center (ACDC)

The Academic and Career Development Center (ACDC) empowers students to explore, develop, and succeed at UNO and beyond. ACDC builds bridges between students and on-campus support, community members, and local employers. Learn more on the Academic and Career Development Center website (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/>).

### Ombuds Services

Ombuds Services provides informal, confidential help when you have a conflict or problem with individuals, offices, or policies at the university. The Ombuds (Ombudspersons) help you analyze your situation, obtain information, identify your options, and develop a plan to address your concerns. The Ombuds do not take sides in a dispute; they are advocates for fairness and the equitable resolution of conflicts and problems. Communicating with an Ombuds is off-the-record. If you wish to make a record, or to make UNO aware of a problem, the Ombuds can provide

information and help you do so. Exceptions to Ombuds confidentiality occur only when there is an imminent risk of serious harm and no other reasonable option to prevent it.

For more information or to make an appointment, please go to the Ombuds Services (<https://www.unomaha.edu/ombuds-services/>) web page. Services are free to all UNO students and employees.

## Diversity, Equity, Access and Inclusion

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

Learn more about the Office of Diversity, Equity, Access and Inclusion (<https://www.unomaha.edu/office-of-equity-access-and-diversity/>)

## Title IX

Title IX is a comprehensive federal law that prohibits discrimination on the basis of sex (including gender identity) in any federally funded education program or activity.

To contact the Title IX Coordinator:  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

Learn more about Title IX (<https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/>)

## International Programs (INPR)

Current programs under INPR include:

International Student Advising (<https://www.unomaha.edu/international-studies-and-programs/student-support/advising.php>) for all international students and scholars.

The Education Abroad (<https://www.unomaha.edu/international-studies-and-programs/study-abroad/>) office assists students in exploring their many options for overseas academic programs.

The International Studies Major (<https://www.unomaha.edu/international-studies-and-programs/academics/major.php>) offers an interdisciplinary, career-focused bachelor's degree for students seeking to work in diplomacy, national security, non-governmental organizations, and international businesses.

ILUNO Intensive English (<https://www.unomaha.edu/international-studies-and-programs/iluno/>) is one of the oldest and most highly regarded English as a Second Language programs in the region.

The International Professional Development (IPD) Program (<https://www.unomaha.edu/international-studies-and-programs/ipd/>) offers an alternative way to learn English that is uniquely tailored to professionals.

The Center for Afghanistan Studies (<https://www.unomaha.edu/international-studies-and-programs/center-for-afghanistan-studies/>) continues to serve as America's primary cultural and scholarly link between the two countries.

For further information, contact the International Programs office at 402.554.2293 or [world@unomaha.edu](mailto:world@unomaha.edu)

## Multicultural Affairs

The Office of Multicultural Affairs (MCA) is responsible for developing and maintaining programs and services to ensure the successful recruitment, retention, and graduation of underrepresented students on UNO's campus.

Through scholarship aid, academic services, and personal support, students are empowered to attain their educational and professional goals. Cultural programming includes celebrating cultural months (including Black History Month, Latino Heritage Month, Native Heritage Month, and Diversity Month) as well as three annual Native American events. MCA is inclusive of all UNO students. Learn more on the Multicultural Affairs website (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>).

## UNO Graduate Studies

UNO Graduate Studies offers over 70 graduate programs at Doctoral, Master's, and Certificate levels. UNO is recognized as a Carnegie Doctoral Research University. Our graduate faculty represents the very best in their fields, earning national teaching awards, and they are dedicated to individual student instruction and mentoring. For additional information, visit the Graduate Studies website (<https://www.unomaha.edu/graduate-studies/>).

## Scholarships

UNO has established a wide range of scholarship programs to recognize excellent high school achievement by first-year students and exceptional scholastic performance by upper-class students already in attendance at the university. For more information:

Office of Financial Support and Scholarships  
103 Eppley Administration Building  
Omaha, NE, 68182  
402.554.2327

[financialaid.unomaha.edu](http://financialaid.unomaha.edu/) (<http://financialaid.unomaha.edu/>)

## Digital Learning

The Office of Digital Learning provides strategic direction to the campus for online and hybrid programs and courses, in addition to providing tier-two technology support for faculty. Digital Learning considers the areas of student support and preparedness for online learners, quality and instructional support for online instructors, and growth and process improvement for online initiatives at the institution. Working in close collaboration with UNO's Center for Faculty Excellence, the instructional designers in the Office of Digital Learning support UNO faculty in developing and re-envisioning the delivery of courses in online and blended formats.

Jaci Lindburg - Director of Digital Learning • 402.554.2020 • [jlindburg@unomaha.edu](mailto:jlindburg@unomaha.edu)

## UNO Libraries

The University of Nebraska Omaha (UNO) libraries include the Dr. C.C. and Mabel L. Criss Library (Criss Library) and the KANEKO-UNO Library. The Libraries fulfill the UNO mission through our dynamic services, highly qualified and adaptive personnel, unique and extensive collections, and accessible learning spaces and environments. For additional information, visit [library.unomaha.edu](http://library.unomaha.edu) (<http://library.unomaha.edu/>).

## Research

At UNO, research is thriving because our students have access to resources they might not find at another university. Undergraduate and graduate students work with our faculty to understand and uncover new and innovative methods for solving problems. Learn more about the research at UNO (<https://www.unomaha.edu/research/>).

## MavIGATION Station

The MavIGATION Station, located on the first floor of the Eppley Administration Building, provides general information and referrals to

appropriate offices. The general information number is 402.554.2800 or 1.800.858.8648.

## Information Technology Services

Information Technology Services supports most of the major computer systems on campus including email and Canvas, as well as the campus network and telecommunications. Email [unohelpdesk@unomaha.edu](mailto:unohelpdesk@unomaha.edu) for assistance.

## Milo Bail Student Center

The Milo Bail Student Center (MBSC) is the student involvement hub located in the heart of Dodge Campus. MBSC is where you can take care of business at MavCARD Services (<https://www.unomaha.edu/milo-bail-student-center/mavcard/>) or the Bookstore (<https://www.unobookstore.com/>), connect with student services like Accessibility Services (<https://www.unomaha.edu/student-life/inclusion/disability-services/>), Multicultural Affairs (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>), the Gender and Sexuality Resource Center (<https://www.unomaha.edu/student-life/inclusion/gender-and-sexuality-resource-center/>), the Office of Military and Veteran Services (<https://www.unomaha.edu/student-life/inclusion/military-and-veteran-services/>), and join programs geared specifically toward students like the Fraternity and Sorority Life (<https://www.unomaha.edu/student-life/involvement/omaha-greeks/>), Maverick Productions (<https://www.unomaha.edu/student-life/involvement/maverick-productions/>), Dance Marathon (<https://www.unomaha.edu/news/events/dance-marathon.php>), and Student Government (<https://www.unomaha.edu/student-life/involvement/student-government/>). The MBSC also offers delicious food options in the MBSC Food Court (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/mbsc-food-court.php>), Durangos Grill (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/durangos-grill.php>), and the Maverick Den (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/convenience-store.php>).

## Bookstore

The UNO Bookstore, owned and operated by the University of Nebraska at Omaha, is located on the first level of MBSC. The Bookstore offers new and used textbooks, rental books, digital e-books, Omaha's largest selection of UNO apparel, gifts, and home décor. The UNO Bookstore website, [unobookstore.com](http://unobookstore.com) (<http://unobookstore.com/>), offers free in-store pickup and free residence hall delivery for textbooks, apparel and more.

## Campus Recreation

Campus Recreation (Campus Rec) supports students on their journey to living a healthy and balanced lifestyle while at UNO. If you are enrolled in at least one credit hour on-campus, a Campus Rec membership is included as part of your University Program and Facilities (UPF) Fees. There is no need to purchase a membership separately while taking an on-campus class. A valid membership is determined on a semester basis. If you are enrolled in an online, remote, research, or thesis class, a Campus Rec membership would need to be purchased. A purchase is necessary since these classes do not pay the University Program and Facilities (UPF) Fees. Campus Rec is located in the H&K Building. Learn more on the Campus Recreation website (<https://www.unomaha.edu/student-life/wellness/campus-recreation/>).

## Housing & Residence Life

Housing and Residence life creates a positive residential experience and supports the evolving needs of students at UNO. Six different on-campus housing options are available to UNO students: Maverick Village (MV) and University Village (UV) on Dodge Campus; Scott Court (SC), Scott Crossing (SX), Scott Hall (SH), and Scott Village (SV) on Scott Campus. Housing and Residence life is proud to offer apartment, traditional, and graduate-style housing to UNO students. Learn more on the Housing and Residence Life

website (<https://www.unomaha.edu/student-life/housing-and-residential-life/>)

## Parking Services

For information on parking services, visit the parking services website (<https://www.unomaha.edu/business-and-finance/support-services/parking-services/>).

## Facilities

Visit the UNO Buildings and Maps (<https://www.unomaha.edu/about-uno/buildings-and-maps/>) website for detailed information on buildings and locations.

## Alumni Engagement/NU Foundation

The UNO Alumni Association (<https://unoalumni.org/>) and the University of Nebraska Foundation have partnered to advance the overall mission and priorities of UNO, and to connect the dreams and passions of alumni and friends with the mission of the university. Click here for more information (<https://nufoundation.org/uno/areas/uno-alumni-association/>).

## Public Safety

Department of Public Safety  
6001 Dodge St.  
Eppley Administration Building Room 100  
402.554.2648

For ON-CAMPUS EMERGENCIES dial 402.554-2911.

UNO Department of Public Safety is available to the University community 24-hours a day, protecting life and property, providing building and grounds patrol; enforcing traffic and parking rules and regulations, and encouraging everyone to follow University regulations; UNODPS also maintains the University key system, manages the safety of youth on campus, and provides crime prevention programs for all persons on campus.

## Title IX

Title IX is a comprehensive federal law that prohibits discrimination on the basis of sex (including gender identity) in any federally funded education program or activity.

To contact the Title IX Coordinator:  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

Learn more about Title IX (<https://www.unomaha.edu/office-of-equity-access-and-diversity/resources/title-ix/>).

## Security

Buildings are patrolled 24 hours daily. Anyone found in a UNO building after established closing hours, without a UNO identification card, will be asked to leave. Report items stolen or damaged to the Department of Public Safety.

## University Building Access

Department of Public Safety is responsible for the control of the university electronic access and key system. Eligible University employees should make requests for access (electronic or keyed) through their department chairperson.

## Services

The Department of Public Safety provides assistance to motorists 24 hours daily. Officers respond to help get your vehicle started, open a locked vehicle, and will assist in a tire inflation where possible.

## Parking Traffic

All accidents should be reported to Department of Public Safety immediately.

## Personal Escorts

Officers are available to escort individuals to/from campus buildings 24 hours a day for anyone who has a safety concern.

## Personal Safety Checks

Individuals who may be working alone, outside normal working hours are encouraged to contact Department of Public Safety. Security officers will periodically check on your safety while you are here.

## Operation I.D.

Your personal belongings may be engraved to aid in finding lost or stolen property. Stop by the Department of Public Safety Office and check out an engraver and instructions to engrave your property

## Lost and Found

Department of Public Safety maintains the lost and found system. Lost and found items are held for 30 days.

## Fingerprints

The Department of Public Safety provides a fingerprinting service for individuals who require finger prints for job applications and military needs. This service also applies for children of students, staff, faculty, and alumni. It is strictly for the benefit of the parents should a child ever be missing; no record will be maintained by Department of Public Safety. Contact Department of Public Safety for times of service or an appointment at 402.554.2648.

## Environmental Health and Safety

It is the goal of the university to provide a safe, healthy environment to work and study. In order to achieve this, Environmental Health and Safety (EHS) provides a number of training programs and consultation services for students, faculty and staff. Programs directed by EHS include: employee safety and passenger van training, hazardous waste management, emergency preparedness, fire protection, and accident investigations.

Safety Data Sheets and other information related to the safe handling and disposal of chemicals can be obtained from the EHS website. Students can help maintain a safe environment at UNO by reporting unsafe conditions on campus. Visit the EHS website (<https://www.unomaha.edu/business-and-finance/support-services/environmental-health-and-safety/>); call 402.554.3596, or visit EHS in 211 Eppley Administration Building.

## Academic Focus Areas

An "Academic Focus Area" is a broad, interdisciplinary grouping of academic majors and courses that share similar themes. This framework allows UNO to provide coherence to our academic offerings and advising so that students can pursue their academic and professional goals while staying on-track for graduation. The courses recommended in these areas will count towards a degree in that respective area and fulfill general education requirements.

UNO has 5 Academic Focus Areas that expose students to introductory coursework, concepts, ideas, and professional skills within broadly related, interdisciplinary fields of study. Through advising, faculty guidance, and programmatic support, students are encouraged to cultivate their strengths, interests, and professional goals in pursuit of selecting a major program of study.

- Public Service, Healthcare, and Helping Professions (<https://www.unomaha.edu/academics/academic-focus-areas/public-service-healthcare-helping-professions.php#pshhp>)
- Science, Technology, Engineering and Math (STEM) (<https://www.unomaha.edu/academics/academic-focus-areas/stem.php#stem>)
- Business and Innovation (<https://www.unomaha.edu/academics/academic-focus-areas/business-and-innovation.php#tbi>)
- Culture, Ethnicity, and Social Justice (<https://www.unomaha.edu/academics/academic-focus-areas/culture-ethnicity-social-justice.php#cesj>)
- Creative Production and Performative Arts (<https://www.unomaha.edu/academics/academic-focus-areas/creative-production-performing-arts.php#cpa>)

## College of Arts and Sciences

### Vision Statement

To be recognized and respected throughout the United States as one of the premier Colleges of Arts and Sciences at a metropolitan university, maximizing our resources to build exceptional programs related to teaching, scholarship, creative activity, outreach, and service.

### Mission Statement

The College of Arts and Sciences is a liberal arts college within a metropolitan university. The College serves as UNO's standard-bearer for the tradition of liberal education, which emphasizes the importance of breadth of knowing and ways of knowing as central to a student's education, and defending this view of education from critics who see the tradition as outdated, impractical, and unable to prepare students for the 21st century workforce. Courses of instruction are offered in the humanities, social sciences, natural sciences/mathematics, and interdisciplinary areas that cross traditional disciplinary lines in order to support a liberal education for the students of the College and to provide a significant portion of the general education requirements of the university.

We offer disciplinary and interdisciplinary majors and minors as well as programs at the bachelor's, master's, and doctoral levels. The College is committed to outstanding teaching and to significant scholarship and research activities of its faculty and students and encourages involvement with our metropolitan community and the world at large.

The College endorses the goals articulated by the Strategic Plan of the University of Nebraska Omaha to (1) achieve academic excellence, (2) place students at the center of our academic enterprise, and (3) actively engage our community.

### General Information

The College of Arts and Sciences offers Bachelor of Arts and Bachelor of Science degrees, with a diversity of majors from the humanities, social sciences and natural sciences. The College also offers advising for many

pre-professional programs preparing students for graduate or professional schools in medicine, allied health and law.

Academic majors are available in the following fields: bioinformatics, biology, molecular and biomedical biology, black studies, chemistry, economics, English, environmental science, foreign languages and literature, general science, geography, geology, history, interdisciplinary studies, international studies, Latino/Latin American studies, mathematics, medical humanities, neuroscience, philosophy, pharmaceutical sciences, physics, political science, psychology, religion, sociology, and women's and gender studies.

The pre-professional programs of study are determined largely by the requirements of the graduate or professional schools which students intend to enter. If planned carefully, the requirements for a pre-professional program can also meet many of the requirements for a B.A. or B.S. degree. These pre-professional programs are not academic majors and a student seeking a degree from UNO must complete the requirements of a major as well. Pre-professional information can be found on the Arts and Sciences website (<https://www.unomaha.edu/college-of-arts-and-sciences/>).

### Accreditation Information

Major	Degree	Accreditation Body
Chemistry	BA/BS	American Chemical Society (ACS)
School of Psychology	MS Ed.S.	- Recognized by the National Association of School Psychologists (NASP) and the National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education

### Choice of Catalog Policy

A student registering in the College of Arts & Sciences for the first time may, except for the limitations described below, complete work for the degree according to the requirements of the catalog in effect during that year or during any subsequent year prior to and including the year the student applies for the degree.

Returning students who have not been enrolled for two or more years will complete work for the degree according to the requirements of the catalog in effect during the year they re-enroll or any subsequent year prior to and including the year the student applies for the degree.

The College of Arts & Sciences reserves the right to institute and make effective, after due notice, during the course of a student's work toward a degree, any new ruling which may be necessary for the general good of the college and to substitute courses currently offered for those no longer offered.

### Contact Information:

Arts and Sciences Advising Center  
220 Arts and Sciences Hall  
402.554.2458

College Website (<http://www.unomaha.edu/college-of-arts-and-sciences/>)

### Admission Requirements

All students who have not yet earned any college credit and who are eligible to enter the university are accepted for admission to the college. However, admission of transfer students or students who have previously been enrolled at UNO is evaluated on an individual basis. A 2.0 grade point average in previous course work is required for non-exploratory students.

Application deadline for admission: August 1 for fall semester, December 1 for spring semester.

## Academic Requirements for the College Degrees

### Number of Hours to Graduate

#### College Rules

##### Upper-Division Rule

Students must have at least 18 hours of upper-division course work in their major and a total of at least 27 credit hours of upper-division work (3000 or 4000-level courses).

##### Forty-Five Hour Rule

No candidate may count more than 45 credits in any one discipline toward completion of a major.

##### Four Hour Rule

No candidate may count more than four out of 120 credits in physical education activity classes

### Minimum GPA/Additional Requirements

Students seeking a degree must maintain an average grade of at least "C" (2.0) in all college work, including work transferred from other institutions.

### College of Arts & Sciences Requirements

**Students must complete one of the three following alternatives:**

#### 1. Minor

Students may complete any UNO minor. Arts and Sciences minors must contain at least 9 hours of upper-division work. In some cases, courses counting toward the minor may also be used toward the student's cognate requirements when approved by the Educational Policy Committee of the College. See the respective departmental requirements for details. Minors are offered in the following Arts and Sciences fields: ancient Mediterranean studies, anthropology, biology, molecular and biomedical biology, black studies, chemistry, Chicano-Latino/a studies, economics, English, environmental science, ethics, foreign language and literature (French, German, Spanish), geography, geology, history, holocaust & genocide studies, human rights studies, international studies, Islamic studies, leadership & public policy, LGBTQ-Sexuality studies, mathematics, medical humanities, Medieval/Renaissance studies, Native American studies, philosophy, physics, political science, psychology, religion, sociology, sustainability, and women's and gender studies. See the respective programs for details.

**OR**

#### 2. Additional General Education

The University has established minimum General Education requirements. This alternative is designed to further the purposes of liberal education by encouraging students to explore coursework in other areas.

**Humanities/Fine Arts** (nine additional credit hours)

- Three additional credit hours from a third discipline
- HIST 1000 – World Civilizations I is required
- HIST 1010 – World Civilizations II is required

Transfer students who have taken two semesters of Western Civilization may count three hours toward the World Civilizations II requirement (HIST 1010) and then take three hours of HIST 1000 to complete their World Civilizations requirement, or they may take HIST 2190

**Social Sciences** (three additional credit hours)

- Three additional credit hours from a third discipline.

**Natural and Physical Sciences** (four additional credit hours with a lab)

- Four additional credit hours with a corresponding lab.

**Quantitative Literacy** (three additional credit hours)

- One additional three credit hour course in mathematics, computer science, statistics, logic or other quantitative topic as specified by the student's major and approved by the college.

**OR**

#### 3. Comprehensive/Double Major

Students may earn more than one major or complete a comprehensive major approved by the College curriculum committee for this alternative.

These comprehensive majors will require more than 50 credit hours total. Approved comprehensive majors are Bioinformatics, Biology B.S. with Education Concentration, Chemistry B.S. with a Concentration in Chemistry Education, Environmental Science, Interdisciplinary Studies with Individualized or Integrative Concentrations, Mathematics B.A. or B.S. with Mathematics Education Concentration, Neuroscience, and Physics B.S. with a Concentration in Physics Education.

### Requirements for the Bachelor of Arts Degree

Students pursuing a Bachelor of Arts degree must complete a major, including at least 18 credit hours of upper-division work, (3000 or 4000-level courses) designated as appropriate by the faculty in one of the following fields: biology, chemistry, economics, English, foreign language and literature, geography, geology, history, interdisciplinary studies, international studies, Latino/Latin American studies, mathematics, medical humanities, philosophy, physics, political science, psychology, religion, sociology, and women and gender studies. A student meeting the requirements in each of two fields may present a double major in these fields, provided that the disciplines do not overlap significantly in requirements and a total of at least 27 credit hours of upper-division work (3000 or 4000-level courses) is completed.

For Bachelor of Arts students, foreign language through the intermediate level is required, as described in the next paragraph.

### Foreign Language

For Bachelor of Arts degree-seeking students only, students must complete 16 credit hours of college work in one foreign language, American Sign Language, or equivalent. Up to five credit hours may be used toward the general education requirements. Successful completion of four years of a single language in high school or four college semesters will satisfy this requirement. For unusual circumstances, please contact the Arts & Sciences Advising Center. Speakers of native languages should contact their advisor to discuss options.

A student fulfilling the foreign language requirement through a combination of high school and college work must complete the fourth semester college course of their chosen language.

To enroll in any French, German, Japanese, or Spanish course beyond 1110, a student who has not successfully completed the prerequisite courses at UNO must take the appropriate placement exam and qualify for the desired course. All students are subject to this requirement including transfer students (including those from UNK/UNL). The Department of Foreign Languages reserves the right to cancel the registration of any student who has not met the prerequisites for a course. Transfer courses at the 3000/4000 level are subject to the approval of a departmental adviser and the department chair. All foreign language courses must be completed with a grade of "C-" or better to continue to the next course.

The Department of Foreign Languages will grant retroactive credit for French, German, Japanese, or Spanish 1110, 1120, 2110, or 2120 subject to the following conditions:

- a student who completes any French, German, Japanese, or Spanish course in the 1120-2120 sequence with a grade of “C-” (1.67) or better at UNO without having completed the previous courses may be granted credit for those previous courses;
- a student who completes a 3000-level course in French, German, or Spanish with a grade of “C-” (1.67) or better at UNO without having completed the 1110-2120 sequence may be granted credit for any of the courses 1110, 1120, 2110, and 2120 for which credit has not already been earned.

## Requirements for the Bachelor of Science Degree

The Bachelor of Science degree provides greater opportunity for concentrated and specialized study in a particular field, generally in the natural or social sciences. The requirements for the Bachelor of Science degree are the same as those for the Bachelor of Arts degree except as follows: Each degree candidate must complete a major including at least 18 credit hours of upper-division work (3000 or 4000-level) designated as appropriate by the faculty in one of the following fields: bioinformatics, biology, black studies, chemistry, economics, environmental science, general science, geography, geology, history, interdisciplinary studies, mathematics, medical humanities, molecular and biomedical biology, neuroscience, pharmaceutical sciences, physics, political science, psychology, and sociology. A student meeting the requirements in each of two fields may present a double major in these fields, provided that the disciplines do not overlap significantly in requirements and a total of at least 27 credit hours of upper-division work (3000 or 4000-level courses) is completed.

Foreign language is not required for students completing a B.S. degree. Instead, students must complete cognate courses as described in the next paragraph

## Cognate Courses

Each Bachelor of Science degree requires a minimum of 15 credit hours from cognate fields, outside the student’s major department. Up to six credit hours may be used toward the general education requirements. These cognate courses must support the student’s work within the major. Each department shall determine criteria and procedures for the selection of courses for each student; these criteria and procedures should be approved by the Educational Policy Committee of the College. In most cases, students completing a minor or double major for the College of Arts and Sciences Requirements may not count the coursework for the same minor or double major toward their cognate coursework, unless approved by the Educational Policy Committee of the College. See the respective departmental requirements for details.

## Transfer Credit Policy

The University allows transfer of a maximum of 64 credit hours from community colleges. STEM majors may transfer 67 credit hours from community colleges. The Arts and Sciences Advising Center should be contacted for information on transferability of courses applying to College of Arts and Sciences requirements. Students may be referred to departmental advisors for transferability of courses toward major or minor requirements.

## Unacceptable Credits

Remedial, developmental, or technical coursework may not be used toward the fulfillment of the 120 credit hour requirement.

Courses taken at a community college that are upper-division level courses in the College of Arts and Sciences may not be counted as equivalent to upper-division Arts and Sciences courses. At the discretion of the advisor

and the department, these courses may be used toward required or elective coursework but may not be used to meet upper-division requirements.

## Retroactive Credit Policy

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

## Advanced Placement Credits

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

## Military Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

## IB Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

## Placement Exams and Credit by Examinations Policies/Practices

<https://nextcatalog.unomaha.edu/undergraduate/student-life-support-services/testing-center/> (p. 64)

## Residency Requirement

At least 30 credits of a student’s bachelor’s degree must be taken at UNO.

Some majors and minors may have residency requirements in addition to this and the chairperson for the department of the major or minor should be contacted for information.

## Quality of Work

Students seeking a degree must maintain an average grade of at least “C” (2.0) in all college work, including work transferred from other institutions. Students must earn a grade of at least “C-” (1.67) in all coursework intended to satisfy general education, major or minor requirements, however some majors may require a minimum of a “C” (2.0). (Courses passed with less than a C- can still count as elective credit used towards the 120 credits needed to graduate, but will not satisfy specific requirements.) To qualify for a grade of “CR” in any course in the College of Arts and Sciences, a student must earn a grade of at least “C-” (1.67) in that course. All grades reported by the faculty to the registrar become part of the students’ permanent records and are included in the computation of their grade point averages, even though some of these grades may be for work done in excess of the 120 hours required for graduation. In order to graduate, students must attain a minimum cumulative GPA of 2.0 (“C”). The only exception to this rule is provided in the section of these requirements entitled “Amnesty Clause.”

## Good Academic Standing Policy

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Credit/No Credit (CR/NC) Grades

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Completion of Incomplete Grade

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Repeatable Grades/Courses

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Appeal Process Summary

The College of Arts and Sciences establishes the following procedures for review of grade appeal cases for all Arts & Sciences courses. In keeping with *The University of Nebraska Board of Regents Bylaws and Policies*,

the College provides an appeals procedure for students who believe that evaluation of their academic progress has been prejudiced or capricious.

If all attempts at informal resolution fail, a student may file a formal written grade appeal with the appropriate department chair or program administrator within the first four weeks of the next regular semester.[1] ([https://www.unomaha.edu/college-of-arts-and-sciences/information/grade-appeal.php#\\_ftn1](https://www.unomaha.edu/college-of-arts-and-sciences/information/grade-appeal.php#_ftn1)) If either a student or an instructor wishes to appeal a department or program grade appeal decision, the student or instructor may file a formal appeal with the College. The College appeal (<https://www.unomaha.edu/college-of-arts-and-sciences/information/grade-appeal.php#college>) is the final level of grade appeal.

## I. Department or Program-level Procedure

1. A student wishing to contest a grade should first consult the instructor for the course to make certain that the disputed grade is not the result of simple error or misunderstanding. It is recommended that the student contact the instructor immediately after the final course grade is posted. If the instructor is unavailable, the student should contact the department chair or program administrator.
2. If the student and instructor are unable to resolve the conflict informally, the student should contact the department chair or program administrator who may attempt informal mediation. It is recommended that all informal consultations be concluded within the first two to three weeks of the next regular semester. Timeline (<https://www.unomaha.edu/college-of-arts-and-sciences/information/grade-appeal.php#timeline>)
3. If attempts at informal resolution fail, a student may file a formal written appeal with the department chair or program administrator within the first four weeks of the next regular semester. The written appeal must include explanation and evidence of prejudice or caprice in grading and an explicit statement regarding the outcome the student seeks. Evidence should include pertinent course materials, such as the course outline or syllabus, written instructions for assignments, and graded student work. The chair or administrator will form a grade appeal committee and provide a copy of the written appeal to the instructor.
4. Following receipt of the written appeal, the instructor has up to one week to provide a written response to the appeal to the department or program committee.
5. The department or program appeal committee must conclude appeal deliberations and communicate a decision to the student and instructor within two weeks of receipt of the instructor's response. The appeal committee must be composed of at least three faculty and at least one student. If the committee finds that prejudice or caprice affected the final grade, the department chair or program administrator will change the student's grade.
6. The department or program committee must submit a report to the associate dean of undergraduate education for the College of Arts & Sciences. Submissions may be sent to the Dean's Office at [unocasdean@unomaha.edu](mailto:unocasdean@unomaha.edu) or Arts & Sciences Hall, Room #280 within one week of its final decision. The report must include the following:
  - the student appeal
  - the instructor response
  - a list of all grade appeal committee members
  - copies of any documents consulted in developing the final grade appeal decision
  - a statement from the chair, administrator, or grade appeal committee chair including an explanation of how the department's procedures were followed, a timeline of the appeals process, a rationale for the final decision, and an explanation of how the final course grade was calculated.

---

*[1] Regular semesters are fall and spring semesters. To appeal a grade from a fall course, the student must file a written appeal within the first four weeks of the next spring semester. To appeal a grade from a spring course, the student must file a written appeal within the first four weeks of the next fall semester. To appeal a grade from a summer course, the student must file a written appeal within the first four weeks of the next fall semester.*

---

## II. College-level Procedure

**A. UNO Graduate Studies** (graduate courses) Students and faculty wishing to file an appeal of a department or program grade appeal decision for a graduate course should contact the Graduate Studies Office at UNO (<https://www.unomaha.edu/graduate-studies/>) for information on Graduate College procedure. The following College of Arts & Sciences procedure does not apply.

### B. College of Arts & Sciences (undergraduate courses)

1. Any student or instructor wishing to file an appeal of a department or program appeal committee decision must submit a written appeal to the associate dean of undergraduate education for the College of Arts & Sciences within one week after that decision. Such appeals may be sent to the Dean's Office at [unocasdean@unomaha.edu](mailto:unocasdean@unomaha.edu) or Arts & Sciences Hall, Room #280 and must include the following:
  - an account of the facts surrounding the awarding of the disputed grade;
  - a complete account of steps taken at the department or program level to resolve the dispute;
  - copies of documents relevant to the grade appeal, including a copy of the course syllabus;
  - an explanation of how the relevant grades were calculated/miscalculated.
2. Upon receiving the written appeal, the associate dean of undergraduate education will notify the chair of the College of Arts & Sciences Educational Policy Committee (EPC) of the need to convene an appeal committee and will forward the department's report as well as the written appeal to the EPC chair. The associate dean of undergraduate education will also notify the dean of the need to appoint two student committee members.
3. The College appeal committee will include all members of the EPC who are not members of the department in question and at least two student members who are appointed by the dean. A final decision on the appeal by this committee will be due two weeks after the EPC chair receives the written appeal and the department or program report.
4. In ruling on grade appeals, the College committee will not attempt to resolve disputes about a student's knowledge of a particular subject matter. The committee's responsibilities do extend, however, to matters of both substance and process. Regarding substance, the committee will determine whether evaluation of a student has been prejudiced or capricious. Regarding process, the committee will determine whether or not grade appeal procedures have been followed.
5. In response to an appeal of department or program process, the committee will determine whether grade appeal procedures have been completed in a reasonable manner. If procedures are not complete, the committee may require the department or program appeal committee to reconvene.
6. In response to an appeal based on charges of caprice or prejudice in grading, the committee may determine that it concurs with the judgment of the department or program appeal committee and will adopt the original recommendation on the matter as its own.  
OR  
The committee may determine that an academic evaluation by an instructor has been improper, or that the instructor's evaluation was wrongly held to be improper as the result of the original grade appeal,

and it will advise the dean that the student's grade should be changed accordingly.

## Grade Appeal Policy

1. The College of Arts & Sciences will set grade appeal policies and procedures that operate within the University of Nebraska Board of Regents Bylaws and Policies  
**Bylaws of the University of Nebraska Board of Regents Chapter V**–(January 25, 2018) 5.3 *Academic Evaluation*.

*"Each College or school shall provide for a faculty-student appeals committee for students who believe that evaluation of their academic progress has been prejudiced or capricious. Such procedure shall provide for changing a student's evaluation upon the committee's finding that an academic evaluation by a member of a faculty has been improper."*

**University of Nebraska Board of Regents Policies Chapter 5**–(October 3, 2018) Instructional and Grading Procedures 2b.

*"...The faculty of each department, school, or equivalent unit shall provide a committee to consider the appeal of those cases in which a student feels the performance evaluation was unfair. Colleges shall provide standing committees to consider cases in which the student or faculty member chooses to appeal the initial decision. Any of these committees shall have the authority to direct changes in the grade based upon its findings."*

2. The College of Arts & Sciences will maintain department and program grade appeal policies and procedures that operate within the University of Nebraska at Omaha Graduate Office grade appeal policies and procedures so that, at the department/program level, there is one procedure for both undergraduate and graduate appeals.
3. The College of Arts & Sciences will operate within the parameters set by the Board of Regents and the Graduate Office but will set additional requirements and deadlines.
4. The College of Arts & Sciences will set deadlines and procedures for grade appeals that will allow resolution of both the department/program appeal and the undergraduate college appeal within the first ten weeks of regular semesters, allowing students filing appeals to make informed decisions for early registration and to move forward with their academic careers.
5. Departments and programs within the College of Arts & Sciences will maintain grade appeal policies and procedures that operate within the *College of Arts & Sciences Grade Appeal Policies and Procedures for Departments and Programs*.

## Academic Amnesty

A student who didn't perform well during one or both of their **first two semesters** at UNO, UNL or UNK, may petition the Educational Policy Committee to have either or both of their first two semesters' grades removed from their cumulative grade point average (GPA). No other semesters may be considered. Students may choose to keep courses taken during those first two semesters in which a minimum grade of "C-" (1.67) was earned. If a student chooses to keep these courses, they will count towards degree requirements, credits towards graduation and they will contribute to the cumulative grade point average.

This petition is subject to the following stipulations:

- This petition must come through the assistant dean for student success or assistant director of advising (on behalf of the assistant dean) in the College of Arts and Sciences Advising Center.
- The student must be at least four years removed from the semester or year to be deleted.

- The student is responsible for initiation of the petition.
- The student must complete at least 24 consecutive semester hours of coursework with a GPA of 2.5 or higher from any of the University of Nebraska system universities (UNO, UNL and UNK) before a petition will be considered.
- The only semesters eligible for amnesty are the first two semesters from any of the University of Nebraska system universities (UNO, UNL or UNK).
- The Arts and Sciences Advising Center will make the calculations based on college rules and report cases in question to the Educational Policy Committee
- Students who are granted academic amnesty cannot be considered for degrees with honors at graduation.
- Even if academic amnesty is granted, grades that are removed from the student's GPA will still show on their academic transcripts, therefore will be seen by anyone evaluating those transcripts.

Therefore, students may petition to have grades from courses in either or both semesters of their University of Nebraska freshman year removed from their cumulative grade point averages, but may count courses in which they earn at least a "C-" toward graduation requirements. Academic amnesty is not allowed after a student has graduated.

## Academic Probation and Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Reinstatement Policy Following Academic Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Academic Advising

Advising in the College of Arts and Sciences is shared between the Arts and Sciences Advising Center, Health Careers Resource Center, departmental major advisors, and the Academic and Career Development Center,

- Bioinformatics, Biology, and Mathematics majors will have all their advising done with their major advisor.
- Pre-dental hygiene, pre-nursing, and pre-radiation science technology students will have all their advising done with the Health Careers Resource Center.
- Exploratory Studies students will have all their advising done with the Academic Career Development Center up until 45 earned credits or the declaration of either the Integrative Studies or Individualized Studies concentration within the Interdisciplinary Studies major, or declaration of a different major entirely.
- All other pre-health students and majors will begin with the Arts & Sciences Advising Center and transition to a major advisor once they have a declared major and at least 27 earned credits, which is sophomore standing. Pre-health students earning a bachelor's degree should visit with the Health Careers Resource Center for pre-health specific guidance as needed throughout their time at UNO, beginning with the end of their 1st semester or beginning of second. The Health Careers Resource Center is located in Allwine Hall, Room 307.

## Advising Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Student Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Senior Check

After completing 91 hours of course work, students must request a Senior Check/Graduation Check from the Arts & Sciences Advising Center. Provided that the student follows the guidance on the form and assuming satisfactory completion of all approved courses, this process

will assure the student's graduation date. Should this procedure not be followed, responsibility for meeting graduation requirements falls on the student; if errors are made they can prevent graduation at the anticipated date. Multiple options exist for Senior Checks to be conducted, and are outlined on the Arts and Sciences Advising Center website (<https://www.unomaha.edu/college-of-arts-and-sciences/academic-advising-center/>).

## Arts and Sciences Minors

- Ancient Mediterranean Studies Minor (p. 74)
- Anthropology Minor (p. 338)
- Biology Minor (p. 94)
- Black Studies Minor (p. 100)
- Chemistry Minor (p. 113)
- Chicano/Latino Studies Minor (p. 217)
- Economics Minor (p. 120)
- English Minor (p. 135)
- Environmental Science Minor (p. 147)
- Ethics Minor (p. 284)
- French Minor (p. 161)
- Geography Minor (p. 176)
- Geology Minor (p. 187)
- German Minor (p. 161)
- History Minor (p. 194)
- Holocaust and Genocide Studies Minor (p. 194)
- Human Rights Studies Minor (p. 195)
- International Studies Minor (p. 210)
- Islamic Studies Minor (p. 211)
- Leadership and Public Policy Minor (p. 308)
- LGBTQ Sexuality Studies Minor (p. 344)
- Mathematics Minor (p. 252)
- Medical Humanities Minor (p. 259)
- Medieval/Renaissance Studies Minor (p. 261)
- Molecular and Biomedical Biology, Minor (p. 267)
- Native American Studies Minor (p. 267)
- Philosophy Minor (p. 284)
- Physics Minor (p. 296)
- Political Science Minor (p. 308)
- Psychology Minor (p. 320)
- Religion Minor (p. 326)
- Sociology Minor (p. 338)
- Spanish Minor (p. 162)
- Sustainability Minor (p. 148)
- Women's and Gender Studies Minor (p. 344)

## Ancient Mediterranean Studies Minor

### Description

The interdisciplinary Ancient Mediterranean Studies (AMS) minor was designed to give students an in-depth understanding of the history of the Mediterranean and Ancient Near East from the beginning of the Bronze Age through the Roman Empire in the West, and the Byzantine Empire in the East.

### Other Information

All coursework taken for the Ancient Mediterranean Studies minor must be completed with a grade of C- or better.

### Contact

Jeanne Reames, PhD, Ancient Mediterranean Studies Director  
mreames@unomaha.edu

Website (<http://www.unomaha.edu/ams/>)

### Requirements

Undergraduate students will be expected to complete 15 credit hours of AMS courses with a grade of C- or higher in at least three departments, including art history, English, history, philosophy, political science, or religious studies. 12 hours of these must be courses at the 3000-4000 level. A course in another department than those listed may be permissible with review and approval by AMS faculty. See below for a list of approved courses.

While a language is not required for the minor, taking Latin is strongly recommended, especially for graduate students and any undergraduates who have plans to continue their studies in graduate school. Other relevant languages (Greek, Hebrew, Aramaic, etc.), acquired through other venues, are equally acceptable.

Code	Title	Credits
<b>Art History</b>		
ART 3700	INTRODUCTION TO ANCIENT ART	3
ART 4730	CLASSICAL ART HISTORY	3
ART 4750	LATE ROMAN AND BYZANTINE ART HISTORY	3
ART 4930	SPECIAL TOPICS IN ART HISTORY <sup>1</sup>	3
<b>English</b>		
ENGL 2500	LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD	3
ENGL 3000 or WGST 3000	SPECIAL TOPICS IN ENGLISH <sup>6</sup> SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES	1-3
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE <sup>5</sup>	3
<b>History</b>		
HIST 2510	ANCIENT GREECE: BRONZE AGE TO CLASSICAL ERAS	3
HIST 2520	ANCIENT HISTORY - ROME	3
HIST 2990	PEOPLE AND ISSUES IN HISTORY <sup>2</sup>	3
HIST 4820	MESOPOTAMIA AND PRE-ISLAMIC PERSIA	3
HIST 4840	ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN	3
HIST 4910	TOPICS IN HISTORY <sup>3</sup>	3
<b>Latin</b>		
LATN 2120	INTERMEDIATE LATIN II	3
<b>Philosophy</b>		
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	3
PHIL 3500	PROBLEMS IN PHILOSOPHY <sup>5</sup>	3
<b>Political Science</b>		
PSCI 4310	CLASSICAL POLITICAL THOUGHT	3
<b>Religious Studies</b>		
RELI 2150	HEBREW SCRIPTURES	3
RELI 2160	NEW TESTAMENT: HISTORY, LITERATURE, AND SOCIETY	3

RELI 3130/ WGST 3120	WOMEN AND THE BIBLE	3
RELI 3170	HISTORY OF CHRISTIANITY I	3
RELI 3500	SPECIAL TOPICS IN RELIGION <sup>4</sup>	3

- <sup>1</sup> Special Topics in Art History: The Hellenistic World, Pop Antiquity, Egyptian Art and Culture, Gender and Sexuality in Antiquity
- <sup>2</sup> When Offered as Ancient Egypt
- <sup>3</sup> Topics in History: Rome and the Early Church, Byzantium
- <sup>4</sup> Special Topics in Religion: Jerusalem, Egyptian and Babylonian Religion, ancient Israel, Biblical Archaeology, Biblical Cities, Jesus and Archaeology, Quran and the Dead Sea Scrolls, Greco-Roman Religions, Bethsaida Excavations
- <sup>5</sup> Pre-approved special topics only
- <sup>6</sup> Ancient Greek and Roman Drama or other approved topic.

## Bioinformatics

Bioinformatics is an interdisciplinary scientific field that addresses problems related to the collection, processing, and analysis of the vast amounts of data describing the structure and function of biological systems, combining aspects of computer science, molecular biology, chemistry and mathematics.

Bioinformatics merges computer and information science with the study of genetic information and biological structures. Bioinformatics allows researchers to open new windows of insight into our genetic makeup, providing pathways to understanding disease processes, and creating novel diagnostic and treatment strategies. To capitalize on the growing body of knowledge regarding the genome, there is an immense and growing need for experts in this field.

A graduate of the UNO bioinformatics program will possess a solid background in a wide variety of positions throughout the biomedical and biotechnology industries, providing a solid foundation for graduate studies in bioinformatics or related areas and, with the addition of a few courses, medical school. One of the benefits of completing the Arts and Sciences major in bioinformatics will be the opportunity to conduct a research project with a faculty member in Arts and Sciences, applying bioinformatics skills to address a central question in the life sciences.

### Other Information

All coursework taken for the Bioinformatics major must be completed with a grade of "C-" or better.

### Contact Information

114 Allwine Hall  
402.554.2641

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/biology/academics/bioinformatics.php>)

### Degrees Offered

- Bioinformatics, Bachelor of Science (p. 77)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the bioinformatics major, the writing in the discipline requirement can be fulfilled by completing a sequence of approved biology courses at UNO that incorporate discipline-specific writing as part of their requirements. To satisfy the requirement for writing in the discipline, students must complete BIOL 1450 and BIOL 1750, both BIOL 2140 and BIOL 3020 and two additional 3000/4000 level courses that are approved as meeting the writing requirement by the Department of Biology. For the bioinformatics major, the two additional approved 3000/4000 level courses will be BIOL 4130/BIOL 4140 and BIOL 4560. Only courses taken at UNO

and after January 1, 2010 can be applied to this requirement. Students not meeting the writing requirement through this sequence of courses will fulfill the writing requirement by completing ENGL 2400 or ENGL 3980.

Bioinformatics is an interdisciplinary scientific field that addresses problems related to the collection, processing, and analysis of the vast amounts of data describing the structure and function of biological systems, combining aspects of computer science, molecular biology, chemistry and mathematics.

Bioinformatics merges computer and information science with the study of genetic information and biological structures. Bioinformatics allows researchers to open new windows of insight into our genetic makeup, providing pathways to understanding disease processes, and creating novel diagnostic and treatment strategies. To capitalize on the growing body of knowledge regarding the genome, there is an immense and growing need for experts in this field.

- Bioinformatics Analyst
- Bioinformatics Database Developer
- Bioinformatics Scientist
- Genomics Data Analyst
- Biostatistician

\*Other possible job titles:

- Cheminformatician
- Medical Informatics Analyst
- EMR Information Systems Analyst
- Nursing Informatics Specialist
- Chief Medical Information Officer
- Scientific Curator
- Network Analyst
- Research Scientist
- Phylogeneticist
- Structural Analyst
- Bio-Statistician

\*Some positions may require graduate study

### BIOI 1000 INTRODUCTION TO BIOINFORMATICS (3 credits)

Bioinformatics is a scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing rapidly with the advancement in molecular technology to sequence the genomes of many different organisms. This course will provide an introduction to the field and will examine some of the problems of interest to bioinformaticians and how these relate to biology, computer science, mathematics and engineering. Topics will include an overview of the biology, mathematics and computer science needed to understand these and tools.

**Distribution:** Natural/Physical Science General Education course

### BIOI 2000 FOUNDATIONS OF BIOINFORMATICS (3 credits)

Bioinformatics is a new scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing quickly due to rapid advances in sequencing and other biological techniques that allow the genomes of different organisms to be easily sequenced. This course provides an overview of the field and covers the chemical, biological, mathematical and computational foundations of bioinformatics upon which later courses will depend. In addition, it introduces problems of interest to bioinformaticians and the methods and tools used to address them.

**Prerequisite(s)/Corequisite(s):** BIOL 1000 or BIOL 1450

**BIOI 3000 APPLIED BIOINFORMATICS (3 credits)**

This course will provide students with the practical skills needed for the analysis of -omics data. Topics covered will include biological databases, molecular biology tools (e.g., primer design, contig assembly), gene prediction and mining, database searches, genome comparison, sequence alignments, phylogenetic inference, gene expression data analyses, functional annotation of protein sequences, protein structure and modeling. Specialized software (e.g., Vector NTI) and widely used web-based computation tools (e.g., Entrez, BLAST, ClustalX, Phylip, PyMOL, and SwissPDBviewer) will be illustrated. Multiple approaches for solving particular problems will be presented.

**Prerequisite(s)/Corequisite(s):** BIOI 2000 and CIST 1400; or permission of instructor.

**BIOI 3500 ADVANCED BIOINFORMATICS PROGRAMMING (3 credits)**

Because of the volume and complexity of biological data, advanced programming skills are required for researchers in order to get the most out of their data analyses. This course will provide the expanded programming skills necessary to develop software that can exploit the complex information landscape of bioinformatics. Specific topics covered will include molecular biology basics, Unix/Linux shell programming, Perl and BioPerl, databases and using the Perl DBI, and data visualization.

**Prerequisite(s)/Corequisite(s):** BIOI 3000 and CSCI 1620; or permission of instructor. CSCI 3320 is strongly recommended but not required.

**BIOI 4500 INDEPENDENT STUDY (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Junior or Senior within the Bioinformatics undergraduate program. Not open to non-degree graduate students.

**BIOI 4510 BIOINFORMATICS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Bioinformatics undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of Director of the School of Interdisciplinary Informatics. Not open to non-degree graduate students.

**BIOI 4860 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BMI 8866).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BIOI 4870 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "-omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with CSCI 8876).

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or permission of instructor. Not open to non-degree graduate students.

**BIOI 4890 COMPUTERIZED GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the class will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor. Not open to nondegree students.

**BIOI 4950 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)**

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 4950 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Prerequisites of a specific offering of BIOI 4950 will be determined by the supervising faculty member and identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required for registration.

**BIOI 4970 SENIOR PROJECT IN BIOINFORMATICS I (1 credit)**

This course is the first part of a two-part series that allows students to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to decide on a research topic and to write a detailed proposal based on this topic that outlines the goals and objectives of the proposed research. The topic and proposal will be approved by the supervising faculty member.

**Prerequisite(s)/Corequisite(s):** BIOI 4860 and BIOI 4870; BIOI 4870 can be taken concurrently. Senior level status in the Bioinformatics program. Not open to nondegree students.

**BIOI 4980 SENIOR PROJECT IN BIOINFORMATICS II (2 credits)**

This course is the second part of a two-part series that allows the student to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to perform the research proposed in Part I of the course and to present the results of his or her work. Presentations will be made in the form of a report, written as a scientific research paper, and an oral defense.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor.

**BIOI 4990 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for the junior or senior bioinformatics major who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing, permission of supervising faculty member & approval of Bioinformatics UG Prog Comm Chair. A formal description of the problem area to be investigated, the resources to be used, & the results to be produced must be prepared.

## Bioinformatics, Bachelor of Science (College of Arts and Sciences)

To obtain a BS in Bioinformatics, a student must fulfill university, college, and departmental requirements. Bioinformatics is an interdisciplinary major and, as such, satisfies the college requirement for breadth. Other hour requirements follow:

- 46 hours of University General Education courses –Most commonly, Bioinformatics majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often do the following:
  - Test out of at least three hours of fundamental academic skills,
  - Take courses that meet both the six hours of diversity requirements and six hours of distribution requirements,
  - Meet the seven-hour natural sciences distribution requirement through completing major courses.
- In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.
- 77-79 hours of major courses
- 0-13 hours of electives

TOTAL HOURS: 120

### Double Majors

For a double major in Bioinformatics and Biology or Bioinformatics and Molecular and Biomedical Biology, beyond BIOL 1450, BIOL 1750, BIOL 2140, and BIOL 3020, no other biology courses may count for both majors.

### Major and Minors

For a Bioinformatics major and a Biology or Molecular and Biomedical Biology minor, beyond: BIOL 1450, BIOL 1750, BIOL 2140, and BIOL 3020, no other biology courses may count for both major and minor.

### Requirements

The Bachelor of Science in bioinformatics degree requires a minimum of 120 credit hours for its completion. Required courses are below.

The required courses are:

Code	Title	Credits
<b>Bioinformatics</b>		
BIOI 1000	INTRODUCTION TO BIOINFORMATICS	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	3
BIOI 3000	APPLIED BIOINFORMATICS	3
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING	3
BIOI 4860	BIOINFORMATICS ALGORITHMS	3
BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	3
<b>Biology</b>		

BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 4130	MOLECULAR GENETICS	4
or BIOL 4140	CELLULAR BIOLOGY	
BIOL 4560	BIOINFORMATICS INTERNSHIP	1-3
<b>Chemistry <sup>1</sup></b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
<b>Computer Science</b>		
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
CSCI 3320	DATA STRUCTURES	3
<b>Mathematics</b>		
MATH 1950	CALCULUS I	5
MATH 2030	DISCRETE MATHEMATICS	3
<b>Total Credits</b>		<b>77-79</b>

<sup>1</sup> Students may substitute the pre-medicine sequence of Chemistry for the fundamentals track of Chemistry outlined in this major.

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
BIOI 1000	INTRODUCTION TO BIOINFORMATICS (*)	3
CIST 1300 or CSCI 1200	INTRODUCTION TO WEB DEVELOPMENT (**) or COMPUTER SCIENCE PRINCIPLES	3
MATH 1950	CALCULUS I (***)	5

\*ENGL 1150/1154: Requires appropriate English placement.

\*\*CIST 1300 and CSCI 1200: either one requires MATH 1120 or MATH 1130 or MATH 1220 (or equivalent) with C- or better.

\*\*\*MATH 1950: Requires appropriate placement.

Credits		14
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 2030	DISCRETE MATHEMATICS (**)	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I (***)	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS (#)	3

*ENGL 1160: Requires ENGL 1150 or placement via EPPE or AP.	
**MATH 2030: Requires MATH 1950.	
***CIST 1400: Requires MATH 1320 or higher and CIST 1300, CSCI 1200, or CSCI 1280.	
#BIOI 2000: Requires BIOI 1000 or BIOL 1450.	

<b>Credits</b>	<b>15</b>
----------------	-----------

**Sophomore****Fall**

BIOL 1450	BIOLOGY I (*)	5
Humanities/Fine Arts + Global Diversity		3
BIOI 3000	APPLIED BIOINFORMATICS (**)	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II (***)	3

\*BIOL 1450: Requires high school biology.

\*\*BIOI 3000: Requires BIOI 2000 and CIST 1400.

\*\*\*CSCI 1620: Requires CIST 1400 with grade of C or better and MATH 1930 or MATH 1950 with grade of C- or better..

<b>Credits</b>	<b>14</b>
----------------	-----------

**Spring**

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (**)	5
BIOL 1750	BIOLOGY II (*)	5
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING (***)	3
CSCI 3320	DATA STRUCTURES (#)	3

\*CHEM 1140: Requires MATH 1220 or higher or appropriate ACT/SAT/Math Placement Exam within the last 2 years. Must take CHEM 1144 concurrently.

\*\*BIOL 1750: Requires BIOL 1450.

\*\*\*BIOI 3500: Requires BIOI 3000 and CSCI 1620. CSCI 3320 is strongly recommended but not required.

#CSCI 3320: Requires CSCI 1620 with a grade of C or better and CSCI 2030 or MATH 2030 or MATH 2230 with a grade of C- or better.

<b>Credits</b>	<b>16</b>
----------------	-----------

**Junior****Fall**

CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*)	5
BIOL 2140	GENETICS (**)	4
Social Science Course + US Diversity		3
BIOI 4860	BIOINFORMATICS ALGORITHMS (***)	3

\*CHEM 2210: Requires CHEM 1140 & 1144 with grade of C- or better. Must take CHEM 2214 concurrently.

\*\*BIOL 2140: Requires BIOL 1450 and BIOL 1750, as well as HEM 1140 or 1180. Must enroll in discussion.

\*\*\*BIOI 4860: Requires BIOI 3500 and CSCI 3320. BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required.

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (*)	3
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (**)	4

Elective (CSCI 4850 suggested)		3
BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	3

<b>Social Science course</b>	<b>3</b>
------------------------------	----------

\*BIOL 3020: Requires BIOL 2140 and at least one semester of general chemistry.

\*\*CHEM 3650: Requires CHEM 2210 & 2214 with grade of C- or better. Must enroll in CHEM 3654 concurrently.

\*\*\*BIOI 4870: Requires BIOI 3500 and CSCI 3320. BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required.

<b>Credits</b>	<b>16</b>
----------------	-----------

**Senior****Fall**

BIOL 4130 or BIOL 4140	MOLECULAR GENETICS (*) or CELLULAR BIOLOGY	4
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (**)	5

**OR ELECTIVE**

CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T (***)	3
Humanities/Fine Arts course#		3

\*BIOL 4130 or 4140: Requires BIOL 2140, BIOL 3020, and CHEM 2210/2214 or CHEM 2260/2274.

\*\*PHYS 1050: Requires high school algebra.

#CIST 2500: Requires MATH 1220 or higher.

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

BIOL 4560	BIOINFORMATICS INTERNSHIP (*)	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS (**)	3

<b>Social Sciences***</b>	<b>3</b>
---------------------------	----------

<b>Elective (BIOL 4760 suggested)</b>	<b>3</b>
---------------------------------------	----------

<b>Elective (BIOI 4890 suggested)</b>	<b>3</b>
---------------------------------------	----------

<b>Elective if needed#</b>	<b>0-2</b>
----------------------------	------------

\*BIOL 4560: Requires BIOL 2140, BIOI 3500, and permission of instructor.

\*\*CIST 3110: Counts as a Humanities/Fine Arts and required major course.

\*\*SS: Must be in a 2nd discipline.

#Students must have a minimum of 120 credits to graduate with no less than 27 credits of 3000/4000 level coursework throughout the entire degree. Electives may be needed to reach these minimums.

<b>Credits</b>	<b>15-17</b>
----------------	--------------

<b>Total Credits</b>	<b>120-122</b>
----------------------	----------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Biology

The biology degree allows students to explore biological topics that span the breadth of biology. A diverse selection of courses enable students to obtain a very broad expertise or to follow a specialized area of the discipline. The biology major prepares students for a wide range of career choices.

### Other Information

All coursework taken for the Biology major or minor must be completed with a grade of "C-" or better.

### Double Majors

For a double major in **Biology and Molecular and Biomedical Biology**, beyond BIOL 1450, BIOL 1750, BIOL 2140 and BIOL 3020, no other biology courses may count for both majors.

For a double major in **Biology and Bioinformatics**, beyond BIOL 1450, BIOL 1750, BIOL 2140, and BIOL 3020, no other biology courses may count for both majors.

For a double major in **Biology and Environmental Studies–Life Sciences**, students may not count the same 3000-4000 level Biology courses towards both majors. Double majors are required to take a minimum of 5 additional upper division BIOL courses that are not part of the other major. These courses must be approved by the advisor and at least three of these must be lab courses. BIOL 3150 may not count as part of these upper division courses.

For a double major in **Biology and Psychology or Biology and Neuroscience**, beyond the required fundamentals courses, students cannot use a 3000/4000 level course to count toward both majors.

For a double major in **Biology and Chemistry**, 3000/4000 level courses may count toward both majors. In cases where students are earning **two distinct degrees** (a BA and BS) with one major in Biology and the other in Chemistry, 3000/4000 level courses will **not** count toward both programs.

### Majors and Minors

For a major in **Biology and a minor in Psychology**, with the exception of PSYC 3130, students cannot use a 3000/4000 level course to count toward both programs.

For a major in **Neuroscience and a minor in Biology**, students cannot use a 3000/4000 level course to count toward both programs.

Students may not earn a **Molecular and Biomedical Biology major and a Biology minor**.

For a major in **Biology and minor in Chemistry**, 3000/4000 level courses may count toward both programs.

### Residency Requirement for Biology Majors

To fulfill degree requirements, upper level courses with labs need to be taken at UNO.

### Contact

114 Allwine Hall  
402.554.2641

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/biology/>)

### Degrees Offered

Students may choose to pursue a Bachelor of Arts in Biology or a Bachelor of Science in Biology. Each degree option requires at least 36 credits of biology courses of which 18 credits must be 3000-4000 level courses.

- Biology, Bachelor of Arts (p. 86)
- Biology, Bachelor of Science (p. 88)
- Biology, Bachelor of Science with a Concentration in Education (p. 91)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the biology major, the writing in the discipline requirement can be fulfilled by completing a sequence of approved biology courses at UNO that incorporate discipline specific writing as part of their requirements. To satisfy the requirement for the writing in the discipline course students must complete BIOL 1450 and BIOL 1750, two courses from BIOL 2140, BIOL 3020 and BIOL 3340 and two additional 3000/4000 level courses that are approved as meeting the writing requirement by the Department of Biology. Only courses taken at UNO and after January 1, 2010 can be applied to this requirement. Students not meeting the writing requirement through this sequence of courses will fulfill the writing requirement by completing BIOL 3150 or another college-approved advanced writing course.

### Minors Offered

- Biology Minor (p. 94)

Biology is broadly speaking the science of life (living and past) and it encompasses many specializations. The curriculum provides a foundation across the discipline along with the opportunity for in depth training in specialty areas in molecular and cell biology, animal and plant biology, genetics, and ecology. The curriculum emphasizes hands-on laboratory and research experiences.

- Laboratory Research Technician
- Genetic counselor
- Health communications
- Wildlife biologist
- Research scientist
- Technical writer
- Environmental consultant
- Health professions
- Educator

#### BIOL 1020 PRINCIPLES OF BIOLOGY (4 credits)

Principles of Biology introduces fundamental concepts at all levels of organization in biology. The laboratory emphasizes inquiry-based and problem-oriented approaches to these concepts. Must enroll in one laboratory. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** ENGL1150 placement by the English Placement and Proficiency Exam (EPPE), grade of C- or better in English 1050 or 1100, ACT English subscore of 20 or higher, or permission of the department.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 1060 INTRODUCTION TO MEDICAL CAREERS & ETHICS (2 credits)**

A general overview of modern healthcare professions, plus foundational career concepts which include vocational discernment, undergraduate preparation, healthcare ethics, HIPAA certification, challenges and opportunities in healthcare, and evidence-based medicine. An exploration of various careers in healthcare is included. Intended as a preparatory healthcare professional course. Usually offered during the Fall, Spring, and Summer semesters.

**BIOL 1160 TERMINOLOGY OF HUMAN HEALTH & DISEASE (2 credits)**

This completely online course is designed to help students learn clinical terminology in relation to human health and disease. The course will cover root words, terms, and phrases relating to human anatomy, disease conditions, and clinical procedures. The course will also serve as a survey of human diseases across all major organ systems, and common procedural diagnostics and treatments.

**BIOL 1330 ENVIRONMENTAL BIOLOGY (3 credits)**

This course is a study of human ecology with emphasis on the effects of human populations on the earth's resources and on the environment. Usually offered Fall, Spring, Summer.

**Distribution:** Natural/Physical Science General Education course

**BIOL 1350 SCIENCE OF FOOD (3 credits)**

A basic and applied science, general education course emphasizing scientific concepts in biology, chemistry and physics using food as a model. Students will study food from its chemical and nutritional perspectives and the fate of food from production to consumption. (Cross-listed with FSCI 1310).

**Distribution:** Natural/Physical Science General Education course

**BIOL 1450 BIOLOGY I (5 credits)**

First semester of a two semester series on the general principles of biology. Concepts including the chemical and physical basis of living systems, cell structure and function, energy and metabolism, genetics and molecular genetics, and evolution of biological diversity will be presented. Laboratory will provide inquiries into these same topics. Intended as the first course for Biology majors. Must enroll in one lab section. Usually offered Fall, Spring and Summer.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry. College level chemistry recommended.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 1750 BIOLOGY II (5 credits)**

Second semester of a two semester series on the general principles of biology. Introduction to the study of life, concentrating on whole organisms and their interactions with the environment. This course will focus on evolution and natural selection, biodiversity, physiologic responses to the environment, organ systems, population dynamics, community ecology, and energy and material flow through ecosystems. Laboratory will provide inquiries into these same topics. Intended as the second course for Biology majors. Must enroll in one lab section. Usually offered Fall, Spring and Summer.

**Prerequisite(s)/Corequisite(s):** Prerequisite is BIOL 1450. College level chemistry is recommended.

**BIOL 2030 INTRODUCTORY TOPICS IN BIOLOGY (3 credits)**

This is course is a lecture and/or laboratory course for Biology and non-Biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit if the topic differs.

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**BIOL 2060 ART AND SCIENCE OF MEDICAL DECISION-MAKING (3 credits)**

The course explores multiple facets of medical decision-making, including the perspective of the patient, the family, and the healthcare provider. Topics include basic anatomy and medical terminology, which will be used to understand decision-making in the context of the provider. Students use literature and other records to generate and critically evaluate clinical decisions. The course does not satisfy requirements for degree programs in the Department of Biology minor, BA, BS in Biology; BS in Biotechnology. (Cross-listed with MEDH 2060).

**Prerequisite(s)/Corequisite(s):** BIOL 1060 or concurrent.

**BIOL 2120 SUSTAINABLE LANDSCAPE PLANTS (4 credits)**

This course focuses on the identification of native and adapted landscape plants, including herbaceous perennials, groundcovers, vines, trees and shrubs in natural and urbanized landscapes. In addition, it covers the ecological and design contexts for the landscape roles, sustainable usage and management of identified plants in the Great Plains region. (Cross-listed with ENVN 2120)

**Prerequisite(s)/Corequisite(s):** High school biology

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 2140 GENETICS (4 credits)**

This course provides students with a foundational understanding of genetics. First, students will learn to analyze patterns of Mendelian inheritance. Then, they will develop molecular explanations for these patterns and understandings of how gene genes are defined and identified. They will also learn how variations in inheritance patterns arise, using analytical and statistical tools to distinguish between variations on inheritance patterns and to analyze quantitative traits. Then, students will focus in on the nucleus to examine the structure, organization, packaging, and inheritance of chromosomes. They will consider the consequences of genetic recombination on inheritance patterns and for genetic mapping.

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and 1750, CHEM 1140 or 1180 or the equivalent or permission of the instructor. Must enroll in discussion.

**BIOL 2440 THE BIOLOGY OF MICROORGANISMS (4 credits)**

An introduction to the structure and properties of different types of microorganisms, the importance of microorganisms to our society and our environment, the methods used to control microorganisms, the diseases caused by microorganisms and the defenses of the human body against microorganisms including immune cells. Must enroll in one lab section. Usually offered in Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry.

**BIOL 2740 HUMAN ANATOMY AND PHYSIOLOGY I (4 credits)**

This course is designed for students interested in human healthcare professions and anyone interested in learning about the structures and functioning of the human body. Material covered will include introductory terminology as well as the anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems and the special senses. Usually offered Fall, Summer.

**Prerequisite(s)/Corequisite(s):** High school or college biology or zoology and high school or college chemistry. Must enroll in one lab section.

**BIOL 2840 HUMAN ANATOMY AND PHYSIOLOGY II (4 credits)**

This course is designed for students interested in human healthcare professions and anyone interested in learning about the structures and functioning of the human body. Material covered will include the anatomy and physiology of the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems. Usually offered Spring, Summer.

**Prerequisite(s)/Corequisite(s):** BIOL 2740 or permission of instructor. Must enroll in one lab section.

**BIOL 3020 MOLECULAR BIOLOGY OF THE CELL (3 credits)**

A study of molecular and cellular biology. Topics to be covered include gene expression and regulation, structure and function of biological macromolecules, metabolism, membrane function and transport, and cell differentiation. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and at least one semester of general chemistry.

**BIOL 3100 INVERTEBRATE PALEONTOLOGY (3 credits)**

An introduction to the development of life through the study of the morphology, evolution and geological distribution of fossils. Must be taken concurrently with GEOL 3104/BIOL 3104. (Cross-listed with GEOL 3100.)

**Prerequisite(s)/Corequisite(s):** GEOL 1180. Must be taken concurrently with GEOL 3104/BIOL 3104.

**BIOL 3104 INVERTEBRATE PALEONTOLOGY LAB (1 credit)**

An examination of representative specimens of groups of organisms important in the fossil record and an introduction to analytical techniques in paleontology.

**Prerequisite(s)/Corequisite(s):** GEOL 1180 or permission; coreq BIOL 3100.

**BIOL 3150 WRITING AND COMMUNICATION IN THE BIOLOGICAL SCIENCES (3 credits)**

This is a course in writing for students majoring in the biological sciences. It is designed primarily to prepare students to report results of original research in a scientific, scholarly format. Topics will include scientific literature, the organization and presentation of data in biological reports, as well as the preparation of posters and oral presentations for scientific meetings. Usually offered Fall, Spring.

**Prerequisite(s)/Corequisite(s):** Biology major, junior or senior standing, ENGL 1150 and ENGL 1160 or equivalent.

**Distribution:** Writing in the Discipline Single Course

**BIOL 3240 INTRODUCTION TO IMMUNOLOGY (3 credits)**

An introduction to the fundamentals of immunology including the immune system, the immune response, humoral and cellular immunity, and antibodies. In addition, immunoassay, immunopathology, cancer immunology, and histocompatibility will be considered. Usually offered Fall and Spring.

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, 1750 and 2140 and junior-senior standing. Recommended: BIOL 3020. Not open to non-degree graduate students.

**BIOL 3340 ECOLOGY (4 credits)**

Study of interrelationships between organisms and their biotic and abiotic environment; includes the physical environment, population biology, community dynamics, biotic interactions and evolution. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 8345).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750, junior-senior. Must enroll in one lab section. Not open to non-degree graduate students.

**BIOL 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This is a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with GERO 3500, NEUR 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

**BIOL 3530 FLORA OF THE GREAT PLAINS (4 credits)**

A study of common vascular plants found in the Great Plains region, including identification, description, and classification techniques and an introduction to the plant communities of Nebraska. Usually offered every Fall and Summer. (Cross-listed with BIOL 8535.)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750 and junior-senior. Must enroll in lab.

**Distribution:** OBIOWRT3 - Tier III Biology Writing Course

**BIOL 3660 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN (3 credits)**

This course provides an overview of graphic techniques and process for landscape design; the analysis and conceptual design of the landscape; and the exploration of the design characteristics of plants, landform, and structures through discussion, case studies and applied design development. A focus on sustainable design components and applications is included, including native and adapted plant selection, stormwater management, water conservation, efficient irrigation concepts, and practical landscape management and maintenance considerations. (Cross-listed with ENVN 3660)

**Distribution:** Humanities and Fine Arts General Education course

**BIOL 3670 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY (1 credit)**

This course covers the basic use of graphic techniques for landscape design; the analysis and process for conceptual design of the landscape; studio problems in value, texture, form and space; and the exploration of the design characteristics of plants, landform, and structures supporting sustainable landscape design and management principles. (Cross-listed with ENVN 3670)

**Prerequisite(s)/Corequisite(s):** ENVN 3660 or BIOL 3660 (prior or concurrent).

**BIOL 3680 BIOLOGY OF AFRICA (3 credits)**

Biology of Africa (3) Introduction to the plants, animals, and habitats of Africa. Although other groups are included, this course will focus on the large mammals of east Africa and will pay particular attention to elephant reproduction and biology. Other topics include Serengeti migrations, hippos, lions and other large cats, reptiles, and human evolution. Usually offered alternate Spring semesters. (Cross-listed with BIOL 8685).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 or permission of the instructor

**BIOL 3730 FAUNA OF THE GREAT PLAINS (3 credits)**

A survey of the common animal groups found in the Great Plains, including their evolution, ecology, distribution and specific adaptations to the environment of the temperate North American grasslands. Must enroll in lab. Usually offered in alternate years. (Cross-listed with BIOL 8735).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750.

**BIOL 3800 ANATOMY ACADEMIC ASSISTANTSHIP PRACTICUM (1 credit)**

Assistantships for students participating in the Anatomy Academic Assistantship (AAA) program provide advanced Human Physiology and Anatomy students with the opportunity to apply their knowledge while gaining leadership and communication skills via the mentorship of current Human Physiology and Anatomy I and II students. Additionally, STEM service learning activities will be offered. This course is not intended to replace other biology courses required for degrees offered by the Department of Biology.

**Prerequisite(s)/Corequisite(s):** Students must have a cumulative GPA of 3.0 or above, a grade of B in BIOL 2740, and be accepted to the Anatomy Academic Assistantship (AAA) Practicum. Students must receive permission of instructor. Not open to non-degree graduate students.

**BIOL 3830 BIOLOGY OF PATHOGENIC MICROORGANISMS (3 credits)**

A study of the biology, epidemiology and pathogenicity of bacteria, viruses, fungi and protozoan, with emphasis on human pathogens. Usually offered in Spring semesters.

**Prerequisite(s)/Corequisite(s):** BIOL 2440 or 3240, or 2140 or the equivalent.

**BIOL 4030 SPECIAL TOPICS IN BIOLOGY (3 credits)**

A lecture and/or laboratory course for biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit. (Cross-listed with BIOL 8036).

**Prerequisite(s)/Corequisite(s):** Junior-senior, BIOL 1450 and BIOL 1750 with a grade of C- or higher.

**BIOL 4040 DIRECTED READINGS IN BIOLOGY (1-3 credits)**

A faculty directed study of a biological subject through selected readings, oral reports and a final written report. May be repeated up to a total of six hours for 4040 and 4050 combined.

**Prerequisite(s)/Corequisite(s):** Junior-senior and written permission of instructor.

**BIOL 4050 SUPERVISED RESEARCH IN BIOLOGY (1-3 credits)**

Completion of a faculty supervised research project involving experimental design, data collection and analysis, and a final written report. May be repeated up to a total of six hours of BIOL 4040 and BIOL 4050 combined.

**Prerequisite(s)/Corequisite(s):** Junior-senior and written permission of instructor.

**BIOL 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 8106, GEOG 4100, GEOG 8106, GEOL 4100, GEOL 8106)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**BIOL 4110 STATISTICS FOR BIOLOGICAL SCIENCES (4 credits)**

Introduction to statistical methods and software used to display, summarize, analyze, and interpret biological and medical data. (Cross-listed with BIOL 8116)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 and MATH 1220, MATH 1130, or MATH 1530

**BIOL 4120 CONSERVATION BIOLOGY (3 credits)**

Study of biological diversity at the genetic, species and ecosystem levels, its values, and the factors that threaten it. We will explore the scientific basis of conservation biology and how it can be applied to the maintenance of biological diversity. Usually offered every year. (Cross-listed with BIOL 8126).

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750, 2140 and Junior-Senior in biology. Not open to non-degree graduate students.

**BIOL 4130 MOLECULAR GENETICS (4 credits)**

A lecture and lab course that explores the frontiers of molecular genetics research. Topics addressed will include DNA replication, gene function, gene expression, genetic manipulation, cloning, mutational analysis, genome sequencing, and epigenetics. Research techniques will include DNA/RNA isolation, PCR, cloning, gel electrophoresis, transgene generation, data analysis, and quantitative rtPCR. Students will get a solid grounding in scientific writing and presentations, as well as reading and assessing primary scientific literature. Lecture, discussion, and laboratory. (Cross-listed with BIOL 8136)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2260; or their equivalents. Must enroll in one lab section.

**BIOL 4140 CELLULAR BIOLOGY (4 credits)**

This course is a modern study of mammalian cell function. Focus will be placed on developing skills in experimental cellular biology. Material covered will include tissue culture techniques, cell staining applications, fluorescent microscopy, determination of gene expression, and high-throughput assay design. (Cross-listed with BIOL 8146)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2250. Junior or senior undergraduate standing Must enroll in laboratory section and lecture for this course. Not open to non-degree graduate students.

**BIOL 4150 CANCER BIOLOGY (3 credits)**

The etiology of cancers, differences between types of malignancies, oncogenes and genetic modifiers, treatments, susceptibility, and tumor-induced immunosuppression are discussed. This is an active course focused on inquiry-based learning and the purpose of this course is to provide students a foundation in cancer biology while applying tools learned through cell biology, genetics, and immunology courses. (Cross-listed with BIOL 8156).

**Prerequisite(s)/Corequisite(s):** BIOL 3020 and BIOL 2140. Recommended: BIOL 3240.

**BIOL 4160 BIOINFORMATICS FOR BIOLOGISTS (3 credits)**

This course intends to introduce fundamental concepts in bioinformatics with an emphasis on how to use biological databases and computational tools to solve common bioinformatics problems in biology and biomedicine. The topics consist of sequence database access and searching, sequence alignment and phylogeny, functional prediction of DNA and protein sequences, and genome sequencing and annotation. Students are expected to learn fundamental concepts in bioinformatics and gain extensive experience with the use of bioinformatics analysis tools. (Cross-listed with BIOL 8166).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics; BIOL 3020 Molecular Biology of the Cell; Or Permission of instructor

**BIOL 4180 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 8186, ENVN 4180).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 4210 FIRE ECOLOGY (3 credits)**

Study of fire in ecosystems including characteristics of fire, effects on flora, fauna, and the abiotic environment, and use in maintaining native ecosystems. Includes an optional 4-day fieldtrip. Usually offered in alternate years. (Cross-listed with BIOL 8216)

**Prerequisite(s)/Corequisite(s):** BIOL 3340, junior-senior.

**BIOL 4220 POPULATION BIOLOGY (4 credits)**

Population biology takes a conceptual approach to study the dynamics, ecology, genetics, and evolution of populations. Topics include the growth and regulation of populations, population interactions, selection on individuals and groups, mating systems, and life history evolution. Implications of these topics for areas such as the ecology and evolution of disease, conservation, and resource management will be highlighted. Concepts are reinforced through labs emphasizing interpretation of results from population simulations and the relationship between theory and experimentation in population biology. Usually offered in alternate years. (Cross-listed with BIOL 8226).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and 3340, junior-senior, or permission of instructor

**BIOL 4230 EVOLUTION (3 credits)**

The course emphasizes the general principles of evolution, particularly focusing on evolutionary changes and the mechanisms of evolution (natural selection, gene flow, mutation and genetic drift) that apply to all or most organisms. The course covers micro- and macroevolution, speciation, and human evolution. Students will discover how scientists can learn about what has happened in the evolutionary past and the most common patterns of change (i.e., changes that have characterized various groups of organisms). (Cross-listed with BIOL 8236).

**Prerequisite(s)/Corequisite(s):** BIOL 2140, junior-senior. Not open to non-degree graduate students.

**BIOL 4240 MARINE BIOLOGY (3 credits)**

An introduction to the marine environment, this course explores physical conditions of the ocean including ocean chemistry, salinity, waves and currents, and tides as well as the ecology of planktonic, nektonic and benthic organisms— their communities and environments. Impacts of humans on the marine environment will also be covered. (Cross-listed with BIOL 8246)

**Prerequisite(s)/Corequisite(s):** BIOL 1750

**BIOL 4250 FIELD MARINE BIOLOGY (1 credit)**

This lab is a hands-on introduction to the marine environment using a field trip to the Gulf Coast. Students will observe first-hand examples of local marine habitats and organisms. Students will be required to take a trip to the Gulf Coast of Texas, Louisiana, Mississippi, and Alabama during Spring Break. Students will be required to provide their own basic camping and snorkeling gear. (Cross-listed with BIOL 8256)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, previous or concurrent enrollment in BIOL 4240 and permission of instructor.

**BIOL 4260 BEHAVIORAL ECOLOGY (3 credits)**

Behavioral ecology is the study of behavior from an evolutionary and ecological point of view. Through the integration of research at different organizational levels and the use of many different organisms, behavioral ecology is one of the most integrative fields in biological sciences. This course will provide an introduction to the basic concepts of behavioral ecology and the integrative approaches used in behavioral ecology. Further, the course will train students in critical reading and discussion of primary literature in writing and in an oral setting. (Cross-listed with BIOL 8266)

**Prerequisite(s)/Corequisite(s):** For BIOL 4260: BIOL 2140 Genetics and BIOL 3340 Ecology; or permission by the instructor. Not open to non-degree graduate students.

**BIOL 4270 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with BIOL 8276, PSYC 4270, PSYC 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**BIOL 4280 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with BIOL 8286, PSYC 4280, PSYC 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**BIOL 4290 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with NEUR 4290, BIOL 8296, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540 and BIOL 1750; or by permission of instructor. Not open to non-degree graduate students.

**BIOL 4320 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with BIOL 8326, PSYC 4320, PSYC 8326)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and either BIOL 1020 or 1750. Not open to non-degree graduate students.

**BIOL 4410 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with ENVN 4410 and BIOL 8416)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**BIOL 4420 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 8426, ENVN 4420)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing.

**BIOL 4440 PLANT PHYSIOLOGY (4 credits)**

A study of plant processes and functions with emphasis on photosynthesis, growth and development, metabolism and mineral nutrition. (Cross-listed with BIOL 8446)

**Prerequisite(s)/Corequisite(s):** BIOL1450, BIOL1750, and CHEM2210 or CHEM2250; or permission of instructor.

**BIOL 4450 VIROLOGY (3 credits)**

A comprehensive course about viruses. The course will address principles of viral infection, virus-host interaction, viral evolution and viral disease processes. Cellular and molecular aspects of viral infection will be the primary focus. This will include examination of viral particles, viral multiplication cycles, regulation of gene expression, viral assembly and viral escape. Viral immunology, viral defenses, viral vaccines and antiviral compounds will also be addressed. Emerging viruses and current viral topics will be a major part of the course. Usually offered in Fall semester. (Cross-listed with BIOL 8456)

**Prerequisite(s)/Corequisite(s):** Prerequisites are CHEM 2260 and 2274 or CHEM 2210 and 2214, BIOL 3020 and 2140. Recommended: Biochemistry.

**BIOL 4454 VIROLOGY LABORATORY (1 credit)**

A laboratory to accompany virology lecture. This course enables students to work with viruses in the laboratory and to conduct experiments using viral systems. Experimental design, data gathering, data analysis and manuscript writing will be integral parts of the course. The experiments include host cell characterization, viral infection, virus purification from infected cells, viral genome isolation and viral transfection. Sequence analysis and sequence comparison will also be introduced. Laboratory exercises will emphasize fundamental molecular biology techniques and instrumentation. Usually offered in Fall semester. (Cross-listed with BIOL 8454)

**Prerequisite(s)/Corequisite(s):** Biology 4450 - Virology is a prerequisite or co-requisite.

**BIOL 4460 COMPARATIVE IMMUNOLOGY (4 credits)**

This course is an exploration of comparative immunology across kingdoms. There will be a strong focus on human as well as mouse immunology. Laboratory sessions require dissections to determine lymphoid anatomy of representative organisms. Samples will be prepared and analyzed using immunological techniques such as flow cytometry. (Cross-listed with BIOL 8466).

**Prerequisite(s)/Corequisite(s):** BIOL 3240 or consent of the instructor. Two classroom sessions and one laboratory session per week. Permit code required to register. Not open to non-degree graduate students.

**BIOL 4490 MEDICINAL USES OF PLANTS (3 credits)**

A scientific study of the biochemical properties and physiological effects of medicinal plants, including their historical uses, current applications to varying systems of the human body, and pathways by which today's potent drugs have transitioned from wild flora. Usually offered Fall semesters of even-numbered years. (Cross-listed with BIOL 8496)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750 and junior-senior.

**BIOL 4540 PRINCIPLES OF SYSTEMATICS (3 credits)**

A thorough study of phylogenetics, including tree inference techniques, proper interpretation of evolutionary relationships and character evolution, and applications to investigations in various fields of study. Usually offered in fall semesters of odd-numbered years.

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750, junior-senior.

**BIOL 4550 MOLECULAR AND BIOMEDICAL BIOLOGY INTERNSHIP (3 credits)**

Practical laboratory experience for students in the bachelor's of science program in Molecular and Biomedical Biology. In consultation with the MBB adviser and principal investigators, students will select a research laboratory where they will carry out an independent investigation for one semester. Most placements will be at UNMC or UNO. Recommended: Biochemistry. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** Prerequisite of at least one 4000 level BIOL laboratory course.

**BIOL 4560 BIOINFORMATICS INTERNSHIP (1-3 credits)**

This course is a practical experience for students in the Bachelor of Science program in Bioinformatics. In consultation with the bioinformatics adviser and principal investigators, students will select a research laboratory and conduct an independent research project in bioinformatics for one or two semesters. Students will write a report describing their research methods, project implementation, and results. The course is limited to Bioinformatics majors and does not satisfy any requirements for other programs in the Department of Biology.

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics, BIOI 3500 Advanced Bioinformatics Programming, and Permission of Instructor. The course is for students in the Bachelor of Science program in Bioinformatics. Not open to non-degree graduate students.

**BIOL 4600 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 8606, ENVN 4600)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**BIOL 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. Cross-listed with ENVN 4610, GEOG 4610, GEOG 8616, GEOL 4610, GEOL 8616.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**BIOL 4640 MICROBIAL PHYSIOLOGY (4 credits)**

This course will cover the diversity in structures, genetics, metabolism, and regulation observed in microorganisms with a focus on bacteria. Usually offered Fall semesters. (Cross-listed with BIOL 8646).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140 and BIOL 3020 or equivalents. Not open to non-degree graduate students.

**BIOL 4650 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 8656, CHEM 4650, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. BIOL 4654 must be taken concurrently.

**BIOL 4654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 8654, CHEM 4654, CHEM 8654).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. BIOL 4650 must be taken concurrently with BIOL 4654. CHEM 4650 must be taken concurrently with CHEM 4654.

**Distribution:** Writing in the Discipline Sequenced Course

**BIOL 4660 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipids, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 8666, CHEM 4660, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654. BIOL 4664 must be taken concurrently.

**BIOL 4664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 8664, CHEM 4664, CHEM 8664).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654 with a C- or better. BIOL 4660 must be taken concurrently with BIOL 4664. CHEM 4660 must be taken concurrently with CHEM 4664.

**Distribution:** Writing in the Discipline Sequenced Course

**BIOL 4710 TOXICOLOGY (3 credits)**

An overview of the fundamentals of toxicology. Concepts include the dose-response relationship, absorption, distribution and excretion of toxicants, and the biotransformation of xenobiotics. Emphasis will be given to metals, pesticides, pharmaceutical compounds, chemical carcinogenesis and endocrine disruption. Usually offered Fall. (Cross-listed with BIOL 8716)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or 2260 and BIOL 1750, BIOL 3020 or equivalent.

**BIOL 4730 VERTEBRATE ENDOCRINOLOGY (3 credits)**

An overview of the fundamentals of vertebrate endocrinology. Concepts include: the mammalian hypothalamus-pituitary system, the endocrinology of mammalian reproduction, the mammalian adrenal glands, endocrine disruption, endocrinology and metabolism. (Cross-listed with BIOL 8736)

**Prerequisite(s)/Corequisite(s):** CHEM 2250, BIOL 1750, BIOL 3020 or equivalent.

**BIOL 4740 ANIMAL PHYSIOLOGY (3 credits)**

An overview of the fundamentals of animal physiology. Concepts include: the physiology of nerve and muscle function, endocrine function, cardiovascular and respiratory function, oxygen and carbon dioxide delivery by the blood, and osmoregulation and excretion. The course is comparative in nature, including examples from humans, mammals, vertebrates and invertebrate animals. Usually offered Spring. (Cross-listed with BIOL 8746).

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, and BIOL 2140 or permission of the instructor.

**BIOL 4760 GENOME TECHNOLOGY AND ANALYSIS (3 credits)**

This course will introduce the latest genome sequencing technologies and their broad applications in biology and medicine. Students will learn how genome sequencing is conducted by different platforms and obtain practical experience of how to use bioinformatics tools for genome analysis. Students are expected to be able to perform sequence analysis efficiently and interpret the results properly. (Cross-listed with BIOL 8766)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; or Permission of instructor

**BIOL 4780 VERTEBRATE ZOOLOGY (4 credits)**

A study of the general biology of the subphylum vertebrata including the morphology, anatomy, physiology and ecology of vertebrate representatives. (Cross-listed with BIOL 8786)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750, and junior-senior.

**BIOL 4790 MAMMALOLOGY (4 credits)**

The biology of mammals, including their evolution, functional morphology, physiology, ecology, zoogeography, behavior, classification and identification, with emphasis on North American groups. Field trips. Usually offered in alternate years. (Cross-listed with BIOL 8796)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, junior or senior standing. Must enroll in lab.

**BIOL 4800 INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING (1-3 credits)**

Internship providing practical experience working with environmental organizations or government agencies for students interested in careers in environmental science and related fields. A proposed internship must be approved by the Environmental Studies Program prior to enrolling. Usually offered Fall, Spring, Summer. (Cross-listed with ENVN 4800)

**Prerequisite(s)/Corequisite(s):** Permission of the Environmental Studies Program.

**BIOL 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, GEOG 8826, PA 8826).

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

**BIOL 4830 DEVELOPMENTAL GENETICS (2 credits)**

This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics. (Cross-listed with BIOL 8836)

**Prerequisite(s)/Corequisite(s):** Completion of, or concurrent registration in, BIOL 4850.

**BIOL 4840 HERPETOLOGY (4 credits)**

The biology of amphibians and reptiles, including their evolution, classification, anatomy, physiology, ecology, distribution and identification, with emphasis on North American groups. Methods for studying herptiles are examined. Usually offered in Spring semesters of even years. (Cross-listed with BIOL 8846).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 4850 DEVELOPMENTAL BIOLOGY (3 credits)**

This course explores principles underlying the development of multicellular organisms, stressing the environmental, genetic, molecular, cellular, tissue, and evolutionary mechanisms of animal development. Usually offered once per year. (Cross-listed with BIOL 8856)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, 1750, 2140, 3020, and CHEM 3650 or BIOL 4650 or CHEM 4650 and junior-senior status.

**BIOL 4860 COMPARATIVE GENOMICS (3 credits)**

This course will introduce fundamental concepts in genomics and genome comparison. Students will learn how genomes are constructed, how they evolve, how individual genomes are unique, and what genomic knowledge means in terms of human health and medicine. (Cross-listed with BIOL 8866)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; BIOL3020 Molecular Biology of the Cell; Or Permission of instructor. Not open to nondegree students.

**BIOL 4870 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 8876, NEUR 4870, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

**BIOL 4890 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, NEUR 8896, BIOL 8896, PSYC 8896).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, and BIOL 2140. Or by permission of instructor. Not open to non-degree graduate students.

**BIOL 4940 ENTOMOLOGY (4 credits)**

The study of insects, their classification, morphology, physiology, behavior, life histories, ecology and evolution. (Cross-listed with BIOL 8946)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, junior-senior.

**BIOL 4960 ADVANCED GENETICS (3 credits)**

An in-depth consideration of topics in genetic analysis. Through reading and discussion of primary and secondary literature in genetics, students will develop a deeper understanding of genetic principles, including mutation, recombination, complementation, gene regulation, the genetic structure of populations and the genetic contributions to complex traits, and how these principles and associated methodologies, including next-generation sequencing and high throughput "-omics" approaches, can be used to gain insight into fundamental biological questions. (Cross-listed with BIOL 8966).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and BIOL 3020 and concurrent enrollment or completion of either CHEM 3650 or CHEM 4610 or CHEM 4650 or BIOL 4650, or permission of the instructor.

**BIOL 4970 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 8976, ENVN 4970).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and junior or senior student status or above or instructor permission.

**BIOL 4980 ORNITHOLOGY (4 credits)**

An introduction to the general biology of birds, including their anatomy, physiology, behavior, ecology, classification and identification, with emphasis on North American groups. Usually offered in alternate years. (Cross-listed with BIOL 8986)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**Distribution:** OBIOWRT3 - Tier III Biology Writing Course

Biology, Bachelor of Arts

To obtain a BA with a major in Biology, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses–Most commonly, Biology majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often do the following:
  - Test out of at least three hours of fundamental academic skills,
  - Take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements,
  - Apply up to five hours of foreign language coursework toward meeting the nine-hour General Education humanities requirement,

- Meet the seven-hour University General Education natural sciences distribution requirement through completing major courses.

In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 25 or fewer.

- 16 hours foreign language requirement (Four years of a single language in high school or four college semesters will satisfy this requirement.)
- 12 hours college breadth requirement
- 51 hours of major courses
- Elective hours as required to reach a total of 120 hours

TOTAL HOURS: 120

Requirements

Code	Title	Credits
<b>Biology Requirements</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3340	ECOLOGY	4
The remaining 18 elective credits in biology should be chosen in consultation with a Biology advisor and must include at least 14 credits from BIOL 3000-4000 level courses, including at least one lab course (in addition to BIOL 3340). Up to three credits of BIOL 4030, up to three credits of either BIOL 4050 or BIOL 4800 and one credit of BIOL 4040 can be included. BIOL 3150 may not be used to satisfy the requirement for 3000-4000 level biology credits. Courses at the 1000-2000 level are restricted to:		18
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	
<b>Chemistry Requirements</b>		
Select one of the following required chemistry sequences:		14-16
Sequence 1:		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	
Sequence 2:		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	
CHEM 2250	ORGANIC CHEMISTRY I	
CHEM 2260	ORGANIC CHEMISTRY II	
CHEM 2274	ORGANIC CHEMISTRY LABORATORY	
Sequence 3:		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	

CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY

**Required Lecture and Lab Coursework in Physics**

Select one of the following pairings or groupings: 5-10

## Option 1:

PHYS 1050  
& PHYS 1054

INTRODUCTION TO PHYSICS  
and INTRODUCTION TO PHYSICS  
LABORATORY

## Option 2:

PHYS 1110  
& PHYS 1154

GENERAL PHYSICS I WITH ALGEBRA  
and GENERAL PHYSICS LABORATORY I

PHYS 1120  
& PHYS 1164

GENERAL PHYSICS  
and GENERAL PHYSICS LABORATORY II

## Option 3:

PHYS 2110  
& PHYS 1154

GENERAL PHYSICS I - CALCULUS LEVEL  
and GENERAL PHYSICS LABORATORY I

PHYS 2120  
& PHYS 1164

GENERAL PHYSICS-CALCULUS LEVEL  
and GENERAL PHYSICS LABORATORY II

**Additional Requirements**One approved course in statistics from the following options: 3-4  
BIOL 4110, STAT 3000, PSYC 3130, SOC 2130One approved math or computer science course from the 3-5  
following options: MATH 1220, 1320, 1330, 1340, 1930, 1940,  
1950; CSCI 1200 or above**Total Credits** 61-71**For a B.A., the college requires completion of a foreign language through the intermediate level.****Freshman**

		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1220	COLLEGE ALGEBRA (**)	3
BIOL 1450	BIOLOGY I (***)	5

\*ENGL 1150: requires placement via EPPE or AP.

\*\*MATH 1220: requires appropriate placement. Higher levels of Math may substitute. Please see your advisor for options.

\*\*\*BIOL 1450: counts as a Natural &amp; Physical Science Lecture and Lab course as well as a major requirement.

		Credits
<b>Spring</b>		14
ENGL 1160	ENGLISH COMPOSITION II (*)	3
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (**)	5
BIOL 1750	BIOLOGY II	5
Humanities and Fine Arts		3

\*ENGL 1160: requires ENGL 1150 with grade of C- or higher or placement via EPPE or AP.

\*\*There are other options for this major requirement – make sure you talk with an advisor before planning to take this class. The Physics requirement will satisfy the 2nd Natural and Physical Science requirement.

**Credits** 16**Sophomore****Fall**

CHEM 1140 or CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY (*) or FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
---------------------------	--	---

Foreign Language 1110^ 5

Humanities and Fine Arts 3

Social Science with US Diversity 3

\*CHEM 1140: Requires MATH 1220 or higher within last 2 years. ACT, SAT, AP or Math Placement Exam scores may substitute for the Math prereq to Chemistry 1140. Concurrent enrollment in CHEM 1144 required. There are other ways to complete this requirement – make sure to consult with an advisor before planning to take this class.

^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits** 16**Spring**

CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*)	5
--------------------------	---	---

BIOL 2140 GENETICS (\*\*) 4

Foreign Language course 1120 5

\*CHEM 2210: requires CHEM 1140-1144 or CHEM 1190-1194, either of which must be earned with a C- or better. CHEM 2214 to be taken concurrently. Please refer to your advisor or the catalog for other Chemistry options.

\*\*BIOL 2140: requires BIOL 1450 and 1750, as well as CHEM 1140 or 1180.

**Credits** 14**Junior****Fall**

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)	4
--------------------------	--	---

BIOL 3340 ECOLOGY (\*\*) 4

Foreign Language Course 2110 3

Elective\*\*\* 3

\*CHEM 3650: requires CHEM 2210-2214 or CHEM 2260-2274, either of which must be earned with a grade of C- or better. CHEM 3654 to be taken concurrently. Please refer to your advisor and the catalog for other Chemistry options.

\*\*BIOL 3340: requires BIOL 1450 and 1750; junior-senior standing or graduate student.

\*\*\*Students must have at least 120 total credits with no less than 27 upper level credits throughout their A&S degree. A minimum of 18 upper level credits are required within their major. Depending on options selected throughout degree, electives may need to be upper level in order to reach this minimum credit requirement.

Credits	14
<b>Spring</b>	
Upper-Level BIOL Elective no Lab**	3
Upper-Level BIOL Elective no Lab**	3
Statistics Course**	3
Foreign Language 2120	3
Social Science	3
*Upper-Level BIOL Electives cannot include BIOL 3150. Can include up to one of the following: BIOL 2440, BIOL 2740, or BIOL 2840. Prereqs vary.	
**Approved Statistics Courses: BIOL 4110, STAT 3000, PSYC 3130, SOC 2130. Placement is required.	

Credits	15
<b>Senior</b>	
<b>Fall</b>	
Upper-Level BIOL Elective + Lab*	4
Upper-Level BIOL Elective no Lab*	3
Social Science Course**	3
Additional Humanities/Fine Arts Course for A&S or Course towards Minor/2nd Major***	3
HIST 1000 or Minor/2nd Major Course#	3
*Upper-Level BIOL Electives cannot include BIOL 3150. Can include up to one of the following: BIOL 2440, BIOL 2740, or BIOL 2840.	
**Social Science course must be in a 2nd discipline	
***A&S College Requirement Options. Additional HFA course must be in a 3rd discipline.	
#A&S College Requirement Options	

Credits	16
<b>Spring</b>	
Upper-Level BIOL Elective no Lab*	3
Upper-Level BIOL Elective no Lab*	3
*Upper-Level BIOL Electives cannot include BIOL 3150. Can include up to one of the following: BIOL 2440, BIOL 2740, or BIOL 2840.	
Additional Social Science Course for A&S or Course towards Minor/2nd Major**	3
HIST 1010 or Minor/2nd Major Course***	3
Elective#	3
*Meets Advanced Writing requirement: see "purple sheet" from Biology advisors for list of writing-approved courses	
**A&S College Requirement Options. Additional Social Science course must be in a 3rd discipline.	
***A&S College Requirement Options.	
#Students must have at least 120 total credits with no less than 27 upper level credits throughout their A&S degree. A minimum of 18 upper level credits are required within their major. Depending on options selected throughout degree, electives may need to be upper level in order to reach this minimum credit requirement.	

Credits	15
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Biology, Bachelor of Science

To obtain a BS with a major in Biology, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses—Most commonly, Biology majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often do the following:
  - Test out of at least three hours of fundamental academic skills,
  - Take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements,
  - Meet the seven-hour University General Education natural sciences distribution requirement through completing major courses.
- In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.
- 12 hours college breadth requirement
- 51 hours of major courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

A total of at least 36 Biology credits is required. At least 18 of those 36 credits must come from upper-division biology courses (3000-4000 level).

Code	Title	Credits
<b>Required Courses in Biology Core</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 3340	ECOLOGY	4

#### Advanced Themes in Biology

Select one course from Group I and at least three courses from Group II (see below) to obtain at least 12 credits of advanced study beyond the Biology Core. Two advanced courses must have approved laboratories.

#### Cognate Requirements in Chemistry

Select one of the following required chemistry sequences: 14-16

Sequence 1:

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY
Sequence 2:	
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY
CHEM 2250	ORGANIC CHEMISTRY I
CHEM 2260	ORGANIC CHEMISTRY II
CHEM 2274	ORGANIC CHEMISTRY LABORATORY
Sequence 3:	
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY
<b>Cognate Requirements in Physics</b>	
Required Lecture and Lab Coursework in Physics	
Select one of the following pairings or groupings:	
Sequence 1:	
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY
Sequence 2:	
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II
Sequence 3:	
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II
<b>Math and Statistics</b>	
Complete at least one approved course in statistics and select 6 additional hours of approved courses in mathematics, statistics, or computer science from the following options–	
MATH 1220, 1320, 1330, 1340, 1930, 1940, and 1950; CSCI 1200 or above	
Approved courses in statistics:	
BIOL 4110	STATISTICS FOR BIOLOGICAL SCIENCES
STAT 3000	STATISTICAL METHODS I

PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES
SOC 2130	SOCIAL STATISTICS
<b>Total Credits</b>	
<b>61-68</b>	

**Group I**

Code	Title	Credits
<b>Structure and Function of Multicellular Systems</b>		
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
BIOL 4260	BEHAVIORAL ECOLOGY	3
BIOL/PSYC 4270	ANIMAL BEHAVIOR	3
BIOL/NEUR 4290	NEUROETHOLOGY	3
BIOL/PSYC 4320	HORMONES & BEHAVIOR	3
BIOL 4440	PLANT PHYSIOLOGY	4
BIOL 4710	TOXICOLOGY	3
BIOL 4730	VERTEBRATE ENDOCRINOLOGY	3
BIOL 4740	ANIMAL PHYSIOLOGY	3
BIOL 4830	DEVELOPMENTAL GENETICS	2
BIOL 4850	DEVELOPMENTAL BIOLOGY	3
BIOL/NEUR 4890	GENES, BRAIN, AND BEHAVIOR	3

**Group II**

Code	Title	Credits
<b>Cellular and Molecular Biology</b>		
BIOL 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS	3
BIOL 4130	MOLECULAR GENETICS	4
BIOL 4140	CELLULAR BIOLOGY	4
BIOL 4150	CANCER BIOLOGY	3
BIOL 4450	VIROLOGY	3
BIOL 4454	VIROLOGY LABORATORY	1
BIOL 4640	MICROBIAL PHYSIOLOGY	4
BIOL/CHEM 4650	BIOCHEMISTRY I	3
BIOL/CHEM 4654	BIOCHEMISTRY I LABORATORY	1
BIOL/CHEM 4660	BIOCHEMISTRY II	3
BIOL/CHEM 4664	BIOCHEMISTRY II LABORATORY	1
BIOL 4860	COMPARATIVE GENOMICS	3
BIOL/NEUR 4870	MOLECULAR AND CELLULAR NEUROBIOLOGY	3
BIOL 4960	ADVANCED GENETICS	3
<b>Structure and Function of Multicellular Systems</b>		
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
BIOL 4260	BEHAVIORAL ECOLOGY	3
BIOL/PSYC 4270	ANIMAL BEHAVIOR	3
BIOL/NEUR 4290	NEUROETHOLOGY	3
BIOL/PSYC 4280	ANIMAL BEHAVIOR LABORATORY	3
BIOL/PSYC 4320	HORMONES & BEHAVIOR	3
BIOL 4440	PLANT PHYSIOLOGY	4
BIOL 4710	TOXICOLOGY	3
BIOL 4730	VERTEBRATE ENDOCRINOLOGY	3
BIOL 4740	ANIMAL PHYSIOLOGY	3
BIOL 4830	DEVELOPMENTAL GENETICS	2
BIOL 4850	DEVELOPMENTAL BIOLOGY	3
BIOL/NEUR 4890	GENES, BRAIN, AND BEHAVIOR	3
<b>Biodiversity</b>		
BIOL/GEOL 3100	INVERTEBRATE PALEONTOLOGY	3
BIOL 3104	INVERTEBRATE PALEONTOLOGY LAB	1

BIOL 3530	FLORA OF THE GREAT PLAINS	4
BIOL 3730	FAUNA OF THE GREAT PLAINS	3
BIOL 4490	MEDICINAL USES OF PLANTS	3
BIOL 4780	VERTEBRATE ZOOLOGY	4
BIOL 4790	MAMMALOGY	4
BIOL 4840	HERPETOLOGY	4
BIOL 4940	ENTOMOLOGY	4
BIOL 4980	ORNITHOLOGY	4

**Ecology Evolution and Conservation Biology**

BIOL/GEOL/GEOG 4100	BIOGEOGRAPHY	3
BIOL 4120	CONSERVATION BIOLOGY	3
BIOL 4180	FRESHWATER ECOLOGY	4
BIOL 4210	FIRE ECOLOGY	3
BIOL 4220	POPULATION BIOLOGY	4
BIOL 4230	EVOLUTION	3
BIOL 4240	MARINE BIOLOGY	3
BIOL 4250	FIELD MARINE BIOLOGY	1
BIOL/ENVN 4410	WETLAND ECOLOGY AND MANAGEMENT	3
BIOL 4420	RESTORATION ECOLOGY	3
BIOL 4540	PRINCIPLES OF SYSTEMATICS	3

**Freshman**

		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1220	COLLEGE ALGEBRA (**)	3
BIOL 1450	BIOLOGY I (***)	5

\*ENGL 1150: requires placement via EPPE or AP.

\*\*MATH 1220: requires appropriate placement. Higher levels of Math may substitute. Please see your advisor for options.

\*\*\*BIOL 1450: counts as a Natural & Physical Science Lecture and Lab course as well as a major requirement.

**Credits** **14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II (*)	3
Humanities & Fine Arts		3
MATH 1320	PRE-CALCULUS ALGEBRA (**)	3
BIOL 1750	BIOLOGY II	5

\*ENGL 1160: requires ENGL 1150 with grade of C- or higher or placement via EPPE or AP.

\*\*MATH 1320: requires appropriate placement. Higher levels of Math may substitute. Please see your advisor for options.

**Credits** **14**

**Sophomore**

Chemistry Supporting Course I @	4-5
Approved Statistics Course #	3
Humanities/Fine Arts	3
Humanities/Fine Arts*	3
Social Science + US Diversity Course	3

@ Chemistry Supporting Course options - Sequence I: CHEM 1140+1144. Sequence II and III: CHEM 1180+1184. Either option satisfies the 2nd Natural & Physical Science requirement for the University.

@ CHEM 1140 requires MATH 1220 or higher within last 2 years and concurrent enrollment in CHEM 1144. CHEM 1180 requires MATH 1320 or higher within last 2 years and concurrent enrollment in CHEM 1184. Appropriate ACT, SAT, AP or Math Placement Exam scores may be used for Math proficiency toward CHEM prereqs. Please refer to your advisor for options.

# Approved Statistics Courses: BIOL 4110, STAT 3000, PSYC 3130, SOC 2130. Requires placement.

\*HFA must be in a second discipline.

**Credits** **16-17**

**Spring**

Chemistry Supporting Course II @	4-5	
BIOL 2140	GENETICS (*)	4
Social Science		3
HIST 1000 or Minor/2nd Major Course**		3

@ Chemistry Supporting Course options - Sequence I: CHEM 2210+2214. Sequence II and III: CHEM 1190+1194.

\*BIOL 2140: requires BIOL 1450 and 1750, as well as CHEM 1140 or 1180.

\*\*A&S College Requirement Options.

**Credits** **14-15**

**Junior****Fall**

Chemistry Supporting Course III @		3-5
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (*)	3
Social Science Course**		3
BIOL 3340	ECOLOGY (***)	4

@ Chemistry Supporting Course options - Sequence I and III: CHEM 3650+3654. Sequence II: CHEM 2250.

\*BIOL 3020: requires BIOL 2140 and CHEM 1180 or 1190.

\*\*SS course must be in a 2nd discipline.

\*\*\*BIOL 3340: requires BIOL 1450 and 1750; junior-senior standing or graduate student.

\*\*Students must have a minimum of 27 upper level credits throughout their A&S degree, with at least 18 upper level credits within their major. Depending on options selected throughout degree, electives may need to be upper level in order to reach this minimum credit requirement.

**Credits** **13-15**

**Spring**

Chemistry Supporting Course IV @ or Elective	3-5
Group II Course with Lab^	4
Additional Social Science for A&S or course towards Minor/2nd Major*	3
HIST 1010 or Minor/2nd Major Course**	3

@ Chemistry Supporting Course options - Sequence I: No Course. Sequence II: CHEM 2260+2274. Sequence III: CHEM 3650+3654.

^ See Catalog or "purple sheet" from Biology advisors for Group II course list.

\*A&S College Requirement Options. Additional SS must be in a 3rd discipline.

\*\*A&S College Requirement Options.

**Credits** **13-15**

**Senior****Fall**

Group II Course + Lab^ w	4
Physics Course I + Lab %	5
Group I Course^ w	3

**ELECTIVE\*\*** 3

Electives only if needed to reach 120

<sup>^</sup> See Catalog or "purple sheet" from Biology advisors for Group I and Group II course list.

w Meets Advanced Writing requirement: see "purple sheet" from Biology advisor for list of writing-approved courses

% Physics Course options – Sequence I: PHYS 1050+1054. Sequence II: PHYS 1110+1154.

\*\*Students must have a minimum of 27 upper level credits throughout their A&amp;S degree, with at least 18 upper level credits within their major. Depending on options selected throughout degree, electives may need to be upper level in order to reach this minimum credit requirement.

**Credits** 15**Spring**Group II Course<sup>^</sup> 3

Physics Course II + Lab % or Elective 0-5

Additional Humanities/Fine Arts for A&amp;S or course towards Minor/2nd Major or elective to reach 120\* 3

ELECTIVE\*\* 3

ELECTIVE\*\* 3

<sup>^</sup> See Catalog or "purple sheet" from Biology advisors for Group II course list.

% Physics Course options – Sequence I: No course. Sequence II: PHYS 1120:1164.

\*A&amp;S College Requirement Options. Additional HFA Must be in a 3rd discipline.

\*\*Students must have a minimum of 120 credits total with 27 upper level credits throughout their A&amp;S degree, and at least 18 upper level credits within their major. Depending on options selected throughout degree, electives may need to be taken at the lower or upper level in order to reach these minimum credit requirements in the different areas.

**Credits** 12-17**Total Credits** 111-122

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements: 2.0**

## Biology, Bachelor of Science with a Concentration in Education

To obtain a BS with a major in Biology with a concentration in Education, a student must fulfill university, College of Arts & Sciences, College of Education and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses—Most commonly, Biology majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often do the following:
  - Test out of at least three hours of fundamental academic skills,
  - Take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements,
  - Meet the seven-hour University General Education natural sciences distribution requirement through completing major and cognate courses.
- In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.
- 66 major hours
- Elective hours won't be needed. Total will be 132-133, more than the 120 credit minimum.

TOTAL CAS HOURS: 93-94

TOTAL COE HOURS: 39

### Requirements

A Bachelor of Science in Biology with a Concentration in Education requires a minimum of 37 credits of coursework in Biology. At least 18 Biology credits must be at the 3000 or 4000 level.

A minimum of 42 credits in the College of Education are required for the Concentration and state aligned certification requirements.

Code	Title	Credits
<b>Required Core Courses:</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
BIOL 3340	ECOLOGY	4
BIOL 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS	3
BIOL 4230	EVOLUTION	3

Code	Title	Credits
<b>Advanced Themes in Biology</b>		

Students must take at least one course, together with the associated laboratory, from one of the following groups to obtain at least 3 credits of advanced study beyond the Biology Core:

**Group I**

<b>Cellular and Molecular Biology</b>		
BIOL 4130	MOLECULAR GENETICS	4
BIOL 4140	CELLULAR BIOLOGY	4
BIOL 4450 & BIOL 4454	VIROLOGY and VIROLOGY LABORATORY	4
BIOL 4640	MICROBIAL PHYSIOLOGY	4

BIOL/CHEM 4650	BIOCHEMISTRY I (with the following lab)	3
BIOL/CHEM 4654	BIOCHEMISTRY I LABORATORY	1
BIOL/CHEM 4660	BIOCHEMISTRY II (with the following lab)	3
BIOL/CHEM 4664	BIOCHEMISTRY II LABORATORY	1

**Group II****Structure and Function of Multicellular Systems**

BIOL 4440	PLANT PHYSIOLOGY	4
BIOL 4850 & BIOL 4830	DEVELOPMENTAL BIOLOGY and DEVELOPMENTAL GENETICS (Developmental Genetics is the lab for Development Biology)	5

**Group III****Biodiversity**

BIOL/GEOL 3100	INVERTEBRATE PALEONTOLOGY (with the following lab)	3
BIOL/GEOL 3104	INVERTEBRATE PALEONTOLOGY LAB	1
BIOL 3530	FLORA OF THE GREAT PLAINS	4
BIOL 3730	FAUNA OF THE GREAT PLAINS	3
BIOL 4780	VERTEBRATE ZOOLOGY	4
BIOL 4790	MAMMALOGY	4
BIOL 4840	HERPETOLOGY	4
BIOL 4940	ENTOMOLOGY	4
BIOL 4980	ORNITHOLOGY	4

**Group IV****Ecology, Evolution, and Conservation Biology**

BIOL 4180	FRESHWATER ECOLOGY	4
BIOL 4220	POPULATION BIOLOGY	4
BIOL 4240 & BIOL 4250	MARINE BIOLOGY and FIELD MARINE BIOLOGY	4
BIOL 4410	WETLAND ECOLOGY AND MANAGEMENT	3

Code	Title	Credits
------	-------	---------

**Required Cognate Coursework in Chemistry**

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4

**Required Cognate Coursework in Physics**

PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	5
--------------------------	--	---

**Other Required Cognate Coursework**

MATH 1220	COLLEGE ALGEBRA	3
STAT 1530	ELEMENTARY STATISTICS	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4

**Required Education Coursework**

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12

Must pass: Praxis I Core (for Formal acceptance to EPP); Praxis II Content test require (at completion of endorsement)

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1220	COLLEGE ALGEBRA (**)	3
BIOL 1450	BIOLOGY I (***)	5
Social Science		3

\*ENGL 1150: requires placement via EPPE or AP.

\*\*MATH 1220: requires appropriate placement. Higher levels of Math may substitute. Please see your advisor for options.

\*\*\*BIOL 1450: counts as a Natural & Physical Science Lecture and Lab course as well as a major requirement.

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
BIOL 1750	BIOLOGY II	5
Humanities and Fine Arts		3
Social Science		3

\*ENGL 1160: requires ENGL 1150 with grade of C- or higher or placement via EPPE or AP.

Recommended: Begin studying for Praxis CORE Academic Skills.

**Credits 17**

**Summer**

PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)	5
--------------------------	---	---

\*PHYS 1110: requires MATH 1220 or higher or equivalent ACT, SAT or Math Placement Exam score.

**Credits 5**

**Sophomore****Fall**

TED 2100	EDUCATIONAL FOUNDATIONS (*)	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (**)	5
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4

\*TED 2100 and 2200: Requires 2.50 GPA. TED 2100 fulfills Advanced Writing Requirement.

\*\*CHEM 1140: requires MATH 1220 or higher, or appropriate ACT/SAT/Math Placement Exam within last 2 years. Must take CHEM 1144 concurrently.

Required: Apply for Educator Preparation Program at this time.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
BIOL 2140	GENETICS (**)	4
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (***)	5
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
**BIOL 2140: requires BIOL 1450 and 1750, as well as CHEM 1140 or 1180.		
***CHEM 2210: requires CHEM 1140-1144 or CHEM 1190-1194, either of which must be earned with a C- or better. CHEM 2214 to be taken concurrently. Please refer to your advisor or the catalog for other Chemistry options.		
Recommended but not required: Pass the Praxis CORE Academic Skills.		
<b>Credits</b>		<b>13</b>
<b>Summer</b>		
STAT 1530	ELEMENTARY STATISTICS (*)	3
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (**)	3
*STAT 1530: requires appropriate placement.		
**BIOL 3020: requires BIOL 2140 and CHEM 1180 or 1190.		
<b>Credits</b>		<b>6</b>
<b>Junior</b>		
<b>Fall</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE (*)	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
BIOL 4230	EVOLUTION (**)	3
Social Science with U.S. Diversity***		3
*TED 2400 and 2380 must be taken back-to-back, in either a Morning or Afternoon block.		
**BIOL 4230: requires BIOL 2140; junior-senior standing		
***SS must be in a 2nd discipline.		
Required: Pass Praxis CORE Academic Skills by the end of this semester.		
Required: Acceptance into Educator Preparation Program. Must have 2.75 GPA.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690	LITERACY AND LEARNING (*)	3
BIOL 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS (**)	3
BIOL 3240	INTRODUCTION TO IMMUNOLOGY (***)	3
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (#)	4
*TED 3550 and TED 3690 must be taken back-to-back, in either a Morning or Afternoon block.		
**BIOL 3830: requires BIOL 2440 or 3240 or 2140. BIOL 4644 may be taken concurrently.		
***BIOL 3240: requires BIOL 1450, 1750 and 2140. Requires junior standing. Recommended: BIOL 3020.		

#CHEM 3650: requires CHEM 2210-2214 or CHEM 2260-2274, either of which must be a minimum grade of C-. CHEM 3654 must be taken concurrently.		
<b>Credits</b>		<b>16</b>
<b>Summer</b>		
BIOL 3340	ECOLOGY (*)	4
Humanities and Fine Arts/Global Diversity		3
*BIOL 3340: requires BIOL 1450 and 1750; junior-senior standing or graduate student.		
<b>Credits</b>		<b>7</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (*)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES (*)	3
Advanced Themes Biology course w/lab		3-4
Humanities/Fine Arts**		3
*SPED 3800: Must be taken concurrently with TED 4000 or TED 3550		
**HFA must be in a 2nd discipline.		
Recommended but not required: Pass Praxis II.		
<b>Credits</b>		<b>12-13</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (*)	12
*Candidates must complete all course work, have a minimum cumulative GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing), and be accepted into Clinical Practice.		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>132-133</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate ontime (four years for an undergraduate degree), you need to take 30 hours each year. Information based on the 2021-2022 catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** Cumulative 2.5 GPA for Educator Preparation Program initial acceptance, cumulative 2.75 GPA for formal admission and graduation.

**Graduation Requirements:** Students must have a cumulative GPA of at least 2.75, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

# Biology Minor

## Requirements

A minor in biology requires a minimum of 21 semester credit hours. All courses counted toward a minor in biology must be applicable toward a major in biology. Students may not earn a Biology minor and a Molecular and Biomedical Biology major.

Students majoring in neuroscience or psychology may not count any upper-division biology courses toward both disciplines.

Required hours include:

Code	Title	Credits
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140 or BIOL 3340	GENETICS ECOLOGY	4
In addition, at least 7 credit hours of courses at the 3000- or 4000-level are required. At least one of the 3000- or 4000-level courses must have a laboratory; BIOL 3340 (Ecology) laboratory may not be used to fill this requirement. Students transferring biology credits are required to take a minimum of two 3000 or 4000-level courses at UNO.		7
<b>Total Credits</b>		<b>21</b>

## Black Studies

The central mission of the Black Studies program is to prepare students to critically understand, conduct research concerning, and interpret the complex histories, societies, and cultures of people of African descent in the United States, Africa, and the Diaspora. We situate this knowledge within a general discourse concerning what it teaches us about the totality of the human experience.

## Other Information

All coursework taken for the Black Studies major or minor must be completed with a grade of "C-" or better.

Majors and minors in BLST are not allowed to receive departmental credit towards that designation for courses they complete on either a Credit/No Credit, Audit, or Satisfactory/Unsatisfactory basis. In such cases, students will be asked to add additional BLST coursework to their academic curriculum as surrogates for the number of hour credits earned under such alternative arrangements.

## Upper Division Course Contingency

In the event that an insufficient number of courses are available at the upper division level for a student to complete a major or minor, the chair of the department may, at his or her discretion, accept alternative departmental courses, external courses dealing with subject matter related to the major or minor or external experiences in course settings like internships, study abroad, and/or community engagement as acceptable for meeting the requirements.

## Assessment

As part of its assessment program, the Department requires the following of majors:

- Each major must complete at least one community-based activity consisting of a study abroad, service learning, and/or internship experience under the appropriate department course numbers.
- Each major must select one paper from their 3000 or 4000 level courses as their major departmental project.

- Specifications for all of these assessment requirements are available from the department.

## Student Groups

Black Studies student groups cater to the interests of majors and minors as well as other students interested in the field of Black Studies and membership is open to all students.

## Contact Information

184 Arts and Sciences Hall

Phone 402.554.2412

Fax 540.554.3883

Email: [unoblackstudies@unomaha.edu](mailto:unoblackstudies@unomaha.edu)

Facebook: [facebook.com/unoblackstudies](https://facebook.com/unoblackstudies)

Twitter: <https://twitter.com/unoblackstudies> (<https://twitter.com/unoblackstudies/>)

Website (<http://www.unomaha.edu/blst/>)

## Degrees Offered

- Black Studies, Bachelor of Science (p. 98)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Black Studies major, this is BLST 3700 or another approved course.

## Minors Offered

- Black Studies Minor (p. 100)

The central mission of the Department of Black Studies at the University of Nebraska-Omaha is to prepare students to conduct inter- and multidisciplinary research on topics involving histories, societies, cultures and cultural productions of Africana people (Continental and Diasporic Africans and their descendants); and to employ theoretical and methodological tools drawn out of the Africana experience in addressing relevant natural and social issues across the globe on behalf of humanity.

- Business, Entrepreneurship, Marketing
- Cultural Resources Manager
- Education
- Government
- Law & Criminal Justice
- Literature
- Media & Journalism
- Medicine & Health
- Performing Arts & Entertainment
- Politics
- Professor
- Religion
- Social & Community Services
- Visual & Decorative Arts

## BLST 1000 INTRODUCTION TO BLACK STUDIES (3 credits)

BLST 1000 provides students with an overview of African culture and history and the black Diaspora. A key component of this course is to interrogate the meanings and dimensions of slavery and colonialism, and their continuing political, social and cultural implications. Approaches essentially include historical examination of African and African American societies and cultures from pre-colonial and slavery periods to the present.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**BLST 1050 CLASSICAL AFRICAN CIVILIZATIONS (3 credits)**

Classical African Civilization is an introductory survey of the civilizations of Africa and African people prior to 1500 C.E., with emphasis on the evolution of the peoples and nations, their civilizations, and the rise and fall of indigenous states. In particular, this course will cover the classical civilizations of Kemet (Ancient Egypt), Nubia, Axum, Carthage, Ghana, Mali, and Songhay. (Cross-listed with HIST 1050)

**Distribution:** Global Diversity General Education course

**BLST 1260 SURVEY OF BLACK LITERATURE (3 credits)**

This course will give students a general background in black literature and will encourage them to take advanced courses in this field. It consists of black literature not only in the U.S. but also in the West Indies and Africa. The main themes common to the black experience will be analyzed through an interesting study of some of the major works of some important black writers.

**BLST 1340 INTRODUCTION TO CONTEMPORARY AFRICA (3 credits)**

A survey of the geography, population and cultural traditions of contemporary Africa. Economic, political, cultural and social changes in the second half of the 20th century, including the problems and the struggle for national integration and economic adjustments will also be examined.

**BLST 1950 BLACK WOMEN IN AMERICA (3 credits)**

This course will examine how Black women in America have evolved politically, economically, and socially under oppressive conditions of slavery, the Reconstruction Era, Jim Crow, and through the Civil Rights, Black Lives Matter, and "Me Too" Movements. The underlying themes of this course are the impact of gender and race on Black women, with an emphasis of how gender and race are fueled by white supremacy, patriarchy, colonialism, capitalism, and imperialism. (Cross-listed with WGST 1950)

**Distribution:** U.S. Diversity General Education course

**BLST 2100 BLACK AMERICAN CULTURE (3 credits)**

The course surveys the cultural forms, expressions, and patterns developed by African Americans, as well as the social contexts of their development. The course will introduce students to the cultural life of African Americans, and how that life has influenced the nature of the community, and its triumphs and tragedies in the larger socio-political context of U.S. American culture.

**Distribution:** U.S. Diversity General Education course

**BLST 2110 CRITICAL ISSUES IN BLACK EDUCATION (3 credits)**

Critical Issues in Black Education is an undergraduate course which provides students with foundational knowledge of the historical, legal, social, political, and economic conditions influencing pedagogical and epistemological experiences that impact educational opportunities of Black students.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or Sophomore standing or permission of the instructor

**Distribution:** U.S. Diversity General Education course

**BLST 2120 HISTORY OF MODERN AFRICA (3 credits)**

This course covers the era of the beginning, development and decline of European colonialism in Africa. The movement for decolonization, the emergence of independent sovereign nations and the strategic role that Africa plays in the forum of industrialized and developed nations is investigated. It examines the impact of alien cultures on traditional Africa, and the struggle for a resolution of the conflict between the three major traditions on the continent - the Islamic, Western and Indigenous. (Cross-listed with HIST 2920).

**BLST 2130 AFRICAN POLITICS (3 credits)**

African Politics examines the socio-cultural and economic environments which characterize political life in contemporary Africa. This course examines contemporary African politics and government in post-independence Africa, and the pre-colonial political and economic systems which influence contemporary African politics. The course assesses the various approaches used to study the political development of the African continent; examines the processes, features, and institutions of the African states; addresses key and persistent issues about African politics; and examines dimensions of social change and political reform. (Cross-listed with PSCI 2130).

**Distribution:** Global Diversity General Education course

**BLST 2210 THE BLACK FAMILY IN THE UNITED STATES (3 credits)**

Analysis of historical, social, and institutional and comparative elements of family life in the United States with particular emphasis on social science theory.

**Prerequisite(s)/Corequisite(s):** BLST 1000.

**BLST 2260 BLACK SHORT STORY (3 credits)**

A study of short stories written by black American authors as literature and as experience. The course explains and defines cultural terms and practices, and attempts to prepare students for multicultural living. (Cross-listed with ENGL 2260.)

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2350 AFRICAN AMERICAN LITERATURE 1746-1939 (3 credits)**

This course traces the development of black literature from 1746 to 1939. Included will be a study of multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied will include early black writers, neoclassic and romantic traditions, and the Harlem Renaissance and Depression era schools of thought. (Cross-listed with ENGL 2350).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**BLST 2360 AFRICAN AMERICAN LITERATURE 1940-PRESENT (3 credits)**

This course traces the development of the literary contribution that black Americans have made from 1940 to the present. The course will study multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied include an evolution in resistance in writing, a movement toward literary assimilation in the 1940s-1950s, and the subsequent movement toward "Black Arts" from the 1960s to the present. (Cross-listed with ENGL 2360).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or instructor permission

**BLST 2410 AFRICAN AMERICAN HISTORY I: TO 1865 (3 credits)**

The course examines the history of the earliest Africans in the Americas and briefly examines traditional African societies. It covers the transatlantic slave trade and its effects on Europe, Africa and the Americas, and analyzes the development of Afro-American culture and the struggle for freedom. (Cross-listed with HIST 2040)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**BLST 2420 AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN (3 credits)**

A survey of Afro-American history from the Civil War to the present. Covers Reconstruction and its overthrow, including the new methods of control which replaced slavery. Discusses the development of black ideologies and institutions. Traces urban migration and its impact on black society and culture. Follows black progress through World War II, the 1954 Supreme Court Decision, and rising militancy. (Cross-listed with HIST 2050)

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2430 AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY (3 credits)**

This course is divided into three main parts: the Civil Rights Phase (1954-1963), during which the dominant mood was optimism over the possibilities of integration; the Black Power Phase (1963-1974), and the Pragmatist Phase (1972-present), characterized by attempts to preserve and maintain gains already won. (Cross-listed with HIST 2060)  
**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2510 MUSIC AND THE BLACK EXPERIENCE (3 credits)**

The course will examine the origin and deeper meanings of black music as cultural history of Africans and people of African descent.

**BLST 2550 BUSINESS AND ECONOMICS IN AFRICAN AMERICAN COMMUNITIES (3 credits)**

This course traces the evolution of African American business and economic development systems in the U.S. and will examine historical economic and political influences which impact African American business communities. Students will be exposed to various aspects of African American business and economics, including Black entrepreneurship and Black owned businesses before, during, and after slavery; an analysis of the role of Black churches in African-American communities; and the impact of modern economic and political systems on African American business communities. (Cross-listed with ENTR 2550).

**Distribution:** U.S. Diversity General Education course

**BLST 2700 AFRICAN PHILOSOPHY (3 credits)**

This course explores ancient, traditional and contemporary philosophical/theological concepts and doctrines of Africans through an investigation of their cosmological, metaphysical, ontological and ethical world views.

**BLST 2710 AFRICANA WORLDVIEWS (3 credits)**

This course presents the basic elements of the Africana worldview, which focuses on African centered theories of knowledge and ways of being. Africana theories are contrasted with classical Eurocentric theories of knowledge and being, with the focus on explaining why these differences are significant to the discipline of Black Studies.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or permission of the instructor.

**BLST 2730 RELIGION AND THEOLOGY IN AFRO-AMERICA (3 credits)**

Examines the development of the black church in America from the period of the First Great Awakening and investigates and analyses the theological foundation, the nature and source of Afro-American religious expression.

**Distribution:** Humanities and Fine Arts General Education course

**BLST 2830 CONTEMPORARY NOVEL (EMPHASIS ON BLACK WRITERS) (3 credits)**

A study of some of the most important ideas and techniques of the novel as genre, using primarily the black-authored novel.

**BLST 2900 AFRICAN CIVILIZATION - THE MIDDLE PERIOD (3 credits)**

This course traces the development of African History from the beginning of the Civilization of Ghana (800 B.C.) to the period of European exploration of Africa (mid 15th century). It examines the main achievements, events and individuals in the Empires of Ghana, Mali, Songhay, Zimbabwe, etc. (Cross-listed with HIST 2900)

**BLST 3000 SURVEY OF BLACK EDUCATION (3 credits)**

History of black education starting from its early origins in Timbuktu, Egypt and Ethiopia through the American black experience. Impact on western civilization. Black colleges and universities: the black scholar and the community. Contributions of black scholars to general knowledge. Myth of black intellectual inferiority. From interest to disenchantment. Role of educational institutions in American society. Proposed models for coping with urban education.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or permission of instructor.

**BLST 3030 GEOGRAPHY OF AFRICA (3 credits)**

The political, physical, economic and demographic features of Africa with emphasis on the effect of these factors in development. The major features of the broad geographical regions of Africa.

**Prerequisite(s)/Corequisite(s):** Junior.

**BLST 3120 THE AFRICAN AMERICAN EXPERIENCE IN POLITICS (3 credits)**

This course will provide a historical and contemporary survey of the African American political experience in the United States, from the passage of the 15th Amendment in the late 1800s, to the 1965 Voting Rights Act, and continuing into the 21st century. Students will examine the evolution of the Black political experience, with emphasis on the fight against enslavement, segregation, lynchings and mass incarceration, and the long struggle of African Americans against institutional and structural racism in the American political system. (Cross-listed with PSCI 3120).

**Prerequisite(s)/Corequisite(s):** BLST 1000

**Distribution:** U.S. Diversity General Education course

**BLST 3200 BLACK NATIONALISM AND PAN AFRICANISM (3 credits)**

A study of the development of movements for self-determination in Afro-America and an analysis of various nationalistic conceptual frameworks in the Diaspora and on the Continent. (Cross-listed with BLST 8205)

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2410, or permission of instructor.

**BLST 3400 ISSUES IN BLACK COMMUNITIES (3 credits)**

Focusing primarily on urban areas, this course will analyze the roles of municipal, state, and federal governments in African American communities. Various political, educational, economic, cultural and social aspects of those communities will be analyzed. Data from specific examples of such communities throughout the U.S. will be examined, and their strategies for engaging the larger social-environmental contexts will be explored.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing or permission of the instructor.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**BLST 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with CRCJ 3410, PSCI 3410).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR CRCJ 1010 OR Junior standing OR instructor permission.

**Distribution:** U.S. Diversity General Education course

**BLST 3500 ECONOMIC DEVELOPMENT IN AFRICA (3 credits)**

This course traces the evolution of modern African economic systems. Methods of production, distribution, and exchange are examined. There will also be a survey of the processes and problems of colonial economic exploitation to post-independence underdevelopment. The nature of economic development, planning, regional cooperation, international trade and foreign aid will be critically analyzed.

**Prerequisite(s)/Corequisite(s):** BLST 2130 and BLST 3030 or GEOG 3030 or junior.

**BLST 3510 CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA (3 credits)**

This course examines ways in which cultural identity is communicated through African-American cinema, defined as movies with predominantly African American filmmakers, producers, and/or actors. Cultural communication is integrated with historical, political, and social motivation for African-American cinema. (Cross-listed with CMST 3510)

**Prerequisite(s)/Corequisite(s):** Sophomore standing and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**BLST 3700 CRITICAL WRITING FOR CULTURAL STUDIES (3 credits)**

Critical Writing for Cultural Studies (BLST 3700) is a Writing in the Disciplines (WID) course that prepares undergraduate students, whose fields of interest include any area of humanities and/or social sciences, for the specific writing styles and research methodologies expected in cultural studies disciplines. This preparation includes instruction in resource evaluation, organization strategies, sentence style and vocabulary, documentation styles, and revision strategies.

**Prerequisite(s)/Corequisite(s):** ENGL 1164 or by permission of the instructor.

**Distribution:** Writing in the Discipline Single Course

**BLST 3750 ISSUES IN BLACK LITERATURE (3 credits)**

This course is designed to provide a forum for consideration of critical issues in black literature. An examination of some of the theoretical issues in black aesthetics will be undertaken, including: the role of the black artist as purposeful agent and guardian of image; the role of literature in the black community; and the audience. Recent trends in the black novel will be studied, especially the emergence of contemporary African writers as modern technicians of language and literary form through the development of new forms from old narrative ones.

**Prerequisite(s)/Corequisite(s):** BLST 1260 and BLST 2360 or permission.

**BLST 3920 BLACK AESTHETICS (3 credits)**

This is a critical study of the theories of artistic beauty and their application in the poetic, fictional and dramatic works of Afro-Americans from the 18th century to the present. Special attention will be paid to the role of the black artist in American society.

**Prerequisite(s)/Corequisite(s):** BLST 1260 or permission of instructor.

**BLST 3970 INTERNSHIP IN BLACK STUDIES (1-3 credits)**

A department-supervised project involving part-time employment or service with a community agency, business, non-profit organization, university or other educational unit, or another appropriate organization or setting. Students will gain relevant practical experience and will integrate theory, concepts, and empirical knowledge from their classrooms with their work in the internship setting. Permission of department head and/or Internship Coordinator and completion of an internship project form required.

**Prerequisite(s)/Corequisite(s):** Completion of BLST 1000, enrollment either as a BLST major or minor or as a BGS concentration in BLST, permission of Department Head and/or Internship Coordinator and completion of an internship project form.

**BLST 3980 SPECIAL TOPICS IN BLACK STUDIES (3 credits)**

Intensive research into specific but unrelated topics germane to the black experience. Since the topics are of a variable nature, this course may be repeated for credit as long as the topics are different.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**BLST 3990 COMMUNITY STUDY PROJECT (3 credits)**

Designed for the student to do field work in a community-based project in the areas of housing, education or social services.

**Prerequisite(s)/Corequisite(s):** Junior or above, or permission of instructor.

**BLST 4030 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 8036, RELI 4030, BLST 8036).

**BLST 4090 BLACK STUDIES ORAL HISTORY (3 credits)**

The focus of this course is to examine the methods, procedure, transcription and use of oral history in black studies research. Emphasis will be directed toward describing and evaluating the variables of memory, history and cultural authority to produce written source materials collected from oral interviews. (Cross-listed with BLST 8096).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2100, BLST 2430 or permission of the instructor.

**BLST 4120 BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS (3 credits)**

This course studies scholarship on race, gender, and leadership with a specific focus on African and African descended women's roles in liberation movements in the U.S. and worldwide. Especial focus will be on the use of their personal narratives to analyze the wide range of ideas in the conception and execution of leadership. (Cross-listed with WGST 4120)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**BLST 4150 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with BLST 8156, PSYC 4150, PSYC 8156).

**Prerequisite(s)/Corequisite(s):** BLST 1000 and Junior standing or Instructor permission

**BLST 4260 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms used to portray woman. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on male literary experiences. (Cross-listed with BLST 8266)

**Prerequisite(s)/Corequisite(s):** Black studies major or permission of instructor.

**BLST 4580 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with BLST 8586, CMST 4580, CMST 8586)

**Prerequisite(s)/Corequisite(s):** CMST 4530 or Junior standing or instructor permission; minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**BLST 4590 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 8596, MUS 4590, BLST 8596).

**Prerequisite(s)/Corequisite(s):** Music major standing or permission of instructor.

**BLST 4650 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 8656, HIST 4070, HIST 8076, LLS 8656).

**Prerequisite(s)/Corequisite(s):** BLST 1000 and junior standing or permission of instructor

**Distribution:** U.S. Diversity General Education course

**BLST 4710 BROWN V. BOARD OF EDUCATION (3 credits)**

Brown v. Board of Education traces the educational history of African Americans from segregation to desegregation to re-segregation. This course will review the legal cases before and after the Supreme Court's Brown decision, their aftermath, and the effects on educational policies and practices. (Cross-listed with BLST 8716).

**Prerequisite(s)/Corequisite(s):** For undergrad/grad, ONE or ALL of the following courses must be taken as prerequisite: BLST 1000, CRCJ 1010, BLST/CRCJ 3410. Must have Junior standing OR permission of instructor.

**Distribution:** U.S. Diversity General Education course

**BLST 4750 CRITICAL QUANTITATIVE RESEARCH METHODS (3 credits)**

This online undergraduate/graduate course is a comprehensive source for foundational concepts in quantitative behavioral research. The course is designed to expose students to the role and importance of critical quantitative research of marginalized and underrepresented groups. Students will examine and gain definitional and empirical knowledge about conducting culturally relevant quantitative research and will learn both the logic behind and procedures for critical quantitative research, including research ethics, correlational and experimental designs, data collection, sampling, analysis, and reporting. (Cross-listed with BLST 8756).

**Prerequisite(s)/Corequisite(s):** PSYC 3140 or Junior standing or instructor permission.

**BLST 4880 SEMINAR ON BLACK LEADERSHIP IN AMERICA (3 credits)**

Designed as a senior and graduate seminar, this course will examine the meaning and attributes of effective leadership. The role of black leadership in the African American experience will be examined. Profiles of selected African American leaders and their political strategies also will be analyzed in the seminar. (Cross-listed with BLST 8886).

**Prerequisite(s)/Corequisite(s):** Senior or graduate student or instructor permission.

**BLST 4900 INDEPENDENT STUDY (1-3 credits)**

This course is designed for those students who are capable of pursuing, independently, an area of Black Studies that is not covered under the existing curriculum. The student will be supervised by a member of the BLS department. All course assignments, requirements, and expectations will be clearly indicated in advance. May be repeated for credit, up to six hours, under a different topic.

## Black Studies, Bachelor of Science

The central mission of the Black Studies program is to prepare students to critically understand, conduct research concerning, and interpret the complex histories, societies, and cultures of people of African descent in the United States, Africa, and the Diaspora. We situate this knowledge within a general discourse concerning what it teaches us about the totality of the human experience.

### Other Information

All coursework taken for the Black Studies major or minor must be completed with a grade of "C-" or better. Courses taken on a Credit/No Credit, Audit, or Satisfactory/Unsatisfactory basis may not go toward the Black Studies major or minor. In such cases, students will be asked to add

additional BLST coursework to their academic curriculum as surrogates for the number of hour credits earned under such alternative arrangements.

### Upper Division Course Contingency

In the event that an insufficient number of courses are available at the upper division level for a student to complete a major or minor, the chair of the department may, at his or her discretion, accept alternative departmental courses, external courses dealing with subject matter related to the major or minor or external experiences in course settings like internships, study abroad, and/or community engagement as acceptable for meeting the requirements.

### Assessment

As part of its assessment program, the Department requires the following of majors:

- Each major must complete at least one community-based activity consisting of a study abroad, service learning, and/or internship experience under the appropriate department course numbers.
- Each major must select one paper from their 3000 or 4000 level courses as their major departmental project.
- Specifications for all of these assessment requirements are available from the department.

### Student Groups

Black Studies student groups cater to the interests of majors and minors as well as other students interested in the field of Black Studies and membership is open to all students.

### Contact Information

184 Arts and Sciences Hall

Phone 402.554.2412

Fax 540.554.3883

Email: [unoblackstudies@unomaha.edu](mailto:unoblackstudies@unomaha.edu)

Facebook: [facebook.com/unoblackstudies](https://www.facebook.com/unoblackstudies)

Twitter: <https://twitter.com/unoblackstudies> (<https://twitter.com/unoblackstudies/>)

Website (<http://www.unomaha.edu/blst/>)

To obtain a B.S. with a major in Black Studies, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 12-19 hours college breadth requirement
- 48 hours of major courses
- 7-14 hours of electives

TOTAL HOURS: 120

### Requirements

The Black Studies department currently offers a major leading to the B.S. degree. Black Studies majors must complete 33 hours of course work in the discipline.

Students are required to complete 15 hours of cognate coursework outside of Black Studies. Cognates are designed by the student in consultation with the undergraduate advisor.

Code	Title	Credits
<b>Core Curriculum:</b>		
BLST/HIST 1050	CLASSICAL AFRICAN CIVILIZATIONS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
BLST 2100	BLACK AMERICAN CULTURE	3

BLST 2410	AFRICAN AMERICAN HISTORY I: TO 1865	3
BLST 2710	AFRICANA WORLDVIEWS	3
<b>Total Credits</b>		<b>15</b>

The remaining 18 hours shall be selected from upper division departmental courses (3000 and 4000 level). BLST 3980 and BLST 4900 may each be selected twice.

### Freshman

<b>Fall</b>		<b>Credits</b>
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
Humanities & Fine Arts / Global Diversity Course		3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Natural & Physical Sciences/lab		4
*ENGL 1150 requires appropriate placement.		
<b>Credits</b>		<b>16</b>

### Spring

BLST 1050	CLASSICAL AFRICAN CIVILIZATIONS	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (*)	3
or MATH 1220	or COLLEGE ALGEBRA	
or MATH 1130	or QUANTITATIVE LITERACY	
or STAT 1100	or DATA LITERACY AND VISUALIZATION	
or STAT 1530	or ELEMENTARY STATISTICS	
SOCIAL SCIENCE		3
HIST 1000	WORLD CIVILIZATIONS I (OR MINOR/DOUBLE MAJOR COURSE**)	3
*ENGL 1160 requires ENGL 1150 with grade of C- or higher or appropriate placement.		
*Some Math/Stats courses require placement. Please consult with your advisor.		
**CAS College Requirement		
<b>Credits</b>		<b>15</b>

### Sophomore

<b>Fall</b>		
BLST 2410	AFRICAN AMERICAN HISTORY I: TO 1865	3
Natural & Physical Science from 2nd discipline		3
Humanities & Fine Arts from 2nd discipline		3
Social Science from 2nd discipline		3
HIST 1010	WORLD CIVILIZATIONS II (OR MINOR/DOUBLE MAJOR COURSE**)	3
** CAS College Requirement Options		
<b>Credits</b>		<b>15</b>

### Spring

BLST 2100	BLACK AMERICAN CULTURE	3
Social Science from 3rd discipline OR Minor/Double Major course**		3
Natural Science w/Lab OR Minor/Double Major Course**		3-4
Quantitative Literacy course OR Minor/Double Major Course**		3
Humanities & Fine Arts from 3rd discipline OR Minor/Double Major Course**		3
**CAS College Requirement Options		
<b>Credits</b>		<b>15-16</b>

### Junior

#### Fall

BLST 2710	AFRICANA WORLDVIEWS	3
B.S. Cognate course		3
B.S. Cognate course		3
Elective or Minor/Double Major Course*		3
Elective or Minor/Double Major Course*		3
*Students need 27 credits throughout their degree at the 3000/4000 level. Electives and/or cognate courses may need to be selected at the 3000-4000 level.		
<b>Credits</b>		<b>15</b>

#### Spring

Upper division BLST elective		3
Upper division BLST elective		3
B.S. Cognate course		3
B.S. Cognate course		3
Elective or Minor/Double Major Course*		3
*Students need 27 credits throughout their entire degree taken at the 3000-4000 level. Electives and/or cognate courses may need to be selected at the 3000-4000 level to reach this minimum.		
<b>Credits</b>		<b>15</b>

### Senior

#### Fall

Upper division BLST elective		3
Upper division BLST elective		3
B.S. Cognate course		3
Elective or Minor/Double Major Course**		3
Elective or Minor/Double Major Course**		3
** Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. Students may need to select 3000/4000 level free electives to reach those specific minimums.		
<b>Credits</b>		<b>15</b>

#### Spring

BLST 3700	CRITICAL WRITING FOR CULTURAL STUDIES	3
Upper division BLST elective		3
Elective or Minor/Double Major Course*		3
Elective or Minor/Double Major Course*		3
Elective or Minor/Double Major Course*		2-3
*Students need 120 credits minimum for a bachelor's degree.		
*Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.		
<b>Credits</b>		<b>14-15</b>

**Total Credits 120-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Black Studies Minor Requirements

A Black Studies minor may be obtained by successful completion of fifteen (15) credits of course work, of which at least nine (9) hours must be composed of upper division (3000 and 4000 level) departmental courses.

## Chemistry

The Department of Chemistry, which is approved by the American Chemical Society (ACS), offers both Bachelor of Science (B.S.) and Bachelor of Arts (B.A.) degrees. Students can choose among three B.S. degree options. The B.S. degree in Chemistry is designed for majors planning to be industrial or government chemists, planning to pursue a graduate degree in chemistry or biochemistry, or considering professional degrees in fields such as medicine. The B.S. degree with Concentration in Medicinal Chemistry is designed for students interested in health fields, graduate programs in life sciences or professional study such as pharmacy or medicine. The B.S. degree with Concentration in Education is designed for students planning to teach high school chemistry or plan to teach at a more advanced level and want to develop their teaching skills as part of their undergraduate education. The B.A. degree is appropriate for chemical technologists and pre-professional students, particularly fields other than the health sciences.

## Other Information

Students working toward a degree in Chemistry or a Chemistry minor must earn a grade of "C-" or better in all courses used to fulfill Chemistry major or minor requirements. A GPA of 2.0 or higher in chemistry and cognate courses is required to graduate with a Chemistry major or minor.

The department highly encourages students to engage in undergraduate research with a faculty mentor. Students can start undergraduate research with CHEM 2950 or CHEM 4950 depending on their background and the needs of their faculty supervisor.

To make room for students making regular academic progress, those students who have been enrolled in a course three or more times: 1) will not be allowed to enroll prior to the first week of classes; and 2) will need permission of the instructor to enroll.

High school students who have successfully completed advanced high school chemistry courses (AP and/or IB) and are considering a modified course of study should consult with the department.

## Student Groups

The Department of Chemistry has an active student led Chemistry Club. For more information visit (<https://www.unomaha.edu/college-of-arts-and-sciences/chemistry/student-opportunities/student-organizations.php>)

## Contact Information

337 Durham Science Center  
402.554.2651

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/chemistry/>)

## Degrees Offered

- Chemistry, Bachelor of Arts (p. 104)
- Chemistry, Bachelor of Science (p. 106)
- Chemistry, Bachelor of Science with a Concentration in Medicinal Chemistry (p. 111)
- Chemistry, Bachelor of Science with a Concentration in Chemistry Education (p. 108)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their discipline. For the chemistry major, this is NSCI 3940 along with any two of the following courses: CHEM 3354, CHEM 3364, CHEM 4654, CHEM 4664, or another approved course.

### Minors Offered

- Chemistry Minor (p. 113)

Love chemistry? Take the challenge and become a chemistry major! A career in chemistry is exciting. Most of our graduate majors go to professional schools (medical, dental and pharmacy schools and other health related careers), some pursue graduate schools, and the rest land a job in industry. Companies that hire chemists include pharmaceutical companies, bulk commodity chemical companies, food manufacturers, personal, and household care product companies, and some of our students enjoy their teaching in the K-12 schools!

Career options include, but are not limited to

- Professional (medical doctor, nursing, pharmacy, and dentistry);\*
- Professor after graduate schools;\*
- Lab Chemist
- Lab Technician
- Quality Assurance Specialist
- Science Teacher

\*Advanced Degree Required

### CHEM 1010 CHEMISTRY IN THE ENVIRONMENT AND SOCIETY (3 credits)

A study of modern society's impact on our environment and the chemistry needed to understand it. The primary focus is the underlying chemistry of the effects of energy production and properties of fuels while including social, political and economic connections. Impacts on air and water quality, climate change, and fossil fuels are discussed. Additional course topics may also include the ozone layer, plastics, medicine and nutrition. (Fall, spring) Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 with a grade of C- or better or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

### CHEM 1014 CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY (1 credit)

Laboratory for CHEM 1010, a survey of the relationship of chemistry to current problems in environmental control, medicine, technology and energy production. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 1010 to be taken concurrently or completed previously with grade of C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1120 STRATEGIES IN CHEMICAL PROBLEM SOLVING (2 credits)**

This course focuses on the development of problem solving skills and learning strategy tools in the context of first semester college chemistry topics. It is primarily intended for students seeking a stronger background before enrolling in CHEM 1140 or CHEM 1180. However, the content should be valuable for a variety of courses. Not available for natural science credit, nor intended to meet chemistry requirements for other programs. (Fall)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 with C- or better or equivalent. MATH 1310 or MATH 1220 may also be taken concurrently. Not open to non-degree graduate students.

**CHEM 1140 FUNDAMENTALS OF COLLEGE CHEMISTRY (4 credits)**

A comprehensive introduction to the basic principles of chemistry. This course is intended for all students needing a one-semester introductory course with laboratory including allied health students continuing to CHEM 2210, or those seeking a stronger background before enrollment in CHEM 1180. (Fall, spring, possibly summer). Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1220 or equivalent within last two years (C- or better); or ACT Math subscore of at least 23 within last two years; or ALEKS/Accuplacer score of at least 4 within last two years. CHEM 1144 concurrent or prior with C- or better.

**Distribution:** Natural/Physical Sci General Education lecture

**CHEM 1144 FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (1 credit)**

Laboratory explorations of chemical measurements, modeling, reactions and analyses. To be taken with CHEM 1140. (Fall, spring, possibly summer).

**Prerequisite(s)/Corequisite(s):** CHEM 1140 concurrent or prior with C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1170 GENERAL CHEMISTRY I-II (5 credits)**

Intended for students with significant backgrounds in chemistry, the course is a combination of CHEM 1180 and CHEM 1190 completed in one semester. This course also includes a lab section. During lecture, the following topics will be covered: introductory quantum theory, electronic structures, bonding theory, gas laws, solution properties and reactions, acid-base theory, ionic equilibria, complexation, oxidation-reduction, thermodynamics and kinetics. The laboratory will include the introduction of basic laboratory skills and scientific experimental design.

**Prerequisite(s)/Corequisite(s):** MATH 1330 or equivalent in the last two years (C- or better); OR ACT Math subscore of 26 in the last two years; OR ALEKS/Accuplacer score of at least 6 in the last two years; AND AP chemistry exam score 3 or greater; OR instructor permission.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**CHEM 1180 GENERAL CHEMISTRY I (3 credits)**

A comprehensive survey of chemical principles; the first course in a two-semester sequence primarily for majors and those in the sciences. It is assumed that students will have a good background in elementary chemical principles. CHEM 1184 normally to be taken concurrently. (Fall, Spring, Summer) Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1320 or equivalent in last two years (C- or better); OR CHEM 1140 in last two years (C- or better); OR ACT Math subscore of 25 in last two years; OR ALEKS/Accuplacer score of at least 5 in last two years. CHEM 1184 concurrent/prior (C- or better).

**Distribution:** Natural/Physical Sci General Education lecture

**CHEM 1184 GENERAL CHEMISTRY I LABORATORY (1 credit)**

A laboratory program designed to enhance laboratory skills and illustrate chemical principles. (Fall, Spring, Summer) Fulfills a University General Education Natural/Physical Science requirement.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 concurrent or prior with a grade of C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1190 GENERAL CHEMISTRY II (3 credits)**

A study of acid-base theory, ionic equilibria, complexation, oxidation-reduction, thermodynamics and kinetics. CHEM 1194 to be taken concurrently. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and 1184 with a grade of C- or better AND Math 1320. Concurrent enrollment in CHEM 1194.

**CHEM 1194 GENERAL CHEMISTRY II LABORATORY (1 credit)**

Quantitative analysis and study of solution equilibria. Includes statistics applied to quantitative analysis. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and 1184 with a grade of C or better or department recommendation of advanced placement. Prereq or coreq: CHEM 1190 (if prereq must be with a grade of C or better).

**CHEM 2210 FUNDAMENTALS OF ORGANIC CHEMISTRY (4 credits)**

Chemistry 2210 is a course on basic organic chemistry, a one-semester course designed primarily for students in biology, elementary science education, and allied health fields.

**Prerequisite(s)/Corequisite(s):** CHEM 1140 and CHEM 1144, or CHEM 1190 and CHEM 1194 with a grade of C- or better in each. CHEM 2214 to be taken concurrently.

**CHEM 2214 FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (1 credit)**

Elementary organic chemistry laboratory to be taken concurrently with CHEM 2210. This course is for students in biology (non-premed, non-pre-dental tracks), elementary education and allied health majors.

**Prerequisite(s)/Corequisite(s):** CHEM 1140 and CHEM 1144, or CHEM 1190 and CHEM 1194 with a grade of C- or better in each. CHEM 2210 to be taken concurrently.

**CHEM 2250 ORGANIC CHEMISTRY I (3 credits)**

The fundamental chemistry of carbon compounds. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C- or better.

**CHEM 2260 ORGANIC CHEMISTRY II (3 credits)**

A continuation of the foundational study of the compounds of carbon. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2250 with a grade of C- or better, obtained within the prior twelve months. CHEM 2274 concurrent or prior with a grade of C- or better.

**CHEM 2274 ORGANIC CHEMISTRY LABORATORY (2 credits)**

A laboratory course in the skills and techniques of experimentation in organic chemistry. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 1194 with a grade of C- or better and CHEM 2260 concurrent or prior with C- or better.

**CHEM 2400 QUANTITATIVE ANALYSIS (3 credits)**

Theory of quantitative analysis applied to gravimetric and volumetric analysis; theory of error and evaluation of analytical data; introduction to instrumental analysis and separation methods. (Fall)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C or better or equivalent. CHEM 2404 to be taken concurrently.

**CHEM 2404 QUANTITATIVE ANALYSIS LAB (1 credit)**

Laboratory application of principles of quantitative analysis and experience with sample preparations, titrations, and instrumental methods of analysis. Use of reaction chemistry, separations, and spectrophotometry in determinations. Introduction to quality control. (Fall)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C- or better or equivalent. CHEM 2400 to be taken concurrently.

**CHEM 2500 INTRODUCTION TO INORGANIC CHEMISTRY (3 credits)**

A survey of the inorganic chemistry of metallic and nonmetallic species, including atomic, molecular and crystal structures, composition, properties and reactivities. (Spring).

**Prerequisite(s)/Corequisite(s):** CHEM 1190 with a grade of C- or better.

**CHEM 2930 APPLIED TOPICS IN CHEMISTRY (1-3 credits)**

More thorough examination of a chemistry topic than in the regular curriculum. Content (e.g. polymers, forensics, brewing and cooking, chemical industry, historical chemistry, art and chemistry, glassblowing) will vary with offering.

**Prerequisite(s)/Corequisite(s):** Completion 4 credit hours of university chemistry with grade(s) of C+ or better, or 8 CH of chemistry with grades of C or better.

**CHEM 2950 INTRODUCTION TO RESEARCH IN CHEMISTRY (1 credit)**

This course is intended to give students, possessing at least a high school background in chemistry, the opportunity to work with faculty and/or advanced students on an established research project. The creativity and communication expectations of these students will be less than for students enrolled in the 4000 level research courses. Guided laboratory/library work on an established research project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**CHEM 3030 ENVIRONMENTAL CHEMISTRY (3 credits)**

This course connects fundamental chemical principles to processes observed in the environment. The environmental processes studied may or may not be anthropogenic in nature and will include every environmental domain (air, water, soil/minerals/rocks) and interactions between domains.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and CHEM 1184, CHEM 1190 and CHEM 1194, CHEM 2400 and CHEM 2404, or consent of the instructor

**CHEM 3210 INTRODUCTION TO MOLECULAR MODELING (3 credits)**

The course covers the advantages and limitations of current modeling systems, the criteria for choosing the appropriate modeling system to best solve a given problem and the computer resources needed to conduct the modeling experiments. Following an introduction to the theory behind a variety of modeling systems, students model organic and bioorganic compounds in projects designed to mimic real world applications. (Alternate Spring semesters). (Cross-listed with CHEM 8215).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a grade of C- or better.

**CHEM 3350 PHYSICAL CHEMISTRY I (3 credits)**

A presentation of selected topics from the areas of classical thermodynamics and electrochemistry. (Fall) (Cross-listed with CHEM 8355).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2274, CHEM 2400, CHEM 2404, PHYS 2120; MATH 1960. (Chemistry courses must be with a grade of C or better). Concurrent enrollment in CHEM 3354.

**CHEM 3354 PHYSICAL CHEMISTRY I LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in thermodynamics, kinetics and electrochemistry, to be taken concurrently with CHEM 3350/8355.

Instruction and practice in scientific writing is also an emphasis of the course. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Fall. (Cross-listed with CHEM 8359)

**Prerequisite(s)/Corequisite(s):** CHEM 2404, CHEM 2274; Coreq: CHEM 3350.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 3360 PHYSICAL CHEMISTRY II (3 credits)**

A presentation of selected topics from the areas of quantum mechanics, spectroscopy, kinetics and statistical mechanics. (Spring) (Cross-listed with CHEM 8365).

**Prerequisite(s)/Corequisite(s):** CHEM 3350 and CHEM 3354 with a grade of C- or better.

**CHEM 3364 PHYSICAL CHEMISTRY II LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in quantum mechanics, computational chemistry, spectroscopy, and kinetics, to be taken concurrently with CHEM 3360. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Spring. (Cross-listed with CHEM 8369).

**Prerequisite(s)/Corequisite(s):** CHEM 3350 and 3354 with a grade of C- or better, to be taken concurrently with CHEM 3360.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 3424 SPECTROMETRIC CHARACTERIZATIONS (1 credit)**

Laboratory course involving the use of spectrometric instrumentation for the identification of compounds containing organic functional groups. (Fall, alternate years) (Cross-listed with CHEM 8429).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2274, CHEM 2400 and CHEM 2404 with a grade of C or better.

**CHEM 3514 INORGANIC PREPARATIONS (1 credit)**

Laboratory preparation and characterization of representative types of inorganic compounds by various standard and special techniques. (Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2274, CHEM 2400, CHEM 2404, CHEM 2500 with a grade of C- or better.

**CHEM 3610 PRINCIPLES OF BIOCHEMISTRY FOR THE HEALTH SCIENCES (3 credits)**

This course covers the introduction of biochemistry, biomolecules, and metabolism. It is primarily intended for students entering allied health fields.

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or CHEM 2260 with a C- or better. Not open to non-degree graduate students.

**CHEM 3650 FUNDAMENTALS OF BIOCHEMISTRY (3 credits)**

A survey of biochemistry emphasizing: cell structure, energy, and water; amino acid and protein structure/function, enzymes, and protein isolation; carbohydrates and carbohydrate metabolism (glycolysis, glycogen metabolism); aerobic metabolism (citric acid cycle and oxidative phosphorylation); lipids, membranes, transport, cholesterol, and lipid metabolism; and nucleic acids. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 and CHEM 2214 or CHEM 2260 and CHEM 2274 with a grade of C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 3654 must be taken concurrently.

**CHEM 3654 FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in the fundamentals of biochemistry lecture with the development of biochemical laboratory skills including data analysis. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 and CHEM 2214 or CHEM 2260 and CHEM 2274 with a grade of C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 3650 must be taken concurrently.

**CHEM 3710 ESSENTIALS OF MEDICINAL CHEMISTRY (3 credits)**

This course is an introduction to human drug discovery, mechanism of action, metabolism, and drug-drug interaction, while demonstrating the interdisciplinary nature of medicinal chemistry. An emphasis is placed on drug design, drug structure, and the relationship of structure to drug action and metabolism. (Spring)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CHEM 2260/ CHEM 2274 with a grade of C- or better.

**CHEM 4230 ADVANCED ORGANIC CHEMISTRY - SYNTHESIS (3 credits)**

An advanced lecture course in modern theories and organic reactions with application to synthesis. (Alternate Fall semesters) (Cross-listed with CHEM 8236).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 with a grade of C- or better.

**CHEM 4240 ADVANCED ORGANIC CHEMISTRY - MECHANISM (3 credits)**

An advanced lecture course in organic chemical reactions. (Cross-listed with CHEM 8246).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2400 with a C- or better

**CHEM 4250 ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING (4 credits)**

Presentation of advanced topics in organic chemistry focused on structure, bonding and reaction mechanisms. The use of molecular modeling software as means to predict structure, relative stabilities and reaction thermodynamics are covered in a hands-on environment. The course will survey various modeling methods and show its relevance to molecular orbital theory. The basic methodologies used to explore organic mechanisms are presented and then used to study mechanistic details of various reaction types. Students cannot count both Chem 4250 and Chem 4240 toward their degree. (Cross-listed with CHEM 8256).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a C- or better

**CHEM 4310 POLYMER CHEMISTRY (3 credits)**

An introduction to the chemical and physical properties of polymers. Emphasis will be on physical properties and structure/property relationships. Topics will include kinetics and synthesis. Students will gain an understanding of the characteristics of polymers and their applications.

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 3350, each with a grade of C- or better, or instructor permission. Not open to non-degree graduate students.

**CHEM 4400 INSTRUMENTAL ANALYSIS (3 credits)**

Study of instrumentation for use in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 8406).

**Prerequisite(s)/Corequisite(s):** CHEM 3360, CHEM 3364 and CHEM 3414 with a grade of C or better. Concurrent enrollment in CHEM 4404.

**CHEM 4404 INSTRUMENTAL ANALYSIS LABORATORY (1 credit)**

Use of instrumentation in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 8409).

**Prerequisite(s)/Corequisite(s):** CHEM 3360, CHEM 3364, CHEM 3414 with a grade of C or better. Concurrent enrollment in CHEM 4400.

**CHEM 4500 ADVANCED INORGANIC CHEMISTRY (3 credits)**

The application of bonding models for understanding of the composition, structure, and reactions of inorganic molecules, including organometallic and bioinorganic complexes. (Cross-listed with CHEM 8506).

**Prerequisite(s)/Corequisite(s):** CHEM 2500 and CHEM 3350 with a grade of C- or better. CHEM 3350 may be taken concurrently.

**CHEM 4510 SOLID STATE INORGANIC CHEMISTRY (3 credits)**

A study of the structural and electronic basis of materials properties in the solid state. Properties examined include electrical conductivity, ferromagnetism, ferroelectricity, and superconductivity. Some experimental work will be conducted.

**Prerequisite(s)/Corequisite(s):** CHEM 2500 and CHEM 3350 with a grade of C- or better; or permission of instructor.

**CHEM 4540 GEOCHEMISTRY (3 credits)**

This course will cover the application of chemical principles to geologic systems. Specific topics covered will include the origin of elements and their distribution in the earth, geochronology, stable isotope systems, aqueous geochemistry and crystal chemistry. These topics will be integrated to the study of igneous, metamorphic and sedimentary rocks and ore deposits.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, MATH 1950, CHEM 1190 and GEOL 2750 or CHEM 2500 (chemistry courses must have a grade of C or better)

**CHEM 4610 BIOCHEMISTRY OF METABOLISM (4 credits)**

The course covers the structure-function relationships of proteins, carbohydrates, lipids and nucleotides, with an emphasis on the biochemistry of metabolism and molecules of metabolism. It is primarily intended to prepare students for health-related professional schools. (Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a grade of C- or better.

**CHEM 4650 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 4650, BIOL 8656, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 4654 must be taken concurrently.

**CHEM 4654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 4654, BIOL 8654, CHEM 8654).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. BIOL 4650 must be taken concurrently with BIOL 4654. CHEM 4650 must be taken concurrently with CHEM 4654.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 4660 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipids, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 4660, BIOL 8666, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654. CHEM 4664 must be taken concurrently (Chemistry courses must have a grade of C- or better)

**CHEM 4664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 4664, BIOL 8664, CHEM 8664).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654 with a C- or better. BIOL 4660 must be taken concurrently with BIOL 4664. CHEM 4660 must be taken concurrently with CHEM 4664.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 4670 PROTEIN PURIFICATION AND CHARACTERIZATION (2 credits)**

This course is a study of protein biochemistry, protein purification techniques, and characterization strategies with an emphasis on chromatography and crystallography. The course has a significant laboratory component. (Cross-listed with CHEM 8676).

**CHEM 4810 CHEMISTRY INTERNSHIP (1-6 credits)**

Application of chemical skills in a non-academic laboratory or workplace through part-time employment or contracted work; written report required. Grading will be 'S' or 'U' only.

**Prerequisite(s)/Corequisite(s):** Major in Chemistry, CHEM 2260, CHEM 2274, CHEM 2400, CHEM 2404 with a grade of C or better and permission of department chair.

**CHEM 4930 SPECIAL TOPICS IN CHEMISTRY (1-3 credits)**

Selected special topics in chemistry. (Cross-listed with CHEM 8936).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2400 with a grade of C or better. Some topics will require more advanced prerequisites and will be accepted for advanced course work in chemistry.

**CHEM 4950 CHEMISTRY PROJECTS (1 credit)**

Initiation of an independent student research project, and communication of the results.

**Prerequisite(s)/Corequisite(s):** Depends on the project. Generally, junior standing.

**CHEM 4960 CHEMISTRY PROBLEMS (1-3 credits)**

Independent student research and communication of the results in a written report. If NSCI 4960 is taken concurrently, the CHEM 4960 report is replaced by an oral presentation. (Cross-listed with CHEM 8966).

**Prerequisite(s)/Corequisite(s):** CHEM 4950 with a grade of C or better and permission of instructor.

## Chemistry, Bachelor of Arts

To obtain a B.A. with a major in Chemistry, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in General Education courses that meet both distribution and diversity requirements are likely to reduce the total number of General Education hours to 34 or fewer.*)
- 16 hours foreign language requirement
- 12 hours college breadth requirement
- 36 hours of major courses
- 20 hours of cognate courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

### Requirements

A B.A. degree in chemistry requires a minimum of 36 credit hours of approved chemistry courses.

Code	Title	Credits
<b>Chemistry Requirements</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
Select two of the following:		8

CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	
CHEM 3360 & CHEM 3364	PHYSICAL CHEMISTRY II and PHYSICAL CHEMISTRY II LABORATORY	
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY ( )	
Five additional credit hours of chemistry must come from the chemistry courses approved for the B.S. in Chemistry degree.		5
<b>Total Credits</b>		<b>36</b>

Code	Title	Credits
<b>Required Cognate Courses:</b>		
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
Select one of the following sequences:		10
Sequence A:		
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	
Sequence B:		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
<b>Total Credits</b>		<b>20</b>

Code	Title	Credits
<b>Recommended but not required:</b>		
MATH 1970	CALCULUS III	4

**For a B.A., the college requires completion of a foreign language through the intermediate level.**

**Freshman**

Code	Title	Credits
<b>Fall</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY <sup>1</sup>	4
MATH 1950	CALCULUS I <sup>2</sup>	5
ENGL 1150	ENGLISH COMPOSITION I <sup>3</sup>	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
<b>Credits</b>		<b>15</b>

**Spring**

CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY <sup>4</sup>	4
MATH 1960	CALCULUS II <sup>5</sup>	5
ENGL 1160	ENGLISH COMPOSITION II	3
Social Science/US Diversity		3
<b>Credits</b>		<b>15</b>

**Summer**

PHYS 2110 or PHYS 1110	GENERAL PHYSICS I - CALCULUS LEVEL <sup>6</sup> or GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
<b>Credits</b>		<b>5</b>

**Sophomore****Fall**

CHEM 2250	ORGANIC CHEMISTRY I <sup>7</sup>	3
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB <sup>8</sup>	4
Humanities and Fine Arts		3
Social Science		3

**Credits** **13**

**Spring**

CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY <sup>9</sup>	5
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY <sup>10</sup>	3
Humanities and Fine Arts		3
CAS Requirement (HIST 1000 or Minor/2nd Major Course) <sup>11</sup>		3

**Credits** **14**

**Summer**

PHYS 2120 or PHYS 1120	GENERAL PHYSICS-CALCULUS LEVEL <sup>12</sup> or GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1

**Credits** **5**

**Junior****Fall**

Foreign Language 1110-level		5
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY <sup>13</sup>	4
OR		
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY <sup>14</sup>	
Social Science <sup>15</sup>		3
Advanced Chemistry Course <sup>18</sup>		1-3

**Credits** **13-15**

**Spring**

Foreign Language 1120-Level		5
NSCI 3940	WRITING IN CHEMISTRY <sup>17</sup>	2
CHEM 3360 & CHEM 3364	PHYSICAL CHEMISTRY II and PHYSICAL CHEMISTRY II LABORATORY <sup>24</sup>	4
OR Advanced Chemistry Course <sup>18</sup>		
Minor/2nd Major or Elective Course <sup>23</sup>		3

**Credits** **14**

**Senior****Fall**

Foreign Language 2110-Level		3
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY <sup>13</sup>	4
OR		
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY <sup>14</sup>	
OR Advanced Chemistry Course (3-4 cr) <sup>18</sup>		
Minor/2nd Major or Elective Course <sup>23</sup>		3
CAS Requirement: Additional Humanities/Fine Arts* course or Minor/2nd Major course <sup>19</sup>		3

**Credits** **13**

**Spring**

Foreign Language 2120-Level		3
-----------------------------	--	---

Advanced Chemistry Course or Elective to reach 120	3
CAS Requirement: Additional Social Science* or Minor/2nd Major course <sup>20</sup>	3
CAS Requirement: HIST 1010 or Minor/2nd Major course <sup>16</sup>	3

**Credits** **12**

**Total Credits** **119-121**

- <sup>1</sup> CHEM 1180: Requires appropriate Math placement. Must take 1184 concurrently.
- <sup>2</sup> MATH 1950: Requires appropriate Math placement. MATH 1950 is part of the BS Cognate.
- <sup>3</sup> ENGL 1150: Requires appropriate English Placement.
- <sup>4</sup> CHEM 1190 requires 1194 be taken concurrently. Pre-req is Math 1320 or higher and CHEM 1180-1184
- <sup>5</sup> MATH 1960 prereq is MATH 1950. MATH 1960 is part of the BS Cognate
- <sup>6</sup> PHYS 2110 requires MATH 1950, and PHYS 1110 requires MATH 1220. PHYS 2110/1110 is part of the BS Cognate.
- <sup>7</sup> CHEM 2250: Requires CHEM 1190+1194.
- <sup>8</sup> CHEM 2400: Requires CHEM 1190+1194. Lab of 2404 must be taken concurrently
- <sup>9</sup> CHEM 2260: Requires CHEM 2250. 2274 must be taken concurrently. CHEM 2260-2274 must be taken within one year of CHEM 2250.
- <sup>10</sup> CHEM 2500: Requires CHEM 1190.
- <sup>11</sup> CAS College Requirement
- <sup>12</sup> PHYS 2120 requires MATH 1960 and PHYS 2110. PHYS 1120 requires MATH 1220 and PHYS 1110. PHYS 2120/1120 is part of the BS Cognate.
- <sup>13</sup> CHEM 3350: Requires CHEM 2260+2274, 2400+2404, PHYS 2120, and MATH 1960.
- <sup>14</sup> CHEM 4650: Requires CHEM 2260+2274, and either CHEM 2400 or BIOL 3020.
- <sup>15</sup> Social Science Course must be in a 2nd discipline.
- <sup>16</sup> CAS College Requirement
- <sup>17</sup> NSCI 3940: Requires ENGL 1160, and CHEM 2400 or 2500.
- <sup>18</sup> Must take 5 credit hours of Advanced Chemistry courses from the approved list of courses for the BS Chemistry.
- <sup>19</sup> CAS College Requirement: Add'l Humanity must be from 3rd discipline.
- <sup>20</sup> CAS College Requirement: Add'l Social Science must be from 3rd discipline.
- <sup>22</sup> Students need a minimum of 120 total credits. May need to select electives to reach this minimum.
- <sup>23</sup> CHEM 3360: Requires CHEM 3350 and 3354

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements: 2.0**

# Chemistry, Bachelor of Science

To obtain a B.S. with a major in Chemistry, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses
- 12 hours college breadth requirement
- 42 hours of major courses
- 20 hours of cognate courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

A B.S. degree in chemistry requires a minimum of 42 credit hours of approved chemistry courses.

Code	Title	Credits
<b>Required Chemistry Courses</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	4
CHEM 3360 & CHEM 3364	PHYSICAL CHEMISTRY II and PHYSICAL CHEMISTRY II LABORATORY	4
CHEM 4400 & CHEM 4404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LABORATORY	4
<b>Advanced Chemistry Courses</b>		
Select 7 credit hours from the advanced courses (listed below)		7
<b>Total Credits</b>		<b>42</b>

## Advanced Courses

Code	Title	Credits
<b>Analytical</b>		
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 3424	SPECTROMETRIC CHARACTERIZATIONS	1
<b>Biochemistry</b>		
CHEM 4610	BIOCHEMISTRY OF METABOLISM	4
CHEM/BIO 4650	BIOCHEMISTRY I (with the following lab)	3
CHEM/BIO 4654	BIOCHEMISTRY I LABORATORY	1
CHEM/BIO 4660	BIOCHEMISTRY II (with the following lab)	3
CHEM/BIO 4664	BIOCHEMISTRY II LABORATORY	1

CHEM 4670	PROTEIN PURIFICATION AND CHARACTERIZATION	2
<b>Inorganic</b>		
CHEM 3514	INORGANIC PREPARATIONS	1
CHEM 4500	ADVANCED INORGANIC CHEMISTRY	3
CHEM 4510	SOLID STATE INORGANIC CHEMISTRY	3
CHEM 4540	GEOCHEMISTRY	3
<b>Medicinal</b>		
CHEM 3710	ESSENTIALS OF MEDICINAL CHEMISTRY	3
<b>Organic</b>		
CHEM 3210	INTRODUCTION TO MOLECULAR MODELING	3
CHEM 4230	ADVANCED ORGANIC CHEMISTRY - SYNTHESIS	3
CHEM 4240	ADVANCED ORGANIC CHEMISTRY - MECHANISM	3
CHEM 4250	ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING	4
<b>Polymer</b>		
CHEM 4310	POLYMER CHEMISTRY	3
<b>Research</b>		
CHEM 4950	CHEMISTRY PROJECTS	1
CHEM 4960	CHEMISTRY PROBLEMS	1-3
<b>Internship</b>		
CHEM 4810	CHEMISTRY INTERNSHIP	1-6
<b>Special Topics</b>		
CHEM 4930	SPECIAL TOPICS IN CHEMISTRY	1-3

## Required Cognate Courses:

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
PHYS 2110 or PHYS 1110	GENERAL PHYSICS I - CALCULUS LEVEL or GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
PHYS 2120 or PHYS 1120	GENERAL PHYSICS-CALCULUS LEVEL or GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
<b>Total Credits</b>		<b>20</b>

Code	Title	Credits
<b>Recommended but not required:</b>		
MATH 1970	CALCULUS III	4

**To graduate with an ACS certified degree, see your chemistry advisor for proper course selection.**

## Freshman

Code	Title	Credits
<b>Fall</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
MATH 1950	CALCULUS I (*)	5
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3

- CHEM 1180: Requires MATH 1320 or higher. Must take 1184 concurrently.

- MATH 1950: Requires appropriate Math placement. MATH 1950 is part of the BS Cognate.

- ENGL 1150: Requires appropriate English placement.

	Credits	15
<b>Spring</b>		
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
MATH 1960	CALCULUS II (*)	5
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Humanities-Fine Arts/ Global Diversity Course		3

- ENGL 1160: Requires ENGL 1150 or 1154, or appropriate English placement.

- MATH 1960 requires Math 1950. MATH 1960 is part of the BS Cognate.

- CHEM 1190 must be taken concurrently with CHEM 1194. Requires Math 1320 or higher and CHEM 1180-1184.

	Credits	15
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 2250	ORGANIC CHEMISTRY I (*)	3
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB (*)	4
Social Science / US Diversity Course		3
HIST 1000	WORLD CIVILIZATIONS I ( • OR MINOR/2nd Major COURSE )	3
Elective or Minor/2nd Major Course		3

\*CHEM 2250: Requires CHEM 1190+1194.

\*CHEM 2400: Requires CHEM 1190+1194. Must take 2404 concurrently.

\*CAS Requirement

	Credits	16
<b>Spring</b>		
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY (*)	3
NSCI 3940	WRITING IN CHEMISTRY (*)	2
Social Science		3
Elective or Minor/2nd Major Course		3

- NSCI 3940: Requires ENGL 1160, and CHEM 2400 or 2500

- CHEM 2260: Must be taken concurrently with 2274. Requires CHEM 2250.

- CHEM 2500: Requires CHEM 1190.

Credits	16
---------	----

## Junior

### Fall

PHYS 2110 or PHYS 1110	GENERAL PHYSICS I - CALCULUS LEVEL (*) or GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
Advanced Chemistry Elective ~		3
HIST 1010	WORLD CIVILIZATIONS II ( • or Minor/2nd Major Course )	3
Humanities-Fine Arts Course		3

- CAS Requirement

- PHYS 2110: Requires MATH 1950; PHYS 1110: Requires MATH 1220. PHYS 2110/1110 & 1154 is part of the BS Cognate.

~ Must take 7 credit hours of Advanced Chemistry electives. See Catalog for options.

Credits	14
---------	----

### Spring

PHYS 2120 or PHYS 1120	GENERAL PHYSICS-CALCULUS LEVEL (*) or GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
Advanced Chemistry Elective ~		4
Social Science*		3
Humanities/Fine Arts Course*		3

- PHYS 2120: Requires MATH 1960; PHYS 1120: Requires MATH 1220. PHYS 2120/1120 & 1164 is part of the BS Cognate.

- Social Science course must be in a 2nd discipline.

~ Must take 7 credit hours of Advanced Chemistry electives. See Catalog for options.

- Humanities/Fine Arts Course must be from 2nd discipline.

Credits	15
---------	----

## Senior

### Fall

CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY (*)	4
Humanities & Fine Arts Course* or Minor/2nd Major Course		3
Elective or Minor/2nd Major Course		3
Elective or Minor/2nd Major Course		3
Elective or Minor/2nd Major Course		3

- CHEM 3350: Requires CHEM 2260+2274, 2400+2404, PHYS 2120, and MATH 1960

- CAS Requirement: Additional HFA must come from 3rd discipline.

Credits	16
---------	----

### Spring

CHEM 4400 & CHEM 4404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LABORATORY (*)	4
-----------------------	--	---

CHEM 3360 & CHEM 3364	PHYSICAL CHEMISTRY II and PHYSICAL CHEMISTRY II LABORATORY (*)	4
Additional Social Science* or Minor/2nd Major Course		3
Elective		3
<ul style="list-style-type: none"> <li>CAS Requirement: Additional Social Science must come from a 3rd discipline.</li> <li>CHEM 4400: Requires CHEM 3360+3364, and CHEM 3414.</li> <li>CHEM 3360: Requires CHEM 3350+3354</li> </ul>		
Students need a minimum of 120 credits to graduate. Electives may be needed to reach this minimum.		
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Chemistry, Bachelor of Science with a Concentration in Chemistry Education

To obtain a B.S. with a major in Chemistry and a concentration in Chemistry Education, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses
- 39 hours of major courses
- 20 hours of cognate courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120 plus the optional 39 hour concentration

### Requirements

A Bachelor of Science Degree in Chemistry with a Concentration in Education requires a minimum of 39 credits of course work in Chemistry and a minimum of 39 credits in the College of Education.

Code	Title	Credits
<b>Chemistry Requirements</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	4
CHEM 3360	PHYSICAL CHEMISTRY II	3
CHEM/BIOI 4650	BIOCHEMISTRY I (with the following lab)	3
CHEM/BIOI 4654	BIOCHEMISTRY I LABORATORY	1
<b>Advanced Courses</b>		
Select 5 credit hours from advance courses (listed below)		5
<b>Total Credits</b>		<b>39</b>
Code	Title	Credits
<b>Advanced Courses</b>		
<b>Analytical</b>		
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 3424	SPECTROMETRIC CHARACTERIZATIONS	1
CHEM 4400	INSTRUMENTAL ANALYSIS	3
CHEM 4404	INSTRUMENTAL ANALYSIS LABORATORY	1
<b>Biochemistry</b>		
CHEM/BIOI 4660	BIOCHEMISTRY II	3
CHEM/BIOI 4664	BIOCHEMISTRY II LABORATORY	1
CHEM 4670	PROTEIN PURIFICATION AND CHARACTERIZATION	2
<b>Inorganic</b>		
CHEM 3514	INORGANIC PREPARATIONS	1
CHEM 4500	ADVANCED INORGANIC CHEMISTRY	3
CHEM 4510	SOLID STATE INORGANIC CHEMISTRY	3
CHEM 4540	GEOCHEMISTRY	3
<b>Medicinal</b>		
CHEM 3710	ESSENTIALS OF MEDICINAL CHEMISTRY	3
<b>Organic</b>		
CHEM 3210	INTRODUCTION TO MOLECULAR MODELING	3
CHEM 4230	ADVANCED ORGANIC CHEMISTRY - SYNTHESIS	3
CHEM 4240	ADVANCED ORGANIC CHEMISTRY - MECHANISM	3
CHEM 4250	ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING	4
<b>Physical</b>		
CHEM 3364	PHYSICAL CHEMISTRY II LABORATORY	1
<b>Polymer</b>		
CHEM 4310	POLYMER CHEMISTRY	3
<b>Research</b>		
CHEM 4950	CHEMISTRY PROJECTS	1

CHEM 4960	CHEMISTRY PROBLEMS	1-3
<b>Internship</b>		
CHEM 4810	CHEMISTRY INTERNSHIP	1-6
<b>Special Topics</b>		
CHEM 4930	SPECIAL TOPICS IN CHEMISTRY	1-3

### Educator Preparation Program Requirements

Code	Title	Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Total Credits</b>		<b>39</b>

### Required Cognate Courses

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
<b>Select one of the following sequences:</b>		<b>10</b>
<b>Sequence I</b>		
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	
<b>Sequence II</b>		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
<b>Total Credits</b>		<b>20</b>

### Additional Information

To graduate certified to teach high school chemistry, a biology and geology course are required. BIOL 1450 is required and CHEM 4540/GEOL 1104 are recommended.

To graduate with an ACS certified degree, see your chemistry advisor for proper course selection.

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1950	CALCULUS I (*)	5
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4

- MATH 1950: Requires placement. MATH 1950 is part of the B.S. cognate

- ENGL 1150: Requires placement.
- CHEM 1180: Requires MATH 1320. Must take CHEM 1184 concurrently.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MATH 1960	CALCULUS II (*)	5
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
TED 2100	EDUCATIONAL FOUNDATIONS (*)	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (*)	3
<ul style="list-style-type: none"> <li>• MATH 1960: Requires MATH 1950. MATH 1960 is part of the B.S. cognate</li> </ul>		
<ul style="list-style-type: none"> <li>• CHEM 1190: Requires MATH 1320 and CHEM 1180-1184. Must take CHEM 1194 concurrently.</li> </ul>		
*TED 2100 & 2200- Requires 2.5 cumulative GPA		

<b>Credits</b>		<b>15</b>
<b>Summer</b>		
PHYS 2110 or PHYS 1110	GENERAL PHYSICS I - CALCULUS LEVEL (*) or GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I (*)	1
ENGL 1160	ENGLISH COMPOSITION II (*)	3
<ul style="list-style-type: none"> <li>• PHYS 2110: Requires MATH 1950; PHYS 1110 Requires MATH 1220. PHYS 2110/1110 &amp; 1154 are part of the BS cognate</li> </ul>		
<ul style="list-style-type: none"> <li>• ENGL 1160: Requires ENGL 1150 or placement.</li> </ul>		

<b>Credits</b>		<b>8</b>
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 2250	ORGANIC CHEMISTRY I (*)	3
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
SOCIAL SCIENCE		3
SOCIAL SCIENCE		3
<ul style="list-style-type: none"> <li>• CHEM 2250: Requires CHEM 1190-1194 with a grade of C- or better.</li> </ul>		
<ul style="list-style-type: none"> <li>• CHEM 2400: Requires CHEM 1190 and CHEM 1194 with a grade of C of better. CHEM 2404 must be taken concurrently with a grade of C</li> </ul>		

<b>Credits</b>		<b>13</b>
<b>Spring</b>		
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE (*)	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
HUMANITIES AND FINE ARTS/US DIVERSITY		3

- CHEM 2260: Requires CHEM 2250 with a grade of C- or better, obtained within the prior twelve months. CHEM 2274 must be taken concurrently or prior with a grade of C- or better.

- TED 2380 and 2400: Formal admission to COE teacher prep program required. TED 2380 and 2400 must be taken concurrently.

<b>Credits</b>		<b>17</b>
<b>Summer</b>		
PHYS 2120 or PHYS 1120	GENERAL PHYSICS-CALCULUS LEVEL (*) or GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
HUMANITIES AND FINE ARTS		3
<ul style="list-style-type: none"> <li>• PHYS 2120: Requires MATH 1960 and PHYS 2110.</li> <li>• PHYS 1120: Requires MATH 1220 and PHYS 1110.</li> <li>• PHYS 2120/1120 and 1164 are part of the B.S. cognate.</li> </ul>		

<b>Credits</b>		<b>8</b>
<b>Junior</b>		
<b>Fall</b>		
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY (*)	4
BIOL 1450	BIOLOGY I	5
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY (*)	4
HUMANITIES AND FINE ARTS COURSE*		3
<ul style="list-style-type: none"> <li>• HFA course must come from 2nd discipline.</li> <li>• CHEM 3350: Requires CHEM 2260 &amp; 2274, CHEM 2400 &amp; 2404, PHYS 2120, and MATH 1960. Chemistry courses must be with a grade of C or better. Concurrent enrollment in CHEM 3354 required.</li> </ul>		

- CHEM 4650: Requires CHEM 2260 & 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. CHEM 4654 must be taken concurrently.

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
CHEM 3360	PHYSICAL CHEMISTRY II (*)	3
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY (*)	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690	LITERACY AND LEARNING (*)	3
Advanced Chemistry Elective(s) towards the requisite additional 5 CH*		1-4
<ul style="list-style-type: none"> <li>• CHEM 3360: Requires CHEM 3350 &amp; 3354 with a grade of C- or better.</li> </ul>		

- CHEM 2500: Requires CHEM 1190 with a grade of C- or better.

- Please refer to the catalog for Advanced Chemistry Elective options.

\*TED 3550: Requires TED 2400; co-requisite TED 3690; 2.75 NU GPA and passing Praxis CORE scores (Math, Reading, and Writing)

- TED 3690: Requires TED 2400; co-requisite TED 3550. 2.75 NU GPA and passing Praxis CORE scores (Math, Reading, and Writing)

<b>Credits</b>		<b>13-16</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (*)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES (*)	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
ADVANCED CHEMISTRY ELECTIVE*		1-3
SOCIAL SCIENCE/GLOBAL DIVERSITY*		3
<ul style="list-style-type: none"> <li>• SPED 3800: Requires TED 2400; Minimum 2.75 GPA.</li> </ul>		

- Social Science must be from 2nd discipline.

- TED 4000: Requires TED 3690 and TED 3550 prior. 2.75 NU GPA and passing Praxis CORE scores (Math, Reading, and Writing)

- Please see catalog for Advanced Chemistry Elective options.

<b>Credits</b>		<b>14-16</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (*)	12
<ul style="list-style-type: none"> <li>• TED 4600: Candidates must complete all coursework, have a minimum cumulative GPA of 2.75, passing Praxis CORE scores (Math, Reading, and Writing), and be accepted into Clinical Practice. All other degree requirements must be completed by this point. Cannot take any courses alongside TED 4600 Clinical Practice.</li> </ul>		

<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>131-136</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

# Chemistry, Bachelor of Science with a Concentration in Medicinal Chemistry

To obtain a B.S. with a major in Chemistry and a concentration in Medicinal Chemistry, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in General Education courses that meet both distribution and diversity requirements are likely to reduce the total number of General Education hours to 34 or fewer.*)
- 12 hours college breadth requirement
- 51 hours of major courses (including the optional concentration)
- 20 hours of cognate courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

A Bachelor of Science Degree in Chemistry with a Concentration in Medicinal Chemistry requires a minimum of 51 credit hours of course work in both chemistry and biology.

Code	Title	Credits
<b>Required Chemistry Courses</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	4
CHEM 3710	ESSENTIALS OF MEDICINAL CHEMISTRY	3
CHEM/BIOI 4650	BIOCHEMISTRY I (with the following lab)	3
CHEM/BIOI 4654	BIOCHEMISTRY I LABORATORY	1
<b>Additional Lecture</b>		
Select one of the following:		3-4
CHEM 3210	INTRODUCTION TO MOLECULAR MODELING (3 cr)	
CHEM 4230	ADVANCED ORGANIC CHEMISTRY - SYNTHESIS (3 cr)	
CHEM 4240	ADVANCED ORGANIC CHEMISTRY - MECHANISM (3 cr)	
CHEM 4250	ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING (4 cr) (additional lab not required if 4250 is taken)	
CHEM/BIOI 4660	BIOCHEMISTRY II (3 cr plus Biochemistry II Lab )	
<b>Additional Lab</b>		
Select one of the following:		1

CHEM 3424	SPECTROMETRIC CHARACTERIZATIONS (1 cr)	
CHEM/BIOI 4664	BIOCHEMISTRY II LABORATORY (1 cr)	
CHEM 4950	CHEMISTRY PROJECTS (1 cr)	
<b>Biology Requirements</b>		
BIOI 1450	BIOLOGY I	5
BIOI 2140	GENETICS	4
<b>Advanced Courses</b>		
Select 4 credit hours from advanced courses (listed below)		4
<b>Total Credits</b>		<b>51-52</b>

## Advanced Courses

Code	Title	Credits
<b>Analytical</b>		
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 3424	SPECTROMETRIC CHARACTERIZATIONS	1
CHEM 4400	INSTRUMENTAL ANALYSIS	3
CHEM 4404	INSTRUMENTAL ANALYSIS LABORATORY	1
<b>Biochemistry</b>		
CHEM/BIOI 4660	BIOCHEMISTRY II	3
CHEM/BIOI 4664	BIOCHEMISTRY II LABORATORY	1
CHEM 4670	PROTEIN PURIFICATION AND CHARACTERIZATION	2
<b>Inorganic</b>		
CHEM 3514	INORGANIC PREPARATIONS	1
CHEM 4500	ADVANCED INORGANIC CHEMISTRY	3
CHEM 4510	SOLID STATE INORGANIC CHEMISTRY	3
CHEM 4540	GEOCHEMISTRY	3
<b>Organic</b>		
CHEM 3210	INTRODUCTION TO MOLECULAR MODELING	3
CHEM 4230	ADVANCED ORGANIC CHEMISTRY - SYNTHESIS	3
CHEM 4240	ADVANCED ORGANIC CHEMISTRY - MECHANISM	3
CHEM 4250	ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING	4
<b>Physical Chemistry</b>		
CHEM 3360	PHYSICAL CHEMISTRY II	3
CHEM 3364	PHYSICAL CHEMISTRY II LABORATORY	1
<b>Polymer</b>		
CHEM 4310	POLYMER CHEMISTRY	3
<b>Research</b>		
CHEM 4950	CHEMISTRY PROJECTS	1
CHEM 4960	CHEMISTRY PROBLEMS	1-3
<b>Internship</b>		
CHEM 4810	CHEMISTRY INTERNSHIP	1-6
<b>Special Topics</b>		
CHEM 4930	SPECIAL TOPICS IN CHEMISTRY	1-3
<b>Biology</b>		
BIOI 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOI 3240	INTRODUCTION TO IMMUNOLOGY	3
BIOI 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS	3
BIOI 4130	MOLECULAR GENETICS	4
BIOI 4140	CELLULAR BIOLOGY	4
BIOI 4450	VIROLOGY	3
BIOI 4640	MICROBIAL PHYSIOLOGY	4

BIOL 4730	VERTEBRATE ENDOCRINOLOGY	3
BIOL 4850	DEVELOPMENTAL BIOLOGY	3
BIOL 4860	COMPARATIVE GENOMICS	3

**Required Cognate Courses**

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
<b>Select one of the following sequences:</b>		<b>10</b>
<b>Sequence I</b>		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
<b>Sequence II</b>		
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	
<b>Total Credits</b>		<b>20</b>

Code	Title	Credits
<b>Recommended but not required</b>		
MATH 1970	CALCULUS III	4

These courses can be applied to pre-professional curricula. For example, with proper selection of electives and sequencing of requirements, pre-pharmacy students may meet UNMC College of Pharmacy entrance requirements in three years and still be able to complete a B.S. in chemistry with a concentration in medicinal chemistry in four years.

To graduate with an ACS certified degree, see your chemistry advisor for proper course selection.

**Freshman**

Code	Title	Credits
<b>Fall</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY ( *)	4
MATH 1950	CALCULUS I ( *)	5
ENGL 1150	ENGLISH COMPOSITION I ( *)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
<ul style="list-style-type: none"> <li>CHEM 1180: Requires MATH 1320 or higher. Must take CHEM 1184 concurrently.</li> <li>MATH 1950: Requires appropriate Math placement. MATH 1950 is part of the BS Cognate.</li> <li>ENGL 1150: Requires appropriate placement.</li> </ul>		

Code	Title	Credits
<b>Spring</b>		
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY ( *)	4
MATH 1960	CALCULUS II ( *)	5
ENGL 1160	ENGLISH COMPOSITION II ( *)	3
Humanities-Fine Arts / Global Diversity Course		3
<ul style="list-style-type: none"> <li>CHEM 1190: Requires CHEM 1180+1184 and MATH 1320 or higher. Must take CHEM 1194 concurrently and CHEM 1180-1184.</li> </ul>		

- MATH 1960 requires MATH 1950. MATH 1960 is part of the BS Cognate.

- ENGL 1160: Requires ENGL 1150 or placement.

Code	Title	Credits
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 2250	ORGANIC CHEMISTRY I ( *)	3
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB ( *)	4
SOCIAL SCIENCE		3
HUMANITIES AND FINE ARTS		3
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major course*)	3
<ul style="list-style-type: none"> <li>CHEM 2250: Requires CHEM 1190+1194.</li> <li>CHEM 2400: Requires CHEM 1190+1194. Must take CHEM 2404 concurrently.</li> <li>CAS Requirement</li> </ul>		

Code	Title	Credits
<b>Spring</b>		
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY ( *)	5
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY ( *)	3
PHYS 1110 or PHYS 2110	GENERAL PHYSICS I WITH ALGEBRA ( *) or GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course*)	3
<ul style="list-style-type: none"> <li>CHEM 2260: Requires CHEM 2250 within the last calendar year. Must take CHEM 2274 concurrently..</li> <li>CHEM 2500: Requires CHEM 1190.</li> <li>PHYS 1110: Requires MATH 1220 or higher. PHYS 2110 Requires MATH 1950. PHYS 1110/2110+1154 are part of the BS Cognate.</li> <li>CAS Requirement</li> </ul>		

Code	Title	Credits
<b>Junior</b>		
<b>Fall</b>		
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY ( *)	4
PHYS 1120 or PHYS 2120	GENERAL PHYSICS or GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
SOCIAL SCIENCE/US DIVERSITY		3
HUMANITIES AND FINE ARTS*		3
<ul style="list-style-type: none"> <li>CHEM 4650: Requires CHEM 2260+2274 and either CHEM 2400 or BIOL 3020, all with a C- or better. CHEM 4654 must be taken concurrently.</li> </ul>		

- PHYS 1120: Requires PHYS 1110. PHYS 2120 requires PHYS 2110 and MATH 1960. PHYS 1120/2120 & 1164 are part of the BS Cognate.

- Humanities/Fine Arts course must come from 2nd discipline.

Credits		15
<b>Spring</b>		
Additional Chemistry Lecture ^		3-4
Additional Chemistry Lab ^		1
CHEM 3710	ESSENTIALS OF MEDICINAL CHEMISTRY (*)	3
BIOL 1450	BIOLOGY I	5
NSCI 3940	WRITING IN CHEMISTRY (*)	2
^ Must take one additional lecture and additional lab related to Organic Chemistry or CHEM 4660+4664 or CHEM 4250. See UNO catalog for options.		
<ul style="list-style-type: none"> <li>• CHEM 3710: Requires ENGL 1160 and CHEM 2260+2274.</li> </ul>		
<ul style="list-style-type: none"> <li>• NSCI 3940: Requires ENGL 1160, and CHEM 2400 or 2500.</li> </ul>		

Credits		14-15
<b>Senior</b>		
<b>Fall</b>		
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY (*)	4
BIOL 2140	GENETICS (*)	4
SOCIAL SCIENCE*		3
Additional Humanity/Fine Arts or Minor/2nd Major Course*		3
<ul style="list-style-type: none"> <li>• CHEM 3350: Requires CHEM 2260+2274, 2400+2404, PHYS 2120 or 1120, and MATH 1960.</li> </ul>		
<ul style="list-style-type: none"> <li>• BIOL 2140: Requires BIOL 1450, 1750, and CHEM 1180. BIOL 1750 is waived for Chemistry majors.</li> </ul>		
<ul style="list-style-type: none"> <li>• Social Science course must be in a 2nd discipline.</li> </ul>		
<ul style="list-style-type: none"> <li>• CAS Requirement: Humanities/Fine Arts Course must be in a 3rd discipline.</li> </ul>		

Credits		14
<b>Spring</b>		
Advanced Chemistry Elective #		4
Additional Social Science or Minor/2nd Major Course*		3
Elective or Minor/2nd Major Course*		3
Elective or Minor/2nd Major Course*		3
Elective Course*		3
# Must take 4 credit hours of Advanced Chemistry Electives. See Catalog for options.		
<ul style="list-style-type: none"> <li>• CAS Requirement: Social Science Course must be in a 3rd discipline.</li> </ul>		
<ul style="list-style-type: none"> <li>• Students need a minimum of 120 credits to graduate. Electives, minors, or a 2nd major may be used to reach this minimum.</li> </ul>		
Credits		16
Total Credits		121-122

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Chemistry Minor

### Requirements

A minor in chemistry requires 18 credit hours of approved chemistry courses.

All chemistry courses counted toward a minor must be taken from classes approved for chemistry majors. In addition to General Chemistry I and II, students must take 10 additional hours of chemistry courses from the list below, with at least 7 hours at the 2000 level or higher taken in residence at UNO.

Code	Title	Credits
<b>Required courses:</b>		
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
<b>Select 10 additional hours of chemistry courses from the below options, with at least 7 hours taken in residence at UNO:</b>		<b>10</b>
<b>ANALYTICAL</b>		
CHEM 2400	QUANTITATIVE ANALYSIS (3 hrs)	
CHEM 2404	QUANTITATIVE ANALYSIS LAB (1 hr)	
CHEM 3030	ENVIRONMENTAL CHEMISTRY (3 hrs)	
CHEM 3424	SPECTROMETRIC CHARACTERIZATIONS (1 hr)	
CHEM 4400 & CHEM 4404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LABORATORY (4 hrs including lab)	
<b>BIOCHEMISTRY</b>		
CHEM 4610	BIOCHEMISTRY OF METABOLISM (4 hrs)	
CHEM/BIOL 4650	BIOCHEMISTRY I (3 hrs)	
CHEM/BIOL 4654	BIOCHEMISTRY I LABORATORY (1 hr)	
CHEM/BIOL 4660	BIOCHEMISTRY II (3 hrs)	
CHEM/BIOL 4664	BIOCHEMISTRY II LABORATORY (1 hr)	
CHEM 4670	PROTEIN PURIFICATION AND CHARACTERIZATION (2 hrs)	
<b>INORGANIC</b>		

CHEM 3514	INORGANIC PREPARATIONS (1 hr)
CHEM 4500	ADVANCED INORGANIC CHEMISTRY (3 hrs)
CHEM 4510	SOLID STATE INORGANIC CHEMISTRY (3 hrs)
CHEM 4540	GEOCHEMISTRY (3 hrs)
MEDICINAL	
CHEM 3710	ESSENTIALS OF MEDICINAL CHEMISTRY (3 hrs)
ORGANIC	
CHEM 2250	ORGANIC CHEMISTRY I (3 hrs)
CHEM 2260	ORGANIC CHEMISTRY II (3 hrs)
CHEM 2274	ORGANIC CHEMISTRY LABORATORY (2 hrs)
CHEM 3210	INTRODUCTION TO MOLECULAR MODELING (3 hrs)
CHEM 4230	ADVANCED ORGANIC CHEMISTRY - SYNTHESIS (3 hrs)
CHEM 4240	ADVANCED ORGANIC CHEMISTRY - MECHANISM (3 hrs)
CHEM 4250	ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING (4 hrs)
PHYSICAL CHEMISTRY	
CHEM 3350	PHYSICAL CHEMISTRY I (3 hrs)
CHEM 3354	PHYSICAL CHEMISTRY I LABORATORY (1 hr)
CHEM 3360	PHYSICAL CHEMISTRY II (3 hrs)
CHEM 3364	PHYSICAL CHEMISTRY II LABORATORY (1 hr)
POLYMER	
CHEM 4310	POLYMER CHEMISTRY (3 hrs)
RESEARCH	
CHEM 4950	CHEMISTRY PROJECTS (1 hr)
CHEM 4960	CHEMISTRY PROBLEMS (1-3 hrs)
INTERNSHIP	
CHEM 4810	CHEMISTRY INTERNSHIP (1-6 hrs)
SPECIAL TOPICS	
CHEM 4930	SPECIAL TOPICS IN CHEMISTRY (1-3 hrs)
<b>Total Credits</b>	

**18**

## Economics

Economics is concerned with how resources are allocated in production, prices are determined, incomes are distributed and growth occurs. Economists examine such issues as how fiscal and monetary policies affect prices and employment, the effect on international trade of international trade agreements and the international price of the dollar, the size and future composition of the labor force, the effects of government regulations on the price, quantity and quality of goods and services, and costs and benefits of environmental policies.

Economists are employed by private businesses, utilities, railroads, government at all levels, educational institutions, labor unions, trade associations and non-profit organizations. In businesses, economists' duties include analyzing and forecasting industry and market conditions, and making recommendations and decisions relative to capital investments, marketing new products, employee compensation, and the impact of government regulation. In addition, economics is superb preparation for graduate work in areas such as business law, political science, international relations, gerontology, and public administration. Economics also is an excellent dual major or minor for many areas of study.

## Other Information

All coursework taken for the Economics major or minor must be completed with a grade of "C" or better.

## Option for Degree Completion

The Department of Economics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- The program is available for undergraduate students pursuing the Bachelor of Science in Business Administration (with a concentration in Economics), Bachelor of Science in Economics, or Bachelor of Arts in Economics, desiring to pursue a Master of Science in Economics.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.50.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

Students in the Fast Track program must only enroll in dual-level ECON courses (ECON 8xx6) as their graduate coursework prior to admittance to the graduate program.

## Student Groups

### Economics Club

The main purpose of the UNO Economics Club (Econ Club, for short) is to increase awareness and knowledge of economic issues among Econ Club members and the overall UNO community. The organization also provides a venue for student-members to examine issues related to academic success, career success, and related matters. The organization shall work towards increasing the membership's engagement with the Omaha community.

## Contact

Arts and Sciences Advising Center, 220 ASH  
402.554.2458

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/economics/>)

## Degrees Offered

- Economics, Bachelor of Arts (p. 117)
- Economics, Bachelor of Science (p. 118)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the economics major this is ENGL 3050, ENGL 3980 or other approved course.

## Minors Offered

- Economics Minor (p. 120)

By nature, Liberal Arts majors make great employees in any field because of their ability to communicate effectively, think critically and solve complex problems. These timeless skills make them attractive to employers in all walks of society. Specifically though, Economics majors often pursue careers as a:

- Commodities broker
- Credit analyst
- Data analyst
- Data scientist
- Economic forecaster
- Financial analyst
- Insurance underwriter
- Management consultant
- Market research analyst
- Public relations/media organizer
- Securities broker

### ECON 1200 AN INTRODUCTION TO THE U.S. ECONOMY (3 credits)

An introduction to U.S. economy and an investigation of U.S. and international economic problems and policies.

**Prerequisite(s)/Corequisite(s):** Not available to students who have completed either ECON 2200 or 2220.

**Distribution:** Social Science General Education course

### ECON 2200 PRINCIPLES OF ECONOMICS (MICRO) (3 credits)

An introduction to economic principles, decision making and policies affecting product and resource markets. Particular emphasis is on price, output and input decisions by individuals and firms under various market conditions. An introduction to the fundamentals of international trade.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and MATH 1310 or MATH 1220 with 'C-' (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

### ECON 2220 PRINCIPLES OF ECONOMICS (MACRO) (3 credits)

An introduction to economic principles, decision making and policies on national income and output, employment, growth, money, the price level and the international economy.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ENGL 1150 with a C-minus (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

### ECON 2400 PRINCIPLES OF ECONOMICS FOR EDUCATORS (3 credits)

This course teaches principles of microeconomics and macroeconomics to K-12 educators. After taking this course students will be able to use the economic way of thinking to study current economic issues. Students will be introduced to macroeconomic principles, decision-making and policies on national income and output, employment, growth, money, price level, and fundamentals of international issues. Students will study microeconomic issues including product and resource markets, and prices output and input decisions under various market conditions. Economic concepts will be aligned to K-12 state social studies standards. This course cannot be substituted for ECON 2200 and/or ECON 2220.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ENGL 1150. Not open to non-degree graduate students.

### ECON 3130 ECONOMIC GEOGRAPHY (3 credits)

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with GEOG 3130).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better. or Majoring in Geography

### ECON 3190 SPORTS ECONOMICS (3 credits)

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Sports Economics, however, students will explore the very real ways in which economics influences sporting competitions and the businesses surrounding them. Students will explore topics such as unionization in sports, discrimination, amateurism, monopoly power, game theory, and more in the context of sports, giving the student a deeper understanding of how these topics apply to real-world problems. After this course, students will understand how readily economics can be applied to businesses and problems in any industry or domain.

**Prerequisite(s)/Corequisite(s):** ECON 2200 OR ECON 1200 OR ECON 2400 OR Instructor Approval. Not open to non-degree graduate students.

### ECON 3200 ECONOMIC THEORY: MICRO (3 credits)

Analysis of individual, firm and industry behavior in product and factor markets. Provides a theoretical foundation for managerial and public policy decision-making.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

### ECON 3220 ECONOMIC THEORY: MACRO (3 credits)

This course is designed to follow introductory economics, to examine the determination of output, employment, the price level, inflation, interest rates, and the exchange rate in the economy. Piece-by-piece, theoretical models will be constructed describing how each of these and other variables are determined in both, the long-run and in the short-run. We will analyze how changes in a particular event affect different markets in the economy, and in turn, how one market interacts with another within a general equilibrium framework. A large part of the course will be devoted to business cycle theory, macroeconomic policy issues, and open economy macroeconomics. The world economies are very much integrated, and thus, a full understanding of macroeconomics requires knowledge of international aspects of macroeconomics. The purpose of this course is to provide the student with an understanding of the connection between macroeconomic theory and related policy issues.

**Prerequisite(s)/Corequisite(s):** Completion of ECON 2200 with a C or better AND ECON 2220 with a C or better

### ECON 3290 ECONOMICS OF PUBLIC ISSUES (3 credits)

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Economics of Public Issues, however, students will explore the real ways in which economics can be used to understand, explain, and answer tough questions that affect everyone. Students will explore and define capitalism and key economic institutions required for economies to develop and prosper. We will examine markets and market failures that exist today. Classes will focus on the outcomes - intended and unintended - of various policies (local, national, and global). While specific issues are going to be covered in the course the intent is that students will learn the tools and strategy of thinking like an economist to guide them through future issues that will come up in their personal, professional, and civic lives.

**Prerequisite(s)/Corequisite(s):** (ECON 2200 AND ECON 2220) OR ECON 1200 OR ECON 2400 OR Instructor Approval.

**ECON 3300 INTRODUCTION TO ECONOMETRICS (3 credits)**

An introduction to empirical research methods in economics. Subjects covered include estimations of the basic linear regression model, hypothesis testing, correlation coefficients, analysis of variance, multicollinearity, dummy variables, specification error, auto-correlation, heteroscedasticity and unconditional forecasting. Empirical illustrations are provided by reference to contemporary economic questions.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, ECON 2220, BSAD 2130 or BSAD 3160, each with a "C" (2.0) or better, or permission of instructor.

**ECON 3310 SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS (3 credits)**

Analytics requires data. Within an organization, this data is usually housed in databases. In this class, you will extract data from these systems using Structured Query Language (SQL), programmatically combine multiple datasets, and learn advanced programmatic data cleaning techniques, such as regular expression.

**Prerequisite(s)/Corequisite(s):** ECON 2200 with a "C" or better

**ECON 3320 INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3 credits)**

This course explores the economic approach to environmental and natural resources. It introduces economic concepts and theory at a level accessible to non-economic majors but still challenging to economic majors. It then applies these to such topics as: air and water pollution, solid and hazardous waste management, renewable and nonrenewable natural resource use, and recycling.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with FNBK 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 3600 INTRODUCTION TO INTERNATIONAL ECONOMICS (3 credits)**

An introduction to analyses of international trade and the international monetary system. Subjects covered include the economic basis for international specialization and trade, the effect of trade on income distribution, commercial policy, economic integration, the balance of payments, adjustment mechanism, exchange rate determination, external effects of monetary and fiscal policy and foreign investment.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 4000 SPECIAL TOPICS IN ECONOMICS (1-5 credits)**

The course content and topic will vary. Please contact the economics department for specific course offerings.

**ECON 4210 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 8216).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4300 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 8306).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4320 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role do markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 8326).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4340 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 8346).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better, or BSAD 8180, or permission of instructor.

**ECON 4350 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 8316).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 4450 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 8456).

**Prerequisite(s)/Corequisite(s):** ECON 3220, or permission of instructor.

**ECON 4500 SPECIAL PROBLEMS IN ECONOMICS (2-3 credits)**

Individual investigation of specific problems in the field of economics under the supervision of a faculty member.

**Prerequisite(s)/Corequisite(s):** Senior and permission of department chair.

**ECON 4510 ECONOMIC INTERNSHIP (1-3 credits)**

Students engage in part time employment in their area of concentration to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required (maximum 3 credit hours).

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in ECON 2200 and ECON 2220; 2.5 Cumulative GPA; junior or senior standing.

**ECON 4570 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 8576).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or permission of the instructor

**ECON 4610 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 8616).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4620 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 8626).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4660 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 8666).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4730 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 8736, BSAD 8736).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**ECON 4850 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 8856)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4990 SENIOR ASSESSMENT (0 credits)**

This assessment tool is part of the Department's Student Outcomes effort. It is designed to monitor the Department's performance and to identify changes needed. Graduating seniors must register for and complete this course in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for ECON 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Economics, Bachelor of Arts

To obtain a BA with a major in Economics in the College of Arts & Sciences, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in major courses that satisfy distribution requirements are likely to reduce the total number of General Education hours.*)
- 16 hours foreign language requirement
- Four years of a single language in high school or four college semesters will satisfy this requirement.
- 12-19 hours college breadth requirement
- 30 hours of major courses
- 6-16 hours of electives

TOTAL HOURS: 120

### Requirements

A Bachelor of Arts in Economics consists of a minimum of 30 credit hours, as outlined below.

Code	Title	Credits
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
ECON 4990	SENIOR ASSESSMENT	0
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS (or equivalent) <sup>1</sup>	3
Select nine hours of Economics electives from 3000-4000 level courses <sup>2</sup>		9
Select six hours of Economics electives from 4000 level courses <sup>2</sup>		6
Students are encouraged to take the following:		
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	
or MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	
ECON 3300	INTRODUCTION TO ECONOMETRICS	
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Equivalent courses include: SOC 2130, PSYC 3130, STAT 3000, STAT 1530, CIST 2500, STAT 3800, CRCJ/PA/SOWK 3000, and PSCI 3000.

<sup>2</sup> Economics courses are listed in the “College of Business Administration” section of this catalog.

A minimum grade of “C” (2.0) is necessary in each required and elective course.

### For the B.A. degree, foreign language is required through the intermediate level.

#### Freshman

Fall		Credits
MATH 1220	COLLEGE ALGEBRA	3
ENGL 1150	ENGLISH COMPOSITION I	3
Foreign Language 1110		5
Natural/Physical Science		4
<b>Credits</b>		<b>15</b>

#### Spring

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
ENGL 1160	ENGLISH COMPOSITION II	3
Foreign Language 1120		5
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
Humanities and Fine Arts		3
Foreign Language 2110		3
<b>Credits</b>		<b>15</b>

#### Spring

ECON 3220	ECONOMIC THEORY: MACRO	3
Social Science		3
Foreign Language 2120		3
Upper Level Economics course (3000+)		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

#### Junior

Fall		
ECON 3200	ECONOMIC THEORY: MICRO	3
ENGL 3050	WRITING FOR THE WORKPLACE	3
Minor Course		3
Humanities and Fine Arts		3
Elective		3
<b>Credits</b>		<b>15</b>

#### Spring

ECON 3300	INTRODUCTION TO ECONOMETRICS	3
Upper Level Economics Course (3000+)		3
Elective		3
Minor Course		3
Elective		3
<b>Credits</b>		<b>15</b>

#### Senior

Fall		
Upper Level Economics Course (3000+)		3
Upper Level Economics Course (4000+)		3
Minor Course		3
Minor Course		3

Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ECON 4990	SENIOR ASSESSMENT	0
Upper Level Economics Course (4000+)		3
Upper Level Economics Course (3000+)		3
Minor Course		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Economics, Bachelor of Science

To obtain a BS with a major in Economics in the College of Arts & Sciences, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in major courses that satisfy distribution requirements are likely to reduce the total number of General Education hours.*)
- 12-19 hours college breadth requirement
- 51 hours of major courses
- 4-11 hours of electives

TOTAL HOURS: 120

### Requirements

A Bachelor of Science in Economics consists of a minimum of 36 credit hours.

Code	Title	Credits
<b>Required Economics Courses</b>		
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
ECON 3300	INTRODUCTION TO ECONOMETRICS	3

ECON 4990	SENIOR ASSESSMENT	0
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS (or equivalent) <sup>1</sup>	3
Select 12 hours of Economics electives from 3000-4000 level courses <sup>2</sup>		12
Select six hours of Economics electives from 4000 level courses <sup>2</sup>		6

**Required Cognate Courses**

For the B.S. degree, students are required to complete at least 15 hours of related cognate coursework, 3-5 credits of which must come from one of the following math courses:

MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES
or MATH 1950	CALCULUS I
or MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS

The rest of the 15 credit cognate requirement may be drawn from the following fields: business administration, computer science, geography, history, international studies, mathematics, political science, public administration, sociology, statistics and urban studies. No more than 6 credits of cognate coursework may double-count within the general education requirements. Cognate courses from other fields must be approved by the Economics advisor.

**Total Credits** **51**

<sup>1</sup> Equivalent courses include: SOC 2130, PSYC 3130, STAT 3000, STAT 1530, CIST 2500, STAT 3800, CRCJ/PA/SOWK 3000, and PSCI 3000.

<sup>2</sup> Economics courses are listed in the "College of Business Administration" section of this catalog.

A minimum of "C" (2.0) is necessary in each required and elective course.

**Freshman**

<b>Fall</b>		<b>Credits</b>
MATH 1220	COLLEGE ALGEBRA	3
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
HUMANITIES AND FINE ARTS		3
NATURAL/PHYSICAL SCIENCE W/LAB		4
<b>Credits</b>		<b>16</b>

**Spring**

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
ENGL 1160	ENGLISH COMPOSITION II	3
HUMANITIES AND FINE ARTS/US DIVERSITY		3
NATURAL/PHYSICAL SCIENCE		3

**Credits** **16**

**Sophomore**

<b>Fall</b>		
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
SOCIAL SCIENCE/GLOBAL DIVERSITY		3
HUMANITIES AND FINE ARTS		3
MINOR COURSE		3

**Credits** **15**

**Spring**

ECON 3220	ECONOMIC THEORY: MACRO	3
-----------	------------------------	---

MINOR COURSE	3
COGNATE COURSE	3
Upper Level Economics course (3000+)	3
ELECTIVE	3

**Credits** **15**

**Junior****Fall**

ECON 3200	ECONOMIC THEORY: MICRO	3
ENGL 3050	WRITING FOR THE WORKPLACE	3
MINOR COURSE		3
COGNATE COURSE		3
ELECTIVE		3

**Credits** **15**

**Spring**

ECON 3300	INTRODUCTION TO ECONOMETRICS	3
Upper Level Economics Course (3000+)		3
COGNATE COURSE		3
MINOR COURSE		3
ELECTIVE		3

**Credits** **15**

**Senior****Fall**

Upper Level Economics Course (3000+)	3
Upper Level Economics Course (4000+)	3
COGNATE COURSE	3
MINOR COURSE	3
ELECTIVE	3

**Credits** **15**

**Spring**

Upper Level Economics Course (4000+)	3	
Upper Level Economics Course (3000+)	3	
ECON 4990	SENIOR ASSESSMENT	0
ELECTIVE		3
ELECTIVE		3
ELECTIVE		1

**Credits** **13**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

# Economics Minor

## Requirements

A minor in Economics may be secured by completing the following:

Code	Title	Credits
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Select 12 hours of upper division courses in Economics		12
<b>Total Credits</b>		<b>18</b>

Any course that may be used for the major may be used for the minor.

A grade of "C" (2.0) or better is required in each course counting toward the minor.

## English

The Department of English at UNO works to increase the general literacy and cultural awareness of UNO students and also the citizens of Omaha and its immediate surroundings. Faculty are considerably involved in the Service Learning Academy, in area public high schools, in city- and state-wide cultural and literary societies, in public readings and lectures, in area literary competitions and a wide array of publication outlets, and at national and international venues, such as Fulbright and CLEPS.

Across all of our efforts in teaching, research, creative activity, and service, the UNO Department of English is a vital component of the university's strategic mission: to make students our focus, to promote academic excellence, and to engage with our community.

## Other Information

All coursework taken for the English major or minor must be completed with a grade of "C-" or better.

## Student Groups

Sigma Tau Delta (English Honor Society)

## Contact

192 Arts and Sciences Hall  
402.554.2635

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/english/>)

## Degrees Offered

- English, Bachelor of Arts (p. 126)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the English major this is either ENGL 2410 or ENGL 2420, depending on the concentration selected.

## Minors Offered

- English Minor (p. 135)

## Certificates Offered

- Certificate in Course in Teaching English to Speakers of Other Languages (TESOL) (p. 134)

Students who graduate with a BA from UNO's English department have gained so much more than an appreciation of language and literature. They are community leaders whose understanding of oral and written composition, linguistic and cultural norms, and rhetoric and argumentation are applied to a wide range of occupations. English graduates have not

only gone on to organize data for marketing or engineering firms, but have also started businesses, joined political campaigns, and integrated with community institutions in teaching, writing, and other fields of community involvement.

Although the skills gained with an English major are applicable to many fields, English graduates most commonly pursue and succeed in fields such as:

- Marketing Director
- Speech Writer
- Technical Publications Manager
- Technical Writer
- Underwriter
- Account Manager
- Editor
- Research Analyst
- Copywriter
- Grant Specialist
- Journalist
- Web Content Specialist
- Press Secretary
- Program Coordinator Non-Profit

### ENGL 1010 INTRODUCTION TO GENRE STUDIES: PROSE (3 credits)

This course introduces students to the study of short stories, novels, and creative non-fiction (optional; inclusion may vary by instructor).

**Distribution:** Humanities and Fine Arts General Education course

### ENGL 1020 INTRODUCTION TO GENRE STUDIES: POETRY, DRAMA, FILM (3 credits)

This course introduces students to the study of poetry, drama, and film (optional; inclusion may vary by instructor).

**Distribution:** Humanities and Fine Arts General Education course

### ENGL 1030 US CULTURES IN LITERATURE (3 credits)

The course introduces students to literary texts representing diverse U.S. groups: their ideologies, norms, and behaviors. Students will study conventions of various genres; ways in which those genres portray group identities; and attitudes toward group identities. Students will engage with texts through analysis, interpretation, and personal reflection.

**Prerequisite(s)/Corequisite(s):** Placement of 4 or higher on the English Placement and Proficiency Exam (EPPE)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

### ENGL 1090 ENGLISH AS A SECOND LANGUAGE I (3 credits)

This class is an intermediate writing-intensive course that will help students learn about the nature of the academic essay in American university settings; it is intended for students whose language of nurture is not English. Students receive intensive instruction in vocabulary and grammatical conventions appropriate for writing in a variety of disciplines as they engage in expository essay writing. In addition, students study the conventions of a thesis-driven argument and appropriate use of evidence to support their assertions.

**Prerequisite(s)/Corequisite(s):** A Score  $\geq$  500 on the paper TOEFL, 61 on the Internet TOEFL, 6.0 on the IELTS, 44 on the PTE (Pearson Test of English), or a placement of 2 (ENGL 1090) by Dept of English diagnostic examination (called the English Placement and Proficiency Exam or EPPE).

**ENGL 1100 ENGLISH AS A SECOND LANGUAGE II (3 credits)**

This class is an advanced writing-intensive course in which students learn about the nature of the academic essay in American university settings; it is intended for students whose language of nurture is not English. Through a study of cultural rhetorics, students become acclimated to the more advanced academic environments they will encounter in American universities and learn the conventions of the writing they will be asked to perform in their major courses, for example, research standards demanded by US professors, including appropriate selection and integration of sources into a student's own writing and navigation of an academic library.

**Prerequisite(s)/Corequisite(s):** Placement of 3 (ENGL 1100) by Department of English diagnostic examination (called the English Placement and Proficiency Exam or EPPE), or C- or better in ENGL 1090

**ENGL 1150 ENGLISH COMPOSITION I (3 credits)**

Instruction and practice in academic literacy practices, especially writing summaries, analyses, and critical essays in response to assigned texts. Sections identified as "ENGL 1154" are taught in a computer classroom. (Cross-listed with ENGL 1154).

**Prerequisite(s)/Corequisite(s):** Placement of 5 (ENGL 1150/ENGL 1154) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in ENGL 1050 or ENGL 1100, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition 1

**ENGL 1154 ENGLISH COMPOSITION I (3 credits)**

Instruction and practice in academic literacy practices, especially writing summaries, analyses, and critical essays in response to assigned texts. Sections identified as "ENGL 1154" are taught in a computer classroom. (Cross-listed with ENGL 1150).

**Prerequisite(s)/Corequisite(s):** Placement of 5 (ENGL 1150/ENGL 1154) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in ENGL 1050 or ENGL 1100, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition 1

**ENGL 1160 ENGLISH COMPOSITION II (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. Sections identified as "ENGL 1164" are taught in a computer classroom. (Cross-listed with ENGL 1164).

**Prerequisite(s)/Corequisite(s):** Placement of 6 (ENGL 1160/ENGL 1164) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in Composition I, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 1164 ENGLISH COMPOSITION II (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. Sections identified as "ENGL 1164" are taught in a computer classroom. (Cross-listed with ENGL 1160).

**Prerequisite(s)/Corequisite(s):** Placement of 6 (ENGL 1160/ENGL 1164) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in Composition I, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 1200 AUTOBIOGRAPHICAL READING AND WRITING (3 credits)**

This course helps students to write effectively by focusing on their own personal experience and by examining a variety of autobiographical writings. Students are exposed to multicultural perspectives throughout the course.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2000 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

A variety of topics primarily for the non-major. (For example, this course might study the image of the American businessman in American literature.) One or two such topics may be offered each term, depending upon current student interest and available faculty. Students should consult each term's class schedule in order to determine the specific topics for that term. (Cross-listed with WGST 2000 when topic is appropriate).

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**ENGL 2110 INTRODUCTION TO CREATIVE NONFICTION WRITING (3 credits)**

ENGL 2110 is an introduction to creative nonfiction writing. This course focuses on the study and analysis of creative nonfiction, which will focus primarily on the foundational elements of creative nonfiction writing, including characterization, dialogue, mood, rhythm and style, point-of-view, and voice.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or equivalent, or special permission from instructor. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2160 HONORS COMPOSITION: REASON AND RESEARCH (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. A variant of Composition II for honors students.

**Prerequisite(s)/Corequisite(s):** Reserved for students in the Honors Program. Admission to the Honors Program and placement of 6 on the English Proficiency Placement Exam (EPPE), grade of C- or better in Composition I, or permission of the Honors Program.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 2230 ETHNIC LITERATURE (3 credits)**

An introduction to the literature of Native Americans, black Americans, Hispanic Americans (Chicanos, Puerto Ricans or Cubans), and Asian Americans (Chinese and Japanese). Explains and defines cultural terms and practices, and attempts to prepare students for multicultural living.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ENGL 2250 THE SHORT STORY (3 credits)**

Readings in the modern short story with particular attention to literature as a reflection of life and to form as an outgrowth of content.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 / ENGL 1164 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2260 BLACK SHORT STORY (3 credits)**

A study of short stories written by black American authors as literature and as experience. The course explains and defines cultural terms and practices, and attempts to prepare students for multicultural living. (Cross-listed with BLST 2260).

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**ENGL 2280 INTRODUCTION TO LANGUAGE (3 credits)**

A study of the nature of language and its role in human affairs.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Social Science General Education course

**ENGL 2310 INTRODUCTION TO BRITISH LITERATURE I (3 credits)**

A survey of British literature from c.600 to the end of the 18th century.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2320 INTRODUCTION TO BRITISH LITERATURE II (3 credits)**

A survey of English literature from the Romantic period to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2350 AFRICAN AMERICAN LITERATURE 1746-1939 (3 credits)**

This course traces the development of black literature from 1746 to 1939.

Included will be a study of multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied will include early black writers, neoclassic and romantic traditions, and the Harlem Renaissance and Depression era schools of thought. (Cross-listed with BLST 2350).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**ENGL 2360 AFRICAN AMERICAN LITERATURE 1940-PRESENT (3 credits)**

This course traces the development of the literary contribution that black Americans have made from 1940 to the present. The course will study multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied include an evolution in resistance in writing, a movement toward literary assimilation in the 1940s-1950s, and the subsequent movement toward "Black Arts" from the 1960s to the present. (Cross-listed with BLST 2360).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or instructor permission

**ENGL 2400 ADVANCED COMPOSITION (3 credits)**

This course is an advanced study of writing, including careful examination of 1) written genres generally, 2) discourse conventions of a student's academic discipline, and 3) a student's own reading and writing strategies, processes, habits, and preferences. Students will develop understanding of how writing functions in academic and professional communities as well as gain proficiency in discipline-specific research and writing, including identification of audience and rhetorical situation.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 2410 CRITICAL APPROACHES TO LITERATURE (3 credits)**

An introduction to research, theory, and writing about literary and cultural studies; includes, but is not limited to, reading literary works and a variety of critical interpretations of those works, specialized library research, learning the discipline's documentation style, and writing in diverse genres (e.g. synopses, abstracts, poetry explications, prose analyses, reviews, essay exams and research papers).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**Distribution:** Writing in the Discipline Single Course

**ENGL 2420 CRITICAL APPROACHES TO LANGUAGE STUDIES (3 credits)**

This course introduces students to Language Studies, including disciplinary theories and discourses, key issues, and methodologies in rhetoric, composition, technical communication, and linguistics. Students will also practice and become familiar with the writing conventions within Language Studies.

**Prerequisite(s)/Corequisite(s):** ENGL 1160.

**Distribution:** Writing in the Discipline Single Course

**ENGL 2450 AMERICAN LITERATURE I (3 credits)**

A survey of American literature to the Civil War.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2460 AMERICAN LITERATURE II (3 credits)**

A survey of American literature since the Civil War.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2470 SURVEY OF NATIVE AMERICAN LITERATURE (3 credits)**

An introduction to the literature of the oral tradition among the Native American peoples and to the written literature of post-contact and contemporary times.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 2480 THE AMERICAN LANGUAGE (3 credits)**

A study of the historical development, current condition, and diversity of English language varieties in America, including both linguistic and sociocultural factors that have influenced them.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** U.S. Diversity General Education course

**ENGL 2490 LATINO/A LITERATURE (3 credits)**

This course is an introduction to contemporary literature by Latinos/as in the United States, providing an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from the mid-19th Century to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or by permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ENGL 2500 LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD (3 credits)**

A study of European literature in English translation. Includes the works of such writers as Homer, Sophocles, Sappho, Virgil, Horace, Ovid and St. Augustine.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2510 GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD (3 credits)**

A study of world (excluding English) literature and culture in English translation. May include the study of Norse mythology, medieval Jewish and Muslim writers of southern Spain, or the works of such writers as Dante, Chretien de Troyes, Averroes (Ibn Rushid), Maimonides, Christine de Pisan, Maria de Zayas, or Rousseau.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 or permission

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 2520 LITERATURE OF WESTERN CIVILIZATION: THE MODERN WORLD (3 credits)**

A study of the modern period in European literature (exclusive of English literature) from the 18th century Romantic movement to recent 20th century developments, including writings from Rousseau through Solzhenitsyn.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 3000 SPECIAL TOPICS IN ENGLISH (3 credits)**

This course introduces students to a specialized subject matter in the disciplines of English Studies not covered in existing courses. This course may be repeated for different topics.

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**ENGL 3050 WRITING FOR THE WORKPLACE (3 credits)**

In this course students learn to write polished, professional communication, focusing content for specific audiences and contexts. Instruction stresses audience and situational analysis, clarity, and professional tone and style as well as elements of format and pattern, research, and revision techniques.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, ENGL 1164, or permission of instructor

**Distribution:** Writing in the Discipline Single Course

**ENGL 3100 NATIVE AMERICAN LITERATURE: MAJOR FIGURES (3 credits)**

An in-depth study of elements of Native American literature or of particular poets, novelists, biographers or short story writers.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 3130 AMERICAN NONFICTION (3 credits)**

This is an intermediate literature course intended to give students broad exposure to American nonfiction. Students will study and analyze a variety of literary forms, including the personal essay, memoir, and literary journalism, from a wide range of historical periods.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 3150 FORM AND STYLE IN CREATIVE NONFICTION (3 credits)**

This is an introduction to creative nonfiction. This course focuses on the study and analysis of the art of creative nonfiction and its various subgenres: personal essay, memoir, literary journalism, travel writing, segmented/collage essay, and literary/cultural analysis.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or ENGL 1164 or a composition II equivalent. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 3170 SUCCESSFUL FREELANCE JOURNAL WRITING (3 credits)**

This course will address the steps necessary to successful freelance writing: selecting an interesting topic, choosing an innovative angle, understanding audience, researching a suitable publication, drafting a compelling query, editing work and rewriting all or parts of the essay, working with editors, understanding and accepting rejection letters. Ultimately, students in this course will work toward the end goal of submitting their polished work for publication in both paying and non-paying markets.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents

**ENGL 3180 GENDER IDENTITY IN PERSONAL WRITING (3 credits)**

Students will read a variety of memoirs and personal essays by both emerging and established LGBTQIA+ creative nonfiction writers and allies, with a focus on trans writers; analyze the craft choices each author makes; analyze textual and theoretical explorations of gender identity and gender performativity; and explore their gender identities, and gender experiences in the essays that they compose. (Cross-listed with WGST 3180).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents required.

**ENGL 3280 IRISH LITERATURE I (3 credits)**

This course explores Irish literature from the early medieval period (c. 600) to the late nineteenth century and the Irish Literary Renaissance. Texts include works written in Irish as well as in English, and cover a variety of genres, including but not limited to: early medieval monastic nature poetry, medieval prose saga literature, the Irish bardic and aisling traditions, political satire and laments, Anglo-Irish Ascendancy novels, and the Irish Gothic.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission required; ENGL 2410 and ENGL 2310 recommended.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 3290 IRISH LITERATURE II (3 credits)**

A survey of Irish literature in both English and Irish from the beginning of the Irish Literary Renaissance (c. 1880) to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission required; ENGL 2410, and ENGL 2320 or ENGL 3280 recommended. Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

**ENGL 3300 JUNIOR TOPICS IN AMERICAN LITERATURE (3 credits)**

This course is an introduction to topics in American literature, to include colonial, modern, and postmodern literature and also Native American and immigrant/diaspora literature written in English or read in translation. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420

**ENGL 3400 JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE (3 credits)**

This course introduces students to topics in British or Irish literature or the literature of the former British commonwealths. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3500 JUNIOR TOPICS IN GLOBAL LITERATURE (3 credits)**

Topics in world literature, to include trans-national and trans-continental literature written in English or read in translation. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3610 INTRODUCTION TO LINGUISTICS (3 credits)**

An introduction to the concepts and methodology of the scientific study of language; includes language description, history, theory, variation, and semantics as well as first and second language acquisition. (Cross-listed with ENGL 8615).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**ENGL 3770 WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH (3 credits)**

This course is an introduction to writing center theory, pedagogy, research, and history. The course is designed for undergraduate and graduate students interested in or already working in a writing center. Throughout the course we will explore a wide range of models for writing center work and the often problematic metaphors associated with those models. The overall aim in this course will be to help students develop multiple strategies for teaching writing one-to-one, for conducting research in writing centers, and for understanding writing center administration. (Cross-listed with ENGL 8775).

**ENGL 3800 JUNIOR TOPICS IN LANGUAGE STUDIES (3 credits)**

This is a special topics course in language studies intended primarily for juniors in the English major. Topics include specific study in the areas of composition, rhetoric, technical communication, and/or linguistics, and will often include considerations of other cultures and languages. Readings may vary according to the topic.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3980 TECHNICAL WRITING ACROSS THE DISCIPLINES (3 credits)**

This course emphasizes the problem-solving processes of producing effective written documents and visuals in technical professions. Students will study the genres, situations, and audiences related to professional settings, the contexts in which writing occurs, the process involved in individual and collaborative projects, and the production of technical documents.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Writing in the Discipline Single Course

**ENGL 4020 AMERICAN POETRY TO 1900 (3 credits)**

A comprehensive survey of the American poetic tradition from the 17th to the end of the 19th century. (Cross-listed with ENGL 8026).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, or another writing in the major course recommended.

**ENGL 4030 AMERICAN POETRY SINCE 1900 (3 credits)**

A survey of the American poetic tradition from the turn of the twentieth-century to the present, focusing on various "schools" such as Imagism, High Modernism, the Harlem Renaissance, Confessional, Beats, and New Formalism. (Cross-listed with ENGL 8036).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, or other writing in the major course recommended.

**ENGL 4060 THE AMERICAN NOVEL (3 credits)**

A comprehensive survey of the evolution of the American Novel from the 1780s to the present day. Special emphasis will be placed on how a broad range of authors have responded to changing cultural and historical circumstances, and on how they have expressed widely varying viewpoints depending on their own gender, race, geographic region, and/or ethnicity. (Cross-listed with ENGL 8066).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and 1160; ENGL 2410 recommended

**ENGL 4140 AMERICAN LITERARY REALISM AND NATURALISM (3 credits)**

In the late nineteenth and early twentieth century two major literary genres - Realism and Naturalism - emerged in the United States not only to challenge the primacy of Romanticism and its generally optimistic view of life but also to actively engage with the modern America created after the Civil War. This course examines a wide range of realist and naturalist works, written between 1865 and 1914, by an extremely diverse group of male and female authors from different races, ethnicities, regions, religions, and socioeconomic classes. Emphasis will be placed on how various cultural, economic, political, and social factors influenced the construction and reception of these works. (Cross-listed with ENGL 8146).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, and ENGL 2450 or ENGL 2460.

**ENGL 4160 TOPICS IN AMERICAN REGIONALISM (3 credits)**

A study of major topics in American literary regionalism, with special emphasis on particular social, cultural, and geographical contexts. Focus will be determined by instructor, but may include particular historical periods, geographic regions, authors, or literary themes. (Cross-listed with ENGL 8166).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; ENGL 2410 highly recommended.

**ENGL 4230 LATINO LITERATURE (3 credits)**

A study of representative works of Mexican-American, Spanish-American, and American writers, along with their cultural and historical antecedents. Formerly ENGL 4180/8186 Chicano Literature and Culture. (Cross-listed with ENGL 8236).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENGL 4240 TEACHING LATINO LITERATURE (3 credits)**

This course is designed specifically for current or future teachers of high school students. It introduces pedagogical approaches of contemporary literature by Latinos/as in the United States. The course provides an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from mid-19th Century to the present and complement that with social, cultural, historical and other approaches to developing teaching strategies. (Cross-listed with ENGL 8246)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** U.S. Diversity General Education course

**ENGL 4250 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 8256, WGST 4250).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; ENGL 2410 or ENGL 2420 recommended.

**ENGL 4260 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms about a womanist perspective. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on white, male literary experiences and criteria. (Cross-listed with ENGL 8266).

**Prerequisite(s)/Corequisite(s):** English major. ENGL 1150 or ENGL 11160 required; ENGL 2410 highly recommended

**ENGL 4270 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 8276, WGST 4270).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; completion of ENGL 2410 or other writing in the major course recommended.

**ENGL 4280 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 8286, WGST 3160).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; completion of writing in the major course recommended.

**ENGL 4300 ANGLO-SAXON LITERATURE (3 credits)**

From the sixth to the eleventh centuries, a people known collectively as the Anglo-Saxons ruled Britain, giving it a new name and establishing the roots of the modern English language. Anglo-Saxon culture continues to haunt the modern imagination. We study the historic, artistic and intellectual environment that produced this influential literary tradition. We also place these people, their language, and their writings within the context of the broader early medieval world. Finally, we engage with some of the foremost modern scholars of this fascinating culture. (Cross-listed with ENGL 8306).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and ENGL 2410 or 2420; ENGL 2310 recommended; or instructor permission

**ENGL 4320 CHAUCER (3 credits)**

A literary, linguistic, and historical study of the works of Geoffrey Chaucer: his dream visions, Troilus and Criseyde, and the Canterbury Tales. (Cross-listed with ENGL 8326).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320 or permission.

**ENGL 4330 RENAISSANCE SATIRE (3 credits)**

Satirical traditions and the literature of critique and invective as inherited from medieval and classical forms. Considerations will include satire as an aesthetic, philosophical, and political mode of expression; topicality as it relates to and portrays cultural history; and self-representation through humanist learning and response. (Cross-listed with ENGL 8336).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent. ENGL 2410 or ENGL 2420 and ENGL 2310 are recommended.

**ENGL 4340 SHAKESPEARE (3 credits)**

A critical study of selected plays and poetry from Shakespeare's works, in the context of the historical and cultural moment of the English Renaissance and as a set of texts inherited and reinvented by modernity. (Cross-listed with ENGL 8346).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; ENGL 2410 or ENGL 2420 and ENGL 2310 are recommended.

**ENGL 4360 RENAISSANCE LYRIC (3 credits)**

A study of the meaning and form of the short poetry of the Renaissance, including the sonnet, epithalamion, elegy, mock epic, pastoral, satire, city poem, ballad, song, sestina, country poem, libel, complaint, psalm, devotional lyric, epistle, and epigram. (Cross-listed with ENGL 8366).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 required and ENGL 2410 and 2310 recommended.

**ENGL 4370 RESTORATION AND EIGHTEENTH CENTURY LITERATURE (3 credits)**

Poetry, prose (exclusive of the novel), and drama of England in the Restoration and 18th century (1660-1800), with emphasis on Swift and Johnson. Formerly ENGL 4620/8626. (Cross-listed with ENGL 8376).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320 or permission.

**ENGL 4380 THE EIGHTEENTH CENTURY ENGLISH NOVEL (3 credits)**

Readings in the English novel from Daniel Defoe to Jane Austen. Formerly ENGL 4640/8646. (Cross-listed with ENGL 8386).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320

**ENGL 4390 MEDIEVAL CELTIC LITERATURE (3 credits)**

This course examines the literature and culture of the Celtic civilizations. The course examines the archeological record and texts about the Celts by Greek and Roman authors, as well as later medieval tales from the Irish, Welsh, and Breton traditions. All texts are in translation with guided reference to the original languages. (Cross-listed with ENGL 8396).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420 and one ENGL course above 3299; or instructor permission; ENGL 2310 recommended. Not open to non-degree graduate students.

**ENGL 4410 LITERATURE OF THE ROMANTIC PERIOD (3 credits)**

Poetry and prose (excluding the novel) of England from 1798 to 1830. Formerly ENGL 4810/8816. (Cross-listed with ENGL 8416).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320.

**ENGL 4420 NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES (3 credits)**

English and Anglophone poetry and prose (excluding the novel) in the nineteenth century. (Cross-listed with ENGL 8426).

**Prerequisite(s)/Corequisite(s):** ENGL 2320 or permission

**ENGL 4430 THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY) (3 credits)**

Introduction to the British and Anglophone novel in the nineteenth and twentieth century. (Cross-listed with ENGL 8436).

**Prerequisite(s)/Corequisite(s):** ENGL 2320 or permission of the instructor

**ENGL 4460 THE 20TH CENTURY ENGLISH NOVEL (3 credits)**

Readings in the English novel from Joseph Conrad to the present. Formerly ENGL 4660/8666. (Cross-listed with ENGL 8466).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420; ENGL 2320 is recommended.

**ENGL 4490 GREAT WORKS OF BRITISH LITERATURE (3 credits)**

This course pursues a trans-historical approach to literary study while interrogating what makes a literary work "great" within the field of British Literature. It allows students to engage with great works of British literature from across the ages - starting with the foundations of British literary history in the medieval period and extending to the present. Attending to formal, thematic, and historical dimensions of a wide array of literary texts, we will increase our appreciation of the many ways texts make meaning while developing a deep understanding of the British literary tradition. Reading literature with a sense of purpose and comparatively across time will allow us not only to appreciate great works but also to enhance the impact they have on us. Furthermore, we will recognize how culture and politics inform what literary works become deemed "great," thereby developing a critical understanding of the process of canon formation. (Cross-listed with ENGL 8496).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 or ENGL 1160, ENGL 2410 recommended

**ENGL 4620 HISTORY OF ENGLISH (3 credits)**

A critical study of both the internal and external histories of English. Includes historical development of English phonology, morphology, graphics, syntax, diction, dialects, and semantics. (Cross-listed with ENGL 8626).

**Prerequisite(s)/Corequisite(s):** Junior or permission

**ENGL 4640 APPLIED LINGUISTICS (3 credits)**

This course is designed to develop knowledge and skills for second language instructors and others interested in second language learning and instruction. Content covers relevant second language acquisition (SLA) theory and second language pedagogy. (Cross-listed with ENGL 8646).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 and Junior standing or with permission from instructor.

**ENGL 4650 STRUCTURE OF ENGLISH (3 credits)**

A study of grammar as it has been conceived through history, including traditional prescriptive and descriptive approaches as well as transformational- generative grammar. (Cross-listed with ENGL 8656).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 / ENGL 8615 or permission.

**ENGL 4670 SOCIOLINGUISTICS (3 credits)**

An exploration of interconnections between language, culture, and communicative meaning, stressing interactional, situational, and social functions of language as they take place and are created within social contexts. (Cross-listed with ENGL 8676).

**Prerequisite(s)/Corequisite(s):** ENGL 3610/ENGL 8615, or permission.

**ENGL 4690 TOPICS IN LINGUISTICS (3 credits)**

Studies in a selected subfield or problem area of linguistics such as sociolinguistics, generative semantics, applied linguistics, descriptive linguistics, teaching English as a foreign language, etc. Formerly ENGL 4960/8966 Studies in Linguistics. (Cross-listed with ENGL 8696).

**ENGL 4730 RHETORIC (3 credits)**

A study of contemporary theories of invention, form, and style and their application in written discourse. Formerly ENGL 4750/8756. (Cross-listed with ENGL 8756, ENGL 8736).

**Prerequisite(s)/Corequisite(s):** Any 2000 or above writing course or permission

**ENGL 4750 COMPOSITION THEORY & PEDAGOGY (3 credits)**

This course is an overview of composition theories and pedagogies since 1968 and focuses on how historical movements in education and theoretical frameworks (rhetorical, expressivist, socio-cognitivist, collaborative, social constructionist, critical pedagogy, cultural studies, feminist, technological, and linguistic theories) both enrich and complicate the teaching of composition. (Cross-listed with ENGL 8756).

**Prerequisite(s)/Corequisite(s):** Any 2000 or above writing course or permission

**ENGL 4790 ENGLISH CAREER PREPARATION (1 credit)**

This course will prepare students for an internship or a career, addressing topics such as finding and applying for internships, workplace and industry, resume and cover letters, interviewing techniques, developing a professional portfolio, and statement of goals. Taking this course prior to an internship is highly recommended. (Cross-listed with ENGL 8796).

**Prerequisite(s)/Corequisite(s):** Junior or senior level, one 4000-level English course, or permission of instructor.

**ENGL 4800 ENGLISH INTERNSHIP (1-3 credits)**

Supervised internship in a professional setting with a local employer or nonprofit organization. Hands-on experience. Work hours, activities, and responsibilities must be specified in a written agreement between the employer and the student in consultation with the internship director. Some internships will be paid and some will not. (Cross-listed with ENGL 8806).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, an ENGL 4000-level writing course, Junior/Senior standing, and permission of internship director.

**ENGL 4810 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 8816, JMC 4810, JMC 8816).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 or permission of instructor

**ENGL 4820 AUTOBIOGRAPHY (3 credits)**

In this creative nonfiction writing course, students will craft, workshop, and revise original works of autobiographical nonfiction. Students will read, discuss and critically analyze writing techniques found in diverse autobiographical prose by published authors and student peers. A final project will invite students to research and summarize a book-length autobiography of their own. (Cross-listed with ENGL 8826).

**Prerequisite(s)/Corequisite(s):** ENGL 2110 or ENGL 3150 or ENGL 2410 or ENGL 2420 or Instructor Permission

**ENGL 4830 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 8836, JMC 4830, JMC 8836.)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110, or permission of instructor.

**ENGL 4840 TRAVEL WRITING (3 credits)**

Travel Writing is a course in professional writing. Although the course includes critical examinations of texts, the primary focus is on the composition of various kinds of travel essays. (Cross-listed with ENGL 8846).

**Prerequisite(s)/Corequisite(s):** ENGL 2410, ENGL 2420, or ENGL 3150

**ENGL 4850 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 8856, JMC 4850, JMC 8856).

**Prerequisite(s)/Corequisite(s):** ENGL 4810 or ENGL 4830, or permission of instructor.

**ENGL 4860 THE MODERN FAMILIAR ESSAY (3 credits)**

Students in this course will read as well as write the Modern Familiar Essay, a sub-genre of Creative Nonfiction, with an emphasis on writing the informal essay. Essays will represent a wide scope of perspectives and issues, including gender, social class, education, politics, culture, sexuality, health, race, and ethnicity, and will range from the the sixteenth century "inventor" of the modern essay to twenty-first century practitioners of the form. This course will also cover a wide range of sub-genres and stylistic forms, such as memoir, autobiography, flash, experimental, and more. (Cross-listed with ENGL 8866).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2110 or ENGL 3150 or instructor permission for Arts, 7-12; Secondary English, 7-12; and/or English as a Second Language, 7-12

**ENGL 4870 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 8876, JMC 4870, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**ENGL 4890 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 8896, JMC 4890, JMC 8896).

**Prerequisite(s)/Corequisite(s):** ENGL 4810, ENGL 4830, ENGL 4870 and ENGL 4850, or permission of instructor.

**ENGL 4930 NARRATIVE NONFICTION (3 credits)**

Students will read, discuss, and write critical analyses of narrative nonfiction by published and student writers. They will craft, workshop, and revise original works of narrative nonfiction. (Cross-listed with ENGL 8936).

**Prerequisite(s)/Corequisite(s):** One creative nonfiction course or permission from the instructor

**ENGL 4950 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 8956, MEDH 4950).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**ENGL 4960 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

This course introduces students to a specialized subject matter in the discipline of English Studies not covered in existing courses. This course may be repeated for different topics. (Cross-listed with ENGL 8966).

**Prerequisite(s)/Corequisite(s):** Will vary depending on what the topic is.

**ENGL 4970 WRITING ABOUT SICKNESS AND HEALTH (3 credits)**

Students will explore many themes of the human experience in healthcare through reading and discussion of selected poems, short stories, excerpts from fiction, and essays and creative nonfiction. To help students generate their own poems, stories, and essays, the class will incorporate the work of community writing programs and projects. (Cross-listed with ENGL 8976).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor.

**ENGL 4980 TOPICS: INDEPENDENT STUDY (3 credits)**

Specially planned readings in a well-defined field of literature or language, carried out under the supervision of a member of the English faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior, and no incompletes outstanding.

**ENGL 4990 SENIOR PAPER OR PROJECT (1 credit)**

Attached to an existing 4000-level English course in which a student is currently enrolled and normally added during the first six weeks of the academic semester, the Senior Paper or Project contracts a student to produce a culminating paper or project in an area of the English major. The paper or project produced in conjunction with this course will constitute a student's most dedicated accomplishment at the end of her or his undergraduate career.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor and senior standing. Not open to non-degree graduate students.

## English, Bachelor of Arts

**Hour Requirements**

To obtain a BA with a major in English, a student must fulfill university, college, and departmental requirements:

- 46 University General Education Hours (*Testing out of academic skills requirements and enrolling in major courses that satisfy distribution*)

requirements are likely to reduce the total number of General Education hours.)

- 16 Foreign Language Hours
- 12-19 College Breadth Requirement Hours
- 36-39 Major Hours
- 0-10 Elective Hours

TOTAL HOURS: 120

### Core Requirements

Each concentration has its own core requirements including ENGL 2410 or ENGL 2420, foundational English courses. All concentrations also include a literature, language studies, or creative nonfiction course. All concentrations require a capstone experience, including an internship, the senior paper/project, or student teaching.

The Bachelor of Arts in English may be completed through one of five concentrations, each with some overlap in course requirements to allow students to migrate efficiently between concentrations.

- Concentration in Creative Nonfiction
- Concentration in Language Studies
- Concentration in American Literature
- Concentration in British/Irish/Anglophone Literature
- Concentration in Secondary English Teaching

The English major is also offered as a double major with the College of Education. Students are able to earn a B.S. from the College of Education with a double major in Secondary Education (Secondary English 7-12 Endorsement) and English, along with Nebraska State Certification to teach in this area. For details, see the Concentration in Secondary English Teaching.

### American Literature

Code	Title	Credits
<b>Required coursework:</b>		
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
Select one from the following list of American Literature courses:		3
ENGL 2350	AFRICAN AMERICAN LITERATURE 1746-1939	
ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT	
ENGL 2450	AMERICAN LITERATURE I	
ENGL 2460	AMERICAN LITERATURE II	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
Select one from the following list of Language Studies courses:		3
ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	
ENGL 3610	INTRODUCTION TO LINGUISTICS	
ENGL 3770	WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH	
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	
ENGL 4620	HISTORY OF ENGLISH	
ENGL 4640	APPLIED LINGUISTICS	
ENGL 4650	STRUCTURE OF ENGLISH	
ENGL 4670	SOCIOLINGUISTICS	
ENGL 4690	TOPICS IN LINGUISTICS	

ENGL 4730	CONTEMPORARY RHETORIC	
ENGL 4750	COMPOSITION THEORY & PEDAGOGY	
ENGL/JMC 4810	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 4830	TECHNICAL COMMUNICATION	
ENGL/JMC 4850	INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 4870	TECHNICAL EDITING	
ENGL/JMC 4890	CAPSTONE COURSE IN TECHNICAL COMMUNICATION	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE <sup>1</sup>	
3 credit hours from the following American Literature courses 3000-3390		3
ENGL 3000	SPECIAL TOPICS IN ENGLISH (American Literature Topic)	
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES	
ENGL 3130	AMERICAN NONFICTION	
ENGL 3300	JUNIOR TOPICS IN AMERICAN LITERATURE	
Select three from the following list of 4000-level American Literature courses:		9
ENGL 4020	American Poetry to 1900	
ENGL 4030	AMERICAN POETRY SINCE 1900	
ENGL 4060	THE AMERICAN NOVEL	
ENGL 4140	AMERICAN LITERARY REALISM AND NATURALISM	
ENGL 4160	TOPICS IN AMERICAN REGIONALISM	
ENGL 4210	THE HARLEM RENAISSANCE	
ENGL 4230	Latino Literature	
ENGL 4240	TEACHING LATINO LITERATURE	
ENGL 4270 & WGST 4270	WOMEN WRITERS OF THE NORTH AMERICAN WEST and WOMEN WRITERS OF THE NORTH AMERICAN WEST	
ENGL 4280	QUEER AMERICAN WESTS	
ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM	
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE	
Senior Paper/Project/Internship:		1-3
ENGL 4990 or ENGL 4800	SENIOR PAPER OR PROJECT ENGLISH INTERNSHIP	
3 credit elective in English at the 1000-level or above		3
6 credits electives in English at the 2000-level or above		6
6 credits electives in English at the 3000-level or above		6
<b>Total Credits</b>		<b>37-39</b>

The B.A. degree requires completion of a foreign language through the intermediate level.

<sup>1</sup> ENGL 4960 when pertaining to American Literature topic.

### British/Irish/Anglophone Literature

Code	Title	Credits
<b>Required Coursework:</b>		
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
Select one from the following British Literature Survey options:		3

ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
Select one from the following list of Language Studies courses:		3
ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	
ENGL 3610	INTRODUCTION TO LINGUISTICS	
ENGL 3770	WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH	
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	
ENGL 4620	HISTORY OF ENGLISH	
ENGL 4640	APPLIED LINGUISTICS	
ENGL 4650	STRUCTURE OF ENGLISH	
ENGL 4670	SOCIOLINGUISTICS	
ENGL 4690	TOPICS IN LINGUISTICS	
ENGL 4730	CONTEMPORARY RHETORIC	
ENGL 4750	COMPOSITION THEORY & PEDAGOGY	
ENGL/JMC 4810	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 4830	TECHNICAL COMMUNICATION	
ENGL/JMC 4850	INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 4870	TECHNICAL EDITING	
ENGL/JMC 4890	CAPSTONE COURSE IN TECHNICAL COMMUNICATION	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE	
3 credits from the following British/Irish/Anglophone Literature courses ENGL 3000-3490.		3
ENGL 3000	SPECIAL TOPICS IN ENGLISH (British/Irish/Anglophone Topic)	
ENGL 3280	IRISH LITERATURE I	
ENGL 3290	IRISH LITERATURE II	
ENGL 3400	JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE	
Select three from the following list of British/Irish/Anglophone Literature courses at the 4000-level:		9
ENGL 4330	RENAISSANCE SATIRE	
ENGL 4340	SHAKESPEARE	
ENGL 4360	RENAISSANCE LYRIC	
ENGL 4370	RESTORATION AND EIGHTEENTH-CENTURY LITERATURE	
ENGL 4380	THE EIGHTEENTH CENTURY ENGLISH NOVEL	
ENGL 4390	MEDIEVAL CELTIC LITERATURE	
ENGL 4410	LITERATURE OF THE ROMANTIC PERIOD	
ENGL 4420	NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES	
ENGL 4430	THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY)	
ENGL 4480	20TH CENTURY ENGLISH LITERATURE	
ENGL 4490	GREAT WORKS OF BRITISH LITERATURE	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE <sup>1</sup>	
Senior Paper/Project/Internship		1-3
ENGL 4990	SENIOR PAPER OR PROJECT	
or ENGL 4800	ENGLISH INTERNSHIP	
3 credit elective in English at the 1000-level or above.		3

6 credits electives in English at the 2000-level or above.	6
6 credits electives in English at the 3000-level or above.	6

**Total Credits** **37-39**

The B.A. degree requires completion of a foreign language through the intermediate level.

<sup>1</sup> ENGL 4960 when pertaining to British/Irish/Anglophone Literature topic.

### Creative Nonfiction

Code	Title	Credits
<b>Required Coursework:</b>		
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	3
or ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	
ENGL 3130	AMERICAN NONFICTION	3
ENGL 3150	FORM AND STYLE IN CREATIVE NONFICTION	3
Select two from the following list of Literature courses:		6
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 2350	AFRICAN AMERICAN LITERATURE 1746-1939	
ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT	
ENGL 2450	AMERICAN LITERATURE I	
ENGL 2460	AMERICAN LITERATURE II	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
ENGL 2500	LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD	
ENGL 2510	GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD	
ENGL 2520	LITERATURE OF WESTERN CIVILIZATION: THE MODERN WORLD	

Select three from the following list of Creative Nonfiction courses: 9

ENGL 3000	SPECIAL TOPICS IN ENGLISH (Creative Nonfiction Topic)	
ENGL 4820	AUTOBIOGRAPHY	
ENGL 4840	TRAVEL WRITING	
ENGL 4860	THE MODERN FAMILIAR ESSAY	
ENGL 4930	NARRATIVE NONFICTION	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE <sup>1</sup>	
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH	

Up to 3 credits of this requirement may be satisfied with WRWS 2050 or WRWS 2060

Senior Paper/Project/Internship		1-3
ENGL 4990	SENIOR PAPER OR PROJECT	
or ENGL 4800	ENGLISH INTERNSHIP	
12 credits of electives in English at any level		12

**Total Credits** **37-39**

The B.A. degree requires completion of a foreign language through the intermediate level.

<sup>1</sup> ENGL 4960 when pertaining to a Creative Nonfiction topic.

## Language Studies

Code	Title	Credits
Required coursework:		
ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL 3610	INTRODUCTION TO LINGUISTICS	
Select one from the following list of American Literature courses:		3
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	
ENGL 2450	AMERICAN LITERATURE I	3
ENGL 2350	AFRICAN AMERICAN LITERATURE 1746-1939	
ENGL 2460	AMERICAN LITERATURE II	3
ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	3
ENGL 2490	LATINO/A LITERATURE	
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES	3
ENGL 3300	JUNIOR TOPICS IN AMERICAN LITERATURE	
ENGL 4020	American Poetry to 1900	3
ENGL 4030	AMERICAN POETRY SINCE 1900	
ENGL 4060	THE AMERICAN NOVEL	3
ENGL 4140	AMERICAN LITERARY REALISM AND NATURALISM	
ENGL 4160	TOPICS IN AMERICAN REGIONALISM	3
ENGL 4210	THE HARLEM RENAISSANCE	
ENGL 4230	Latino Literature	3
ENGL 4240	TEACHING LATINO LITERATURE	
ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	3
ENGL 4260	WOMEN OF COLOR WRITERS	
ENGL/WGST 4270	WOMEN WRITERS OF THE NORTH AMERICAN WEST	3
ENGL 4280	QUEER AMERICAN WESTS	
ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM	3
Select one from the following list of British/Irish/Anglophone Literature courses:		
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	3
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	3
ENGL 2500	LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD	
ENGL 2510	GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD	3
ENGL 2520	LITERATURE OF WESTERN CIVILIZATION: THE MODERN WORLD	
ENGL 3280	IRISH LITERATURE I	3
ENGL 3400	JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE	
ENGL 4320	CHAU CER	3
ENGL 4330	RENAISSANCE SATIRE	
ENGL 4340	SHAKESPEARE	

ENGL 4360	RENAISSANCE LYRIC	3
ENGL 4370	RESTORATION AND EIGHTEENTH-CENTURY LITERATURE	
ENGL 4380	THE EIGHTEENTH CENTURY ENGLISH NOVEL	
ENGL 4390	MEDIEVAL CELTIC LITERATURE	3
ENGL 4410	LITERATURE OF THE ROMANTIC PERIOD	
ENGL 4420	NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES	
ENGL 4430	THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY)	3
ENGL 4490	GREAT WORKS OF BRITISH LITERATURE	
Select one from the following list of Creative Nonfiction courses:		
ENGL 3130	AMERICAN NONFICTION	3
ENGL 3150	FORM AND STYLE IN CREATIVE NONFICTION	
ENGL 3170	SUCCESSFUL FREELANCE JOURNAL WRITING	
ENGL 3180	GENDER IDENTITY IN PERSONAL WRITING	3
ENGL 4820	AUTOBIOGRAPHY	
ENGL 4840	TRAVEL WRITING	
ENGL 4860	THE MODERN FAMILIAR ESSAY	3
ENGL 4930	NARRATIVE NONFICTION	
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH	
Select five from the following list of Language Studies courses:		15
ENGL 3770	WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH	
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	
ENGL 4620	HISTORY OF ENGLISH	3
ENGL 4640	APPLIED LINGUISTICS	
ENGL 4650	STRUCTURE OF ENGLISH	
ENGL 4670	SOCIOLINGUISTICS	3
ENGL 4690	TOPICS IN LINGUISTICS	
ENGL 4730	CONTEMPORARY RHETORIC	
ENGL 4750	COMPOSITION THEORY & PEDAGOGY	3
ENGL/JMC 4810	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 4830	TECHNICAL COMMUNICATION	
ENGL/JMC 4870	TECHNICAL EDITING	3
ENGL/JMC 4890	CAPSTONE COURSE IN TECHNICAL COMMUNICATION	
1-3 credits of English Internship:		
ENGL 4800	ENGLISH INTERNSHIP	1-3
6 credits of elective in English at any level		
Total Credits		31-33

The B.A. degree requires completion of a foreign language through the intermediate level.

## Secondary English Teaching

The English major with a concentration in Secondary Education 7-12 is ONLY offered as a double major with the College of Education. Students are able to earn a B.S. from the College of Education with a double major in Secondary Education (Secondary English 7-12 Endorsement) and English, along with Nebraska State Certification to teach in this area.

Complete 36 credit hours in English with grades of C or above (this is different from the English Department's requirement of a minimum grade of C- or above).

Code	Title	Credits
<b>Required Coursework:</b>		
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL 2310 or ENGL 2320	INTRODUCTION TO BRITISH LITERATURE I INTRODUCTION TO BRITISH LITERATURE II	3
ENGL 2450 or ENGL 2460	AMERICAN LITERATURE I AMERICAN LITERATURE II	3
ENGL 4060 or ENGL 4490	THE AMERICAN NOVEL <sup>1</sup> GREAT WORKS OF BRITISH LITERATURE	3
Select one of the following:		3
ENGL 2250	THE SHORT STORY	
ENGL 2260	BLACK SHORT STORY	
ENGL 2280	INTRODUCTION TO LANGUAGE	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
ENGL 4250	WOMEN'S STUDIES IN LITERATURE	
Select one of the following:		3
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES	
ENGL 3280	IRISH LITERATURE I	
ENGL 3290	IRISH LITERATURE II	
ENGL 4250	WOMEN'S STUDIES IN LITERATURE	
ENGL 4260	WOMEN OF COLOR WRITERS	
All of the following:		
ENGL 4750	COMPOSITION THEORY & PEDAGOGY	3
ENGL 4860	THE MODERN FAMILIAR ESSAY	3
ENGL 4340	SHAKESPEARE	3
Three additional electives in English (from any concentration area) at the 3000-4000 level (Note: Students can take English 4960 multiple times as long as they are on different Special Topics)		9
<b>Total Credits</b>		<b>36</b>

## American Literature

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language I		5
Social Science		3
*ENGL 1150: Requires appropriate placement		
Credits		14

### Spring

ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120 or MATH 1220 or MATH 1130 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (**) or COLLEGE ALGEBRA or QUANTITATIVE LITERACY or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Foreign Language II		5

Social Science with US Diversity	3
*ENGL 1160: Requires ENGL 1150 with grade of C- or better or appropriate placement via AP or EPPE.	
**MATH 1220 and STAT 1530 require appropriate placement	

**Credits** **14**

### Sophomore

Fall		
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE (*) or CRITICAL APPROACHES TO LANGUAGE STUDIES	3
Foreign Language III		3
HIST 1000 or Minor/2nd Major Course**		3
Natural/Physical Science with Lab		4
ENGL American Literature Survey course		3
*ENGL 2410: Requires ENGL 1160 with grade of C- or better, ENGL major or minor, SED major, WRWS major or permission. ENGL 2420 requires ENGL 1160.		
**A&S College Requirement Option		

### Spring

Foreign Language IV	3
HIST 1010 or Minor/2nd Major Course*	3
Natural/Physical Science**	3
Humanities and Fine Arts	3
ENGL Language Studies course	3
*A&S College Requirement Option	
**NPS course must come from 2nd discipline	

**Credits** **15**

### Junior

Fall	
Humanities and Fine Arts*	3
Social Science**	3
ENGL 2000-level or higher elective	3
Additional Quantitative Literacy course for A&S OR Minor/2nd Major Course^	3
ENGL 1000-level or higher elective	3
*HFA must come from 2nd discipline	
**SS must come from 2nd discipline	
^A&S College Requirement Option	

### Spring

Additional Natural Science w/Lab for A&S OR Minor/2nd Major Course*	4
ENGL 3000-Level American Lit course	3
Additional Social Science for A&S OR Minor/2nd Major course**	3
ENGL 2000-level or higher elective	3
Elective	3
*A&S College Requirement Option	
**A&S College Requirement Option: Additional SS must come from 3rd discipline.	

### Senior

Fall	Credits
Additional Humanities & Fine Arts course for A&S for A&S OR Minor/2nd Major Course*	3
ENGL 4000-Level American Lit course	3
ENGL 4000-Level American Lit course	3

ENGL 4990 or ENGL 4800	SENIOR PAPER OR PROJECT or ENGLISH INTERNSHIP	1-3
---------------------------	--	-----

Elective 3

\*A&S College Requirement Option. Additional HFA must come from 3rd discipline.

#ENGL 4800: Requires ENGL 2410/2420; ENGL 4000-level writing course; Jr/Sr standing; permission of internship director. ENGL 4990 requires permission from the department.

NOTE: Students need a minimum of 27 upper level credits throughout the entire degree. May need to be 3000/4000 level, depending on whether a minor is selected for the CAS requirement.

**Credits 13-15**

### Spring

ENGL 3000-level or higher elective 3

ENGL 3000-level or higher elective 3

ENGL 4000-Level American Lit course 3

Elective 3

Elective 3

Elective 0-2

NOTE: Students need a minimum of 27 upper level credits throughout the entire degree. May need to be 3000/4000 level, depending on whether a minor is selected for the CAS requirement.

NOTE: Students need a minimum of 120 total credits. The amount of electives needed depends on whether credits are still needed to reach the 120 credit minimum.

**Credits 15-17**

**Total Credits 118-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## British/Irish/Anglophone Literature

### Freshman

**Fall Credits**

ENGL 1150 ENGLISH COMPOSITION I (\*) 3

CMST 1110 PUBLIC SPEAKING FUNDS 3  
or CMST 2120 or ARGUMENTATION AND DEBATE

Foreign Language I 5

Social Science 3

Elective 1

\*ENGL 1150: requires appropriate placement

**Credits 15**

### Spring

ENGL 1160 ENGLISH COMPOSITION II (\*) 3

MATH 1120 INTRODUCTION TO MATHEMATICAL 3  
or MATH 1220 AND COMPUTATIONAL THINKING (\*\*)

or MATH 1130 or COLLEGE ALGEBRA  
or STAT 1100 or QUANTITATIVE LITERACY  
or STAT 1530 or DATA LITERACY AND  
VISUALIZATION  
or ELEMENTARY STATISTICS

Foreign Language II 5

Social Science with US Diversity 3

\*ENGL 1160: requires ENGL 1150 with grade of C- or better or appropriate placement.

\*\*MATH 1220 and STAT 1530 require appropriate placement.

**Credits 14**

### Sophomore

#### Fall

ENGL 2410 CRITICAL APPROACHES TO LITERATURE 3  
or ENGL 2420 (\*) or CRITICAL APPROACHES TO  
LANGUAGE STUDIES

Foreign Language III 3

HIST 1000 or Minor/2nd Major Course\*\* 3

Natural/Physical Science with Lab 4

ENGL British Literature Survey course 3

\*ENGL 2410: requires ENGL 1160, English major or minor, SED major, WRWS major or permission. ENGL 2420 requires ENGL 1160.

\*\*A&S College Requirement Options

**Credits 16**

### Spring

Foreign Language IV 3

Natural/Physical Sciences\*\* 3

Humanities and Fine Arts 3

ENGL Language Studies course 3

HIST 1010 or Minor/2nd Major Course\* 3

\*CAS College Requirement Options

\*\*NPS course must come from 2nd discipline

**Credits 15**

### Junior

#### Fall

Humanities and Fine Arts\* 3

Social Science^ 3

ENGL 2000-level or higher elective 3

Additional Quantitative Literacy course for A&S OR Minor/2nd Major Course\*\* 3

ENGL 1000-level or higher elective 3

\*HFA must come from 2nd discipline

^SS must come from 2nd discipline.

\*\*A&S College Requirement Options.

**Credits 15**

### Spring

Additional Natural Science w/Lab for A&S OR Minor Course\* 4

ENGL 3000-Level British, Irish, Anglophone Lit course 3

Additional Social Science OR Minor/2nd Major course\*\* 3

ENGL 2000-level or higher elective 3

Elective	3
*A&S College Requirement Options	
**A&S College Requirement Option. Additional SS must be from 3rd discipline.	
<b>Credits</b>	<b>16</b>
<b>Senior</b>	
<b>Fall</b>	
Humanities & Fine Arts for A&S OR Minor/2nd Major Course*	3
ENGL 4990 SENIOR PAPER OR PROJECT (**) or ENGL 4800 or ENGLISH INTERNSHIP	1-3
ENGL 4000-Level British, Irish, Anglophone Lit course	3
ENGL 4000-Level British, Irish, Anglophone Lit course	3
Elective	3
*A&S College Requirement. Additional HFA must be from 3rd discipline.	
**ENGL 4800: requires ENGL 2410/2420; ENGL 4000-level writing course; Jr/Sr standing; permission of internship director. ENGL 4990 requires permission of department.	
Note: Students need a minimum of 27 credits upper-level coursework throughout their degree. If a minor is not chosen, free electives may need to be 3000/4000 level.	
Note: Students need a minimum of 120 total credits.	
<b>Credits</b>	<b>13-15</b>
<b>Spring</b>	
ENGL 3000-level or higher elective	3
ENGL 4000-Level British, Irish, Anglophone Lit course	3
ENGL 3000-level or higher elective	3
Elective	3
Elective	3
Elective	0-1
*Students need a minimum of 120 total credits, of which at least 27 must be upper-level credits throughout their degree. If a minor is not chosen, free electives may need to be 3000/4000 level.	
<b>Credits</b>	<b>15-16</b>
<b>Total Credits</b>	<b>119-122</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Creative Nonfiction

### Freshman

		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language I		5
Social Science		3
Elective		1
*ENGL 1150: requires appropriate placement		
<b>Credits</b>		<b>15</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120 or MATH 1220 or MATH 1130 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (**) or COLLEGE ALGEBRA or QUANTITATIVE LITERACY or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Foreign Language II		5
Social Science with US Diversity		3
*ENGL 1160: requires ENGL 1150 with grade of C- or better or appropriate placement		
*MATH 1220 and STAT 1530: require appropriate placement within last 2 years.		
<b>Credits</b>		<b>14</b>

### Sophomore

<b>Fall</b>		
Foreign Language III		3
Natural/Physical Science with Lab		4
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE (*) or CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL Literature Survey course		3
HIST 1000 or Minor/2nd Major Course**		3
*ENGL 2410: requires ENGL 1160, English major or minor, SED major, WRWS major or permission. ENGL 2420: requires ENGL 1160.		
**A&S College Requirement Options		
<b>Credits</b>		<b>16</b>

### Spring

Foreign Language IV		3
Natural/Physical Science*		3
Humanities and Fine Arts		3
ENGL literature survey course		3
HIST 1010 or Minor/2nd Major Course**		3
*NPS must come from 2nd discipline		
**A&S College Requirement Options		
<b>Credits</b>		<b>15</b>

### Junior

<b>Fall</b>		
Humanities and Fine Arts*		3
Social Science**		3
ENGL 3150	FORM AND STYLE IN CREATIVE NONFICTION	3
Additional Quantitative Literacy course for A&S OR Minor/2nd Major Course***		3

ENGL 1000-level or higher elective	3
*HFA must come from 2nd discipline	
**SS must come from 2nd discipline	
***A&S College Requirement Options	

**Credits 15**

**Spring**

Additional Natural/Physical Science w/Lab for A&S OR Minor/2nd Major Course*	4
ENGL 3130 AMERICAN NONFICTION	3
Additional Social Science for A&S OR Minor/2nd Major course**	3
ENGL 1000-level or higher elective	3
Elective	3
*A&S College Requirement Options	
**A&S College Requirement Option. Additional SS must come from 3rd discipline	

Note: Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives or concentration options to reach those specific minimums.

**Credits 16**

**Senior**

**Fall**

Additional Humanities & Fine Arts course for A&S OR Minor/2nd Major Course*	3
ENGL 4000-Level Creative Nonfiction course	3
ENGL 4000-Level Creative Nonfiction course	3
ENGL 4990 SENIOR PAPER OR PROJECT (**) or ENGL 4800 or ENGLISH INTERNSHIP	1-3
Elective	3
Elective	0-1

\*A&S College Requirement Option. Additional HFA must come from 3rd discipline

\*\*ENGL 4800: requires ENGL 2410 or 2420, an ENGL 4000-level writing course, Jr/Sr standing, and permission of internship director. ENGL 4990 requires permission of the department.

Note: Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives or concentration options to reach those specific minimums.

**Credits 13-16**

**Spring**

ENGL 1000-level or higher elective	3
ENGL 4000-Level Brit Creative Nonfiction course	3
ENGL 1000-level or higher elective	3
Elective	3
Elective	3

\*Students need a minimum of 120 total credits with at least 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives or concentration options to reach those specific minimums.

**Credits 15**

**Total Credits 119-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Language Studies**

**Freshman**

		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language I		5
Social Science		3
*ENGL 1150: requires appropriate placement		

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120 or MATH 1220 or MATH 1130 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (**) or COLLEGE ALGEBRA or QUANTITATIVE LITERACY or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Foreign Language II		5
Social Science		3

\*ENGL 1160: requires ENGL 1150 with grade of C- or better or appropriate placement

\*\*MATH 1220 and STAT 1530: require appropriate placement within the last 2 years

**Credits 14**

**Sophomore**

**Fall**

ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES (*)	3
Foreign Language III		3
HIST 1000 or Minor/2nd Major Course**		3
Natural/Physical Science with Lab		4
ENGL American Literature course or ENGL British course		3
*ENGL 2420: requires ENGL 1160 with grade of C- or better		
**A&S College Requirement Options		

**Credits 16**

**Spring**

ENGL 3610	INTRODUCTION TO LINGUISTICS	3
Foreign Language IV		3

Natural/Physical Science*	3
Humanities and Fine Arts	3
HIST 1010 or Minor/2nd Major Course**	3
*NPS must come from 2nd discipline	
**A&S College Requirement Options	

**Credits** **15**

### Junior

#### Fall

Humanities and Fine Arts*	3
Elective	3
ENGL American Literature course or ENGL British course	3
Additional Quantitative Literacy course for A&S OR Minor/2nd Major Course**	3
ENGL Language Studies course (3000/4000 level)	3
*HFA must come from 2nd discipline	
**A&S College Requirement Options	

**Credits** **15**

### Spring

Additional Natural/Physical Science w/Lab for A&S OR Minor/2nd Major Course*	4
ENGL Language Studies course (3000/4000 level)	3
Additional Social Science for A&S OR Minor/2nd Major course**	3
ENGL 1000-level or higher elective	3
Elective	3
*A&S College Requirement Options	
**A&S College Requirement Option. Additional SS must come from 3rd discipline	

**Credits** **16**

### Senior

#### Fall

Additional Humanities & Fine Arts course for A&S OR Minor/2nd Major Course*	3
ENGL Language Studies course (3000/4000 level)	3
ENGL Language Studies course (3000/4000 level)	3
Elective	3
ENGL 1000-level or higher elective	3
*CAS College Requirement Options	

**Credits** **15**

### Spring

ENGL Creative Nonfiction course (3000/4000 level)	3
ENGL Language Studies course (3000/4000 level)	3
ENGL 4800	ENGLISH INTERNSHIP
Elective	1-3
Elective	3
Elective	3
Elective	0-2

\*ENGL 4800: Requires ENGL 2410/2420, an ENGL 4000-level writing course, Jr/Sr standing, and permission of internship director

Note: Students need a minimum of 120 total credits with at least 27 upper level credits throughout the entire degree. As a part of the 27 credit upper level minimum, the major/concentration must include at least 18 credits of upper level coursework. May need to select 3000/4000 level major options and possibly 3000/4000 level free electives if a minor is not selected.

**Credits** **13-17**

**Total Credits** **118-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Teaching English to Speakers of Other Languages (TESOL) Certificate

### Vision Statement

In the United States, the need for well-prepared language teachers is constant. Teachers are more likely than ever to have the opportunity to teach students who come from a variety of cultural and linguistic backgrounds.

The Department of English offers students the opportunity to obtain a certificate in Teaching English to Speakers of Other Languages (TESOL). This is a 15-hour/5-course certificate. Normally, students are able to complete the certificate requirements within three or four semesters.

The TESOL faculty have designed the certificate to help students get up to speed on language theory and pedagogy. You'll start with ENGL 3610 *Introduction to Linguistics*, which sets the foundation for upper-division courses. Then, you'll learn specifics about the English language so that you can explain sounds, words, sentences, and meanings to your students. In addition, you'll study theories about how adults learn languages as well as strategies for teaching language and designing curriculum.

A TESOL certificate does not certify a graduate to teach in Nebraska public schools. Instead, it is an academic credential meant (1) for teachers already certified in other areas, (2) for people who plan to teach in venues other than public schools, and (3) for anyone who works in some capacity with non-native speakers of English. The TESOL Certificate is a rigorous program that will make you very attractive to future employers, whether you remain in the U.S. or work overseas. But learning how to be a good teacher isn't easy. Are you ready for the challenge?

Students in Teacher Education or in Speech/Language Pathology should contact the TESOL director before applying to this program.

### Program Contact Information

Sarah Osborn, PhD, Director  
189S Arts & Sciences Hall (ASH)  
402.554.2955  
[srfosborn@unomaha.edu](mailto:srfosborn@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/english/academics/undergraduate-programs.php>)

## Application Deadlines

Applications for this program are accepted on a rolling basis. To apply, write an email to the TESOL Director ([tesoldirector@unomaha.edu](mailto:tesoldirector@unomaha.edu)) and include the following information:

- Your major (and minor if applicable)
- Your overall GPA at UNO
- Your reasons for wanting to complete the TESOL Certificate.

If you're accepted into the program, you will see this change reflected in your UNO DegreeWorks within a few days.

Note that UNO also offers a Graduate TESOL Certificate, which has a separate application process. Visit the Graduate Studies page for more information. (<https://catalog.unomaha.edu/graduate/degree-programs-certificates-minors/english/teaching-english-speakers-other-languages-certificate/index.html#text> (<https://catalog.unomaha.edu/graduate/degree-programs-certificates-minors/english/teaching-english-speakers-other-languages-certificate/#text>))

## Requirements

Students seeking a certificate in Teaching English to Speakers of Other Languages (TESOL) must take one course from each of the five categories below for a total of 15 credit hours.

Students in Teacher Education or in Speech/Language Pathology should contact the TESOL director before applying to this program.

### Take one course from each of the 5 categories below:

Code	Title	Credits
Category I		
ENGL 3610	INTRODUCTION TO LINGUISTICS	3
Category II		
ENGL 4640	APPLIED LINGUISTICS	3
Category III		
ENGL 4650	STRUCTURE OF ENGLISH	3
Category IV		
ENGL 3770	WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH <sup>1</sup>	3
ENGL 4750	COMPOSITION THEORY & PEDAGOGY <sup>1</sup>	
Category V		
ENGL 4670	SOCIOLINGUISTICS	3
ENGL 4800	ENGLISH INTERNSHIP (with a TESOL Placement)	
Total Credits		15

<sup>1</sup> With a TESOL-focused project.

- Note 1: Graduate students may not repeat any courses already taken at the undergraduate level. See the TESOL Certificate Director to plan a course of study.
- Note 2: Under some circumstances, the TESOL Certificate Director may allow substitute courses.
- Note 3: Students who earn less than a B in 3610 Introduction to Linguistics may be disenrolled from the program.

The linguistics faculty strongly recommends that students become proficient in a second language.

## English Minor

### Requirements

Code	Title	Credits
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
Select 3 additional credits of English at the 2000 level or higher		3
Select 6 credits of English at the 3000 level or higher		6
Select 6 credits of English courses at the 4000 level		6
<b>Total Credits</b>		<b>18</b>

## Environmental Studies

The field of Environmental Studies recognizes that finding solutions to the environmental challenges facing our society requires individuals with experience and training in a broad array of disciplines. Success in the field requires not only a scientific background to develop technical solutions but also an understanding of the social and economic implications of solutions and decisions. The Environmental Studies Program at UNO offers interdisciplinary undergraduate degrees that provide students with training in the breadth of disciplines required to understand the complex nature of solving environmental challenges, as well as the scientific expertise needed to successfully pursue a career relating to the environment.

### Other Information

All coursework taken for the Environmental Science major or minor must be completed with a grade of "C-" or better.

### Double Majors

ENVN–Geography & Planning and Geography double majors: Students completing both of these majors may count all geography courses toward both majors.

ENVN–Life Sciences and Biology double majors: Students may not count the same 3000-4000 level Biology courses towards both majors. Double majors are required to take a minimum of 5 additional upper division BIOL courses that are not part of the other major. These courses must be approved by the advisor and at least three of these must be lab courses. BIOL 3150 may not count as part of these upper division courses.

### Contact

Dr. John McCarty, Director  
114 Allwine Hall  
402.554.2849  
[jmccarty@unomaha.edu](mailto:jmccarty@unomaha.edu)

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/environmental-studies/>)

### Degrees Offered

- Environmental Science, Bachelor of Science with a Concentration in Analytical Sciences (p. 138)
- Environmental Science, Bachelor of Science with a Concentration in Earth Sciences (p. 140)
- Environmental Science, Bachelor of Science with a Concentration in Geography and Planning (p. 143)
- Environmental Science, Bachelor of Science with a Concentration in Life Sciences (p. 145)

### Writing in the Discipline

See concentrations.

### Hour Requirements

To obtain a BS in Environmental Sciences, a student must fulfill university, college, and departmental requirements. As an interdisciplinary major, Environmental Sciences meets the college breadth requirement without the addition of a minor or additional General Education courses. Other hour requirements follow:

1. 46 hours of University General Education courses - Environmental Sciences majors who work with their advisor to select courses do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they select courses to ensure that they:
  - Take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements,
  - Meet the three-hour University General Education mathematics requirement through completing statistics as part of their major courses,
  - Meet the seven-hour University General Education natural sciences distribution requirement through completing major courses.
 By doing so, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.
2. Minimum of 69-80 hours of major courses depending on the concentration selected.
3. 10 - 21 hours of electives. Total elective credit is determined by the General Education courses taken, concentration selected, and the selection of courses used to fulfill major requirements.

TOTAL HOURS: 120

### Core Requirements

All majors complete a set of core courses in the environmental sciences, in addition to completing courses specific to their concentration. Core requirements include:

Code	Title	Credits
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
Two additional approved introductory environmental science courses		
ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
A minimum of 3 credit hours in ENVN 4800		
ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING	1-3
ENVN/GEOL 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
An approved course in statistics		3-4
An approved GIS course		1-4
<b>Total Credits</b>		<b>15-21</b>

### Minors Offered

- Environmental Science Minor (p. 147)

The Environmental Studies Program at UNO offers interdisciplinary undergraduate degrees that provide students with training in the breadth of disciplines required to understand the complex nature of solving environmental challenges. Students acquire the scientific expertise to effectively pursue a career relating to the environment by focusing on one of four areas of concentration. The Environmental Studies Program is committed to preparing students for careers helping to meet the environmental challenges facing us locally, nationally and globally.

### Environmental Science – Analytical Sciences concentration

The analytical sciences concentration is designed to produce environmental scientists with a strong background in chemistry preparing them to find

solutions to problems associated with chemical pollutants that are being released into the air, earth and water environments of our planet.

### Environmental Science – Earth Sciences concentration

The earth sciences concentration is designed to prepare students for a career in environmental geology, working on land, soil, and water conservation.

### Environmental Science – Geography and Planning concentration

The geography and planning concentration is designed to produce local and regional planning specialists who understand the best approaches for preventing environmental problems.

### Environmental Science – Life Sciences concentration

The life sciences concentration is designed to prepare a student for jobs as environmental biologists protecting natural ecosystems and promoting a healthy environment.

Some career options

- Air and Water quality scientist
- City and Regional Planning aide
- Conservation Biologist
- Environmental consultant
- Environmental educator
- Natural Resource Manager
- Environmental and Public Health Specialist
- Geospatial Information Systems technician
- Restoration Ecologist
- Soil and Water Conservationist
- Sustainability Coordinator
- Wildlife & Fisheries Biologist

### ENVN 2000 LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY (3 credits)

This course enables students to observe, document and critically examine the values and processes associated with human-designed landscapes and their connection to natural environments. Through concepts and tools presented in the course, students understand the environmental, social and economic context of local and global environments. Emphasis is placed on landscape as an indicator of aesthetic quality; the preference and restorative attributes of nature; design principles and processes as integrators of humans and nature in sustainable urbanized landscapes; and the various ways that sustainability can define a framework for multi-functional landscapes.

**Distribution:** Humanities and Fine Arts General Education course

### ENVN 2010 ENVIRONMENTAL PROBLEMS AND SOLUTIONS (1 credit)

An overview of current environmental problems and the efforts to solve those problems. Intended for Environmental Studies majors and other students with an interest in conservation, the human environment, and management of natural resources. This course examines current local, regional, and global environmental issues and explores work being done to improve environmental quality. The purpose of the course is to give students a broad, interdisciplinary overview of environmental topics to prepare them for advanced course work in the field. Usually offered Spring.

**Prerequisite(s)/Corequisite(s):** BIOL 1330 or GEOL 1010 (or concurrent enrollment). Not open to non-degree graduate students.

**ENVN 2120 SUSTAINABLE LANDSCAPE PLANTS (4 credits)**

This course focuses on the identification of native and adapted landscape plants, including herbaceous perennials, groundcovers, vines, trees and shrubs in natural and urbanized landscapes. In addition, it covers the ecological and design contexts for the landscape roles, sustainable usage and management of identified plants in the Great Plains region. (Cross-listed with BIOL 2120)

**Prerequisite(s)/Corequisite(s):** High school biology

**Distribution:** Natural/Physical Sci General Education lecture&lab

**ENVN 3180 ENVIRONMENTAL ETHICS (3 credits)**

This course introduces students to the thinkers and issues that make environmental ethics what it is today. It includes the analysis and evaluation, from ethical viewpoints, of such topics as: intrinsic value of animals, plants and ecosystems; animal rights; climate change; conservation and preservation; environmental law and politics; obligations to future generations; sustainability and new technologies; war, immigration, and the environment; human rights and the environment; nature and the built environment; and environmental activism. (Cross-listed with PHIL 3180).

**Prerequisite(s)/Corequisite(s):** Junior or 3 hours of philosophy.

**ENVN 3660 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN (3 credits)**

This course provides an overview of graphic techniques and process for landscape design; the analysis and conceptual design of the landscape; and the exploration of the design characteristics of plants, landform, and structures through discussion, case studies and applied design development. A focus on sustainable design components and applications is included, including native and adapted plant selection, stormwater management, water conservation, efficient irrigation concepts, and practical landscape management and maintenance considerations. (Cross-listed with BIOL 3660)

**Distribution:** Humanities and Fine Arts General Education course

**ENVN 3670 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY (1 credit)**

This course covers the basic use of graphic techniques for landscape design; the analysis and process for conceptual design of the landscape; studio problems in value, texture, form and space; and the exploration of the design characteristics of plants, landform, and structures supporting sustainable landscape design and management principles. (Cross-listed with BIOL 3670)

**Prerequisite(s)/Corequisite(s):** ENVN 3660 or BIOL 3660 (prior or concurrent).

**ENVN 4090 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1-5 credits)**

A variable credit lecture and/or laboratory course pertaining to a specific topic in environmental studies or sustainability not available in the regular curriculum. May be repeated as topics change.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing.

**ENVN 4180 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 8186, BIOL 4180).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Must enroll in lab. Not open to non-degree graduate students.

**ENVN 4270 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with PSCI 4270, PSCI 8276)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**ENVN 4310 OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY (3 credits)**

In this course, students will analyze our energy options including the environmental, economic, and ethical connections with a particular emphasis on electrical energy. The course doesn't prescribe a particular energy future but rather emphasizes development of the knowledge and skills to more effectively contribute to the conversation. To understand our future, the course begins with the present energy landscape and its historical underpinnings, then focuses on developing a student's ability to critically assess energy options by examining the associated implications, consequences, intent, origins, and bias. Students' own work, life, and academic experience are used in the course to underscore the individual relevance of these energy choices. The course includes the necessary science, but the greater emphasis is on the associated critical and creative thinking so that ultimately students can make informed, creative, sustainable energy choices. (Cross-listed with ENVN 8316, CACT 8316)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENVN 4320 ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH (3 credits)**

The course will explore and develop the complex context of the systemic links among ecosystems and human health (and more broadly human well-being) using case studies including climate change, water quality, infectious diseases and agricultural production. Students will develop skills in critical thinking and applied research by studying biological connections between humans and ecosystems and how social, economic and cultural processes and practices mediate these connections. This course supports the Health and the Environment concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8326)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing

**ENVN 4330 INTRODUCTION TO GREEN INFRASTRUCTURE (3 credits)**

This course provides an overview of green infrastructure including issues managed with green infrastructure (storm water quality and quantity, urban habitat value, urban sustainability, etc.); basic design and management parameters for best management practices (BMPs); case study applications of BMPs; treatment train assessment and evaluation; and regulatory and cost considerations. (Cross-listed with ENVN 8336).

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing or instructor permission

**ENVN 4350 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 8356, GEOG 4350, ENVN 8356).

**Prerequisite(s)/Corequisite(s):** At least 1 of the following: GEOG 1030, GEOG 1050, GEOG 3510, GEOG 4320, or permission of instructor

**ENVN 4410 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with BIOL 4410 and BIOL 8416)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**ENVN 4420 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 4420, BIOL 8426)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing.

**ENVN 4600 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 4600, BIOL 8606)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**ENVN 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, GEOG 4610, GEOG 8616, GEOL 4610, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENVN 4700 SUSTAINABLE SOLUTIONS CAPSTONE (3 credits)**

This is a capstone experience for students interested in sustainability and related fields. Students work as part of a multidisciplinary team under the guidance of faculty mentors to develop sustainable solutions to challenges faced by local, regional, or global organizations.

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**ENVN 4800 INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (1-3 credits)**

Internship providing practical experience working with environmental organizations or government agencies for students interested in careers in environmental science and related fields. A proposed internship must be approved by the Environmental Studies Program prior to enrolling. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 4800)

**Prerequisite(s)/Corequisite(s):** Permission of the Environmental Studies Program.

**ENVN 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, BIOL 4820, GEOG 4820, GEOG 8826, PA 8826)

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

**ENVN 4970 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 8976, BIOL 4970).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and junior or senior student status or above or instructor permission.

## Environmental Science, Bachelor of Science with a Concentration in Analytical Sciences

### Requirements

Code	Title	Credits
<b>Required core courses:</b>		
(Note that in the case of cross-listed courses, Environmental Science majors must enroll in the ENVN section)		
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
A minimum of 3 credit hours in ENVN 4800 must be completed		
ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING	3
ENVN/GEOG 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
<b>Also required:</b>		
An approved course in statistics		3-4
An approved GIS course		1-4
<b>Analytical Sciences Concentration requirements:</b>		
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
<b>Select one of the following organic chemistry sequences:</b>		<b>5-8</b>
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (5 cr)	
<b>OR</b>		
CHEM 2250	ORGANIC CHEMISTRY I (3 cr)	
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (5 cr)	
<b>Also Required:</b>		
CHEM 2400	QUANTITATIVE ANALYSIS	3
CHEM 2404	QUANTITATIVE ANALYSIS LAB	1

CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3650	FUNDAMENTALS OF BIOCHEMISTRY	3
CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	1
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 4400	INSTRUMENTAL ANALYSIS	3
CHEM 4404	INSTRUMENTAL ANALYSIS LABORATORY	1
<b>Required cognate courses:</b>		
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
PHYS 1110	GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
PHYS 1120	GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
<b>Plus a minimum 11 hours selected from the following:</b>		<b>11</b>
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY (4 cr)	
GEOL 2600	GEOHYDROLOGY (3 cr)	
GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (4 cr)	
GEOL 2760 & GEOL 2764	IGNEOUS AND METAMORPHIC PETROLOGY and IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY (4 cr)	
GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (4 cr)	
GEOL 4540	GEOCHEMISTRY (3 cr)	
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE (4 cr)	
GEOG 3510	METEOROLOGY (3 cr)	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES (3 cr)	
GEOG 4100	BIOGEOGRAPHY (3 cr)	
GEOG 4260	PROCESS GEOMORPHOLOGY (4 cr)	
GEOG 4320	CLIMATOLOGY (3 cr)	
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 cr)	
GEOG 4340	WATER RESOURCES (3 cr)	
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY (3 cr)	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (3 cr)	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (4 cr)	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING (4 cr)	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (4 cr)	
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (3 cr)	
BIOL 3340	ECOLOGY (4 cr)	
BIOL 3530	FLORA OF THE GREAT PLAINS (4 cr)	
BIOL 4120	CONSERVATION BIOLOGY (3 cr)	
ENVN 4180	FRESHWATER ECOLOGY (4 cr)	
ENVN 4350	GLOBAL CLIMATE CHANGE (3 cr)	
ENVN 4410	WETLAND ECOLOGY AND MANAGEMENT (3 cr)	

**Total Credits****80-87**

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the environmental science major with a concentration in analytical science, the writing in the discipline requirement can be fulfilled by completing NSCI 3940 along with CHEM 3354 and an additional approved lab or by completing ENGL 3980.

### Freshman

		<b>Credits</b>
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (5)	5
Humanities and Fine Arts/US Diversity		3

- PHYS 1110 requires MATH 1220 or equivalent with grade of C- or better.

- ENGL 1150 requires proper placement.

- CHEM 1180 requires MATH 1320 or equivalent in last two years. See advisor for other placement options.

		<b>Credits</b>	<b>15</b>
<b>Spring</b>			
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4	
BIOL 1330	ENVIRONMENTAL BIOLOGY	3	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II (*)	5	
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1	

- ENVN 2010: requires BIOL 1330 or GEOL 1010 prior or concurrent enrollment

- CHEM 1190: requires CHEM 1180 and 1184 with a grade of C- or better AND Math 1320 or equivalent. Concurrent enrollment in CHEM 1194.

- PHYS 1120 requires PHYS 1110 with grade of C- or better.

		<b>Credits</b>	<b>13</b>
<b>Sophomore</b>			
<b>Fall</b>			
CHEM 2250	ORGANIC CHEMISTRY I (*)	3	
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB (*)	4	
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3	
Social Science/Global Diversity		3	

- CHEM 2250: requires CHEM 1190 and CHEM 1194 with a grade of C-or better.

- CHEM 2400: requires CHEM 1190 and CHEM 1194 with a grade of C or better or equivalent. CHEM 2404 to be taken concurrently.

**Credits****13**

**Spring**

CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY (*)	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
Humanities and Fine Arts		3
<ul style="list-style-type: none"> <li>CHEM 2260: requires CHEM 2250 with a grade of C- or better, obtained within the prior twelve months. CHEM 2274 concurrent or prior with a grade of C- or better.</li> <li>CHEM 2500: requires CHEM 1190 with a grade of C- or better.</li> </ul>		

**Credits** **14**

**Junior****Fall**

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)	4
Approved Statistics Course**		3
Humanities and Fine Arts^		3
Social Science		3
Elective of choice, if needed to reach 120.		3
^HFA #3 – must be in a 2nd discipline		
<ul style="list-style-type: none"> <li>CHEM 3650: requires CHEM 2210/2214 or CHEM 2260/2274 with C- or better. CHEM 3654 must be taken concurrently.</li> </ul>		

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.

**Credits** **16**

**Spring**

GEOL 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
Approved GIS Course		4
Approved GEOL/GEOG/BIO/ENVN elective		3
Social Science^		3
Elective of choice, if needed to reach 120		1-3
^SS #3 – must be in a 2nd discipline		

**Credits** **15-17**

**Summer**

ENVN 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	3
<ul style="list-style-type: none"> <li>ENVN 4800: Requires permission of instructor.</li> </ul>		

**Credits** **3**

**Senior****Fall**

ENVN/GEOG/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (*)	3
Approved GEOL/GEOG/BIOL/ENVN elective		3
Approved GEOL/GEOG/BIOL/ENVN elective		3
Elective of choice, if needed to reach 120.		3
<ul style="list-style-type: none"> <li>ENVN 4820: requires permission of instructor.</li> </ul>		

- ENVN/GEOG/GEOL/BIOL 4610: requires permission of instructor.

Note: 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) level credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options, when given, can help you reach these minimums.

**Credits** **15**

**Spring**

CHEM 4400 & CHEM 4404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LABORATORY (*)	4
CHEM 3030	ENVIRONMENTAL CHEMISTRY (*)	3
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
NSCI 3940	WRITING IN CHEMISTRY (*)	2
Approved GEOL/GEOG/BIOL/ENVN elective		3

- CHEM 4400: requires CHEM 3360, CHEM 3364 and CHEM 3414 with a grade of C or better OR ENVN majors may request permission from the instructor. Concurrent enrollment in CHEM 4404.

- CHEM 3030 requires CHEM 1180 & 1184, CHEM 1190 & 1194, CHEM 2400 & 2404, or consent of instructor.

\*NSCI 3940: ENGL 1160, and CHEM 2400 or 2500 with a grade of C- or better.

**Credits** **16**

**Total Credits** **120-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Environmental Science, Bachelor of Science with a Concentration in Earth Sciences

Requirements

Code	Title	Credits
<b>Required core courses:</b>		
(Note that in the case of cross-listed courses, Environmental Science major must enroll in the ENVN section)		
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	3
or CHEM 3030	ENVIRONMENTAL CHEMISTRY	
ENVN/GEOG/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
Minimum of 3 credit hours of ENVN 4800 must be completed		
ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING	3
ENVN/BIOL/GEOG/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
<b>Also required:</b>		
An approved course in statistics		3-4
An approved GIS course		1-4
<b>Earth Sciences Concentration requirements:</b>		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
One course covering surface processes:		
GEOL 4260	PROCESS GEOMORPHOLOGY	4
or GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
or GEOL 4640	CRITICAL ZONE SCIENCE	
Select an ADDITIONAL 27 hours of geography/geology courses from the following:		27
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	
GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING	
GEOL 2500	SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY	
GEOL 2600	GEOHYDROLOGY	
GEOL 2750	MINERALOGY	
GEOL 2754	MINERALOGY LABORATORY	
GEOL 2760	IGNEOUS AND METAMORPHIC PETROLOGY	
GEOL 2764	IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY	
GEOL 3300	STRUCTURAL GEOLOGY	
GEOL 3310	STRUCTURAL GEOLOGY FIELD METHODS	
GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY	
GEOL/GEOG 4260	PROCESS GEOMORPHOLOGY	
GEOL 4400	GEOPHYSICS	
GEOL 4540	GEOCHEMISTRY	
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	
GEOG 3510	METEOROLOGY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG/BIOL/GEOL 4100	BIOGEOGRAPHY	
GEOG/GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	
<b>Required cognate courses:</b>		

Select one of the following chemistry sequences: 13-14

<b>Sequence One:</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	
<b>Sequence Two:</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
GEOL 4540	GEOCHEMISTRY	
<b>Sequence Three:</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
Select one of the following physics sequences:		5
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY	
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	

**Total Credits 73-78**

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Environmental Science major with a concentration in Earth Science, the writing in the discipline requirement can be fulfilled by completing GEOL 4950 or ENGL 3980.

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1220	COLLEGE ALGEBRA (*)	3
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY (*)	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
Humanities and Fine Arts/US Diversity		3
• ENGL 1150: requires EPPE score of 5 or appropriate placement via AP.		

- MATH 1220: requires appropriate Math placement within last 2 years.

- CHEM 1010: requires MATH 1220 or equivalent.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS (*)	1
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Social Science / Global Diversity (GEOG 1020 suggested)		3
<ul style="list-style-type: none"> <li>• ENVN 2010: requires BIOL 1330 or GEOL 1010 or concurrent enrollment</li> </ul>		
<ul style="list-style-type: none"> <li>• ENGL 1160: requires ENGL 1150, EPPE score of 6, or AP Score of 4</li> </ul>		

<b>Credits</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
Approved GEOG/GEOL Elective		3
Approved GEOG/GEOL Elective		4
Humanities and Fine Arts		3
<ul style="list-style-type: none"> <li>• CHEM 1140: requires MATH 1220 or equivalent within last two years (C- or better). Chem 1144 concurrent or prior with C- or better.</li> </ul>		
Note: CHEM 1180/1184 and 1190/1194 together can substitute for CHEM 1140/1144.		

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*)	5
Approved GEOG/GEOL Elective		4
Approved GEOG/GEOL Elective		3
Social Science		3
<ul style="list-style-type: none"> <li>• CHEM 2210: requires CHEM 1140/1144 or CHEM 1190/1194 with a C- or better. CHEM 2214 must be taken concurrently.</li> </ul>		

Note: CHEM 2250 and 2260/2274 together can substitute for CHEM 2210/2214.

<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)	4
Approved GIS Course		4
Approved GEOG/GEOL Elective		4
Humanities and Fine Arts^		3

- CHEM 3650: requires CHEM 2210/2214 or CHEM 2260/2274 with C- or better. CHEM 3654 must be taken concurrently.

Note: CHEM 3650/3654 will not be required if student has completed through CHEM 2260/2274 of the general chemistry sequence.

^ HFA – must be in a 2nd discipline

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (*)	5
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (*)	3
Approved GEOG/GEOL Elective		4
Social Science^		3
<ul style="list-style-type: none"> <li>• PHYS 1050: HS algebra or equivalent</li> </ul>		
<ul style="list-style-type: none"> <li>• PHYS 1054: HS algebra or equivalent; PHYS 1050 prior or concurrent</li> </ul>		

Note: The two-semester sequence of PHYS 1110/1154 and 1120/1164 can be taken in place of PHYS 1050/1054.

- ENGL 3980: requires ENGL 1160, or EPPE score of 7, or AP score of 5

^ SS – must be in a 2nd discipline

<b>Credits</b>		<b>15</b>
<b>Summer</b>		
ENVN 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	3
<ul style="list-style-type: none"> <li>• ENVN 4800: requires permission of instructor.</li> </ul>		

<b>Credits</b>		<b>3</b>
<b>Senior</b>		
<b>Fall</b>		
ENVN/GEOG/GEOL/ BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (*)	3
Approved GEOG/GEOL Elective**		3
Approved GEOG/GEOL Elective**		3
Elective course**		3
<ul style="list-style-type: none"> <li>• ENVN 4820 – requires permission of instructor.</li> </ul>		
<ul style="list-style-type: none"> <li>• ENVN/GEOG/GEOL/BIOL 4610 – requires permission of instructor.</li> </ul>		

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Approved GEOG/GEOL Elective		3
Statistics course**		3
Elective course**		4
Elective course		3

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.

**Credits** **13**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Environmental Science, Bachelor of Science with a Concentration in Geography and Planning

#### Requirements

Code	Title	Credits
<b>Required core courses:</b>		
(Note that in the case of cross-listed courses, Environmental Science majors must enroll in the ENVN section.)		
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ENVN/GEOL/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
Minimum of 3 credit hours of ENVN 4800 must be completed		
ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING	3
ENVN/BIOL/GEOL/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
<b>Also required:</b>		
An approved course in statistics		3-4
Introductory GIS lecture and lab sequence:		
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION	4
<b>Geography and Planning Concentration requirements:</b>		
Select one physical geography course from the following:		4
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	

Select three courses from the following in Human Geography and Planning:

9-10

GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY
GEOG 4120	URBAN GEOGRAPHY
GEOG 4160	URBAN SUSTAINABILITY
ENVN 3660 & ENVN 3670	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN and INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY (*)

Or alternative courses approved by advisor.

- Both ENVN 3660 and ENVN 3670 must be completed to count towards this requirement.

Select three courses in Physical Geography:

9-12

GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGEMENT
GEOG 3510 & GEOG 3514	METEOROLOGY and INTRODUCTION TO METEOROLOGY LABORATORY (*)
GEOG/BIOL/GEOL 4100	BIOGEOGRAPHY
GEOG 4260	PROCESS GEOMORPHOLOGY
GEOG 4320	CLIMATOLOGY
GEOG/GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION
GEOG 4340	WATER RESOURCES
GEOG 4350	GLOBAL CLIMATE CHANGE
GEOG/GEOL 4640	CRITICAL ZONE SCIENCE
Both GEOG 3510 and GEOG 3514 must be completed to count towards this requirement.	

Select two additional courses in Geospatial Sciences:

6-8

GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I
GEOG 4630	ENVIRONMENTAL REMOTE SENSING
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II

#### Required cognate courses:

One approved course in computer science		3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
CHEM 1010 & CHEM 1014	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY and CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY	4

Select two additional courses in Biology from the following:

6-9

BIOL 1020	PRINCIPLES OF BIOLOGY
BIOL 3340	ECOLOGY
BIOL 3530	FLORA OF THE GREAT PLAINS
BIOL 4120	CONSERVATION BIOLOGY
BIOL 4180	FRESHWATER ECOLOGY
BIOL 4210	FIRE ECOLOGY
BIOL/ENVN 4410	WETLAND ECOLOGY AND MANAGEMENT

Physics lecture and lab:

PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY	5
<b>Total Credits</b>		<b>69-79</b>

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Environmental Science major with a concentration in Geography and Planning, the writing in the discipline requirement can be fulfilled by completing ENGL 3980.

### Freshman

<b>Fall</b>		<b>Credits</b>
MATH 1220	COLLEGE ALGEBRA (*)	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY (*)	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
Humanities and Fine Arts/US Diversity		3
<ul style="list-style-type: none"> <li>MATH 1220: Requires appropriate placement.</li> <li>ENGL 1150: requires appropriate placement.</li> <li>GEOG 1020 counts toward the major and as a social science/global diversity</li> </ul>		
<b>Credits</b>		<b>15</b>

### Spring

GEOG 1030 or GEOG 1050	INTRODUCTION TO PHYSICAL GEOGRAPHY or HUMAN-ENVIRONMENT GEOGRAPHY	4
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS (*)	1
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
CHEM 1010 & CHEM 1014	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY and CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY (*)	4
<ul style="list-style-type: none"> <li>ENVN 2010: requires BIOL 1330 or GEOL 1010 or concurrent enrollment</li> <li>ENGL 1160: requires ENGL 1150 or appropriate placement.</li> <li>CHEM 1010: Requires MATH 1220 or higher or proficiency in MATH 1220 via ACT, SAT or Math Placement Exam</li> </ul>		
<b>Credits</b>		<b>15</b>

### Sophomore

<b>Fall</b>		
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
Approved Computer Science course		3
Statistics course**		3
Humanities and Fine Arts/ US Diversity		3
Social Science		3

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options (such as statistics) can help you reach these minimums.

**Credits** **15**

### Spring

GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION (*)	4
Approved Physical Geography course		3
Approved Physical Geography course		3
BIOL 1020	PRINCIPLES OF BIOLOGY	4
<ul style="list-style-type: none"> <li>GEOG 3530 – requires GEOG 1000 or 1020; and GEOG 1030 or GEOG 1050</li> </ul>		

**Credits** **14**

### Junior

<b>Fall</b>		
Approved Geospatial Science course		4
Approved Physical Geography course		4
Approved Human Geography & Planning course		4
Humanities and Fine Arts^		3
^ HFA – must be in a 2nd discipline		

**Credits** **15**

### Spring

PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (*)	5
Approved Geospatial Science course		4
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (*)	3
Social Science^		3

• PHYS 1050: HS algebra or equivalent

• PHYS 1054: HS algebra or equivalent; PHYS 1050 prior or concurrent

• ENGL 3980: requires ENGL 1160 or appropriate placement.

^ SS – must be in a 2nd discipline

**Credits** **15**

### Summer

ENVN 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	3
<ul style="list-style-type: none"> <li>ENVN 4800: requires permission of instructor.</li> </ul>		

**Credits** **3**

### Senior

<b>Fall</b>		
ENVN/GEOG/GEOL/ BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (*)	3
Approved Human Geography & Planning course		3
Elective course**		3
Elective course**		3

• ENVN 4820 – requires permission of instructor.

- ENVN/GEOG/GEO/BIOL 4610 – requires permission of instructor.

^ Humanities and Fine Arts course must come from a 2nd discipline

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

Credits	15
<b>Spring</b>	
Approved Biology course	3
Approved Human Geography & Planning course	3
Elective course	4
Elective course	3
Note: 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.	
Credits	13
Total Credits	120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Environmental Science, Bachelor of Science with a Concentration in Life Science

#### Requirements

Code	Title	Credits
<b>Required core courses:</b>		
(Note that in the case of cross-listed courses, Environmental Science majors must enroll in the ENVN section)		
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
GEO 1010	ENVIRONMENTAL GEOLOGY	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
ENVN/GEOG/GEO/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3

Minimum of 3 credit hours of ENVN 4800 must be completed

ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING	3
ENVN/BIOL/GEOG/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3

#### Also required:

An approved course in statistics	3-4
An approved GIS course with lab	1-4
ENVN/BIOL 4600	GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 cr)
GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES (4 cr)
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION (4 cr)

#### Life Science Concentration requirements:

BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3340	ECOLOGY	4
BIOL 3530	FLORA OF THE GREAT PLAINS	4
BIOL 4120	CONSERVATION BIOLOGY	3

Select one of the following: 3-4

BIOL 2440	THE BIOLOGY OF MICROORGANISMS
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL

Select two additional upper division courses in biology approved by an advisor. At least one course must include a lab. BIOL 3150 may not count as part of these upper division courses. 7-8

#### Required cognate courses:

CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	3
or CHEM 3030	ENVIRONMENTAL CHEMISTRY	

In addition, select one of the following chemistry sequences: 14-18

Sequence One:		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	
Sequence Two:		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	

Sequence Three:

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	
CHEM 2250 & CHEM 2274	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LABORATORY	
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	
Select one of the following physics sequences:		5-10
Sequence One:		
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY	
Sequence Two:		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
<b>Total Credits</b>		<b>78-93</b>

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the environmental science major with a concentration in life sciences, the writing in the discipline requirement can be fulfilled through one of the two options for biology majors:

### Option I

Complete two courses from each of the three tiers below. All courses used to meet the writing requirement must be taken at UNO. Only courses completed in 2010 or later qualify.

#### Tier I

Code	Title	Credits
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5

#### Tier II

Code	Title	Credits
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 3340	ECOLOGY	4

Tier III two writing in the discipline 3000 or 4000 level biology courses designated as Tier III courses.

### Option II

Complete either:

Code	Title	Credits
BIOL 3150	WRITING AND COMMUNICATION IN THE BIOLOGICAL SCIENCES	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	3

#### Freshman

Fall		Credits
BIOL 1450	BIOLOGY I	5
MATH 1220	COLLEGE ALGEBRA (*)	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4

- MATH 1220: Requires appropriate placement within the last 2 years.

- ENGL 1150: requires EPPE score of 5, or AP score of 3.

**Credits 15**

#### Spring

BIOL 1750	BIOLOGY II (*)	5
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS (*)	1

- BIOL 1750: requires BIOL 1450

- ENGL 1160: requires ENGL 1150 or EPPE score of 6, or AP Score of 4

- ENVN 2010: requires BIOL 1330 or GEOL 1010 or concurrent enrollment

**Credits 15**

#### Sophomore

##### Fall

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
Humanities and Fine Arts/US Diversity		3
Social Science/Global Diversity		3

- CHEM 1140: Requires Math 1220 or higher within last two years (C- or better). CHEM 1144 concurrent or prior with C- or better.

Note: CHEM 1180/1184 and 1190/1194 together can substitute for CHEM 1140/1144.

Note: BIOL 3020 can be taken in place of BIOL 2440.

**Credits 15**

##### Spring

CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*)	5
BIOL 2140	GENETICS (*)	4
Humanities and Fine Arts		3
Social Science		3

- BIOL 2140: Requires BIOL 1450, BIOL 1750, and CHEM 1140 or 1180.

- CHEM 2210: requires CHEM 1140/1144 or CHEM 1190/1194 with a C- or better. CHEM 2214 must be taken concurrently.

Note: CHEM 2250 and 2260/2274 together can substitute for CHEM 2210/2214.

**Credits 15**

**Junior****Fall**

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)	4
--------------------------	--	---

BIOL 3340	ECOLOGY	4
-----------	---------	---

Social Science <sup>^</sup>		3
-----------------------------	--	---

Humanities and Fine Arts <sup>^</sup>		3
---------------------------------------	--	---

- CHEM 3650: requires CHEM 2210/2214 or CHEM 2260/2274 with C- or better. CHEM 3654 must be taken concurrently.

Note: CHEM 3650/3654 will not be required if student has completed through CHEM 2260/2274 of the general chemistry sequence.

- BIOL 3340: Requires BIOL 1450, 1750, and junior status

<sup>^</sup> HFA: must be in a 2nd discipline

<sup>^</sup> SS: must be in a 2nd discipline

**Credits** **14**

**Spring**

GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES	4
-----------	--	---

BIOL 4120	CONSERVATION BIOLOGY (*)	3
-----------	--------------------------	---

CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY (*)	3
-----------	---	---

Elective course		3
-----------------	--	---

Elective course		3
-----------------	--	---

- CHEM 1010: requires MATH 1220 or proficiency in MATH 1220 via ACT, SAT, or Math Placement Exam

- BIOL 4120: requires BIOL 1750

**Credits** **16**

**Summer**

ENVN 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	3
-----------	---	---

- ENVN 4800: requires permission of instructor.

**Credits** **3**

**Senior****Fall**

BIOL 3530	FLORA OF THE GREAT PLAINS (*)	4
-----------	-------------------------------	---

BIOL 3000/4000 Level		3
----------------------	--	---

ENVN 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
-----------	--	---

ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (*)	3
-----------	--	---

- BIOL 3530: requires BIOL 1450 and BIOL 1750

- ENVN 4610: requires permission of instructor.

- ENVN 4820: requires permission of instructor.

**Credits** **13**

**Spring**

BIOL 3000/4000 Level with a lab		4
---------------------------------	--	---

PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (*)	5
--------------------------	--	---

Statistics Course**		3
---------------------	--	---

Elective\*\* **2**

- PHYS 1050: HS algebra or equivalent

- PHYS 1054: HS algebra or equivalent; PHYS 1050 prior or concurrent

Note: The two-semester sequence of PHYS 1110/1154 and 1120/1164 can be taken in place of PHYS 1050/1054.

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or options (when given) can help you reach these minimums.

**Credits** **14**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Environmental Science Minor

Students interested in a minor in environmental science must meet with the Director of Environmental Studies ([jmccarty@unomaha.edu](mailto:jmccarty@unomaha.edu)) to develop an approved plan of study.

### Requirements

**Code** **Title** **Credits**

**Required courses:**

ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
-----------	---	---

Select one course from the following: **3-4**

BIOL 1330	ENVIRONMENTAL BIOLOGY	
-----------	-----------------------	--

CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	
-----------	---	--

GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
-----------	-----------------------------	--

GEOL 1010	ENVIRONMENTAL GEOLOGY	
-----------	-----------------------	--

Select 12 credit hours from the following, provided those courses are not in the major field of study, and are approved by the Director of Environmental Studies: **12**

**Environmental Studies**

ENVN/PHIL 3180	ENVIRONMENTAL ETHICS	
----------------	----------------------	--

ENVN 3660	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN	
-----------	---	--

ENVN 3670	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY	
-----------	--	--

ENVN 4090	SPECIAL TOPICS IN ENVIRONMENTAL STUDIES
ENVN/BIOL 4180	FRESHWATER ECOLOGY
ENVN/PSCI 4270	GLOBAL ENVIRONMENTAL POLITICS
ENVN 4310	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY
ENVN 4330	INTRODUCTION TO GREEN INFRASTRUCTURE
ENVN 4350	GLOBAL CLIMATE CHANGE
ENVN/BIOL 4410	WETLAND ECOLOGY AND MANAGEMENT
ENVN/BIOL 4420	RESTORATION ECOLOGY
ENVN/BIOL 4600	GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE
ENVN/GEOG/ GEOG/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT
ENVN/BIOL 4800	INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING
ENVN/BIOL/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS
ENVN/BIOL 4970	ADVANCED BOTANY
<b>Biology</b>	
BIOL 3340	ECOLOGY
BIOL 3530	FLORA OF THE GREAT PLAINS
BIOL 3730	FAUNA OF THE GREAT PLAINS
BIOL 4120	CONSERVATION BIOLOGY
BIOL 4180	FRESHWATER ECOLOGY
BIOL 4210	FIRE ECOLOGY
BIOL 4780	VERTEBRATE ZOOLOGY
BIOL 4790	MAMMALOGY
BIOL 4840	HERPETOLOGY
BIOL 4940	ENTOMOLOGY
BIOL 4980	ORNITHOLOGY
<b>Chemistry</b>	
CHEM 3030	ENVIRONMENTAL CHEMISTRY
<b>Geography</b>	
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT
GEOG 3510	METEOROLOGY
GEOG 3514	INTRODUCTION TO METEOROLOGY LABORATORY
GEOG 4010	CONSERVATION OF NATURAL RESOURCES
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I
GEOG/BIOL/GEOG 4100	BIOGEOGRAPHY
GEOG 4160	URBAN SUSTAINABILITY
GEOG 4230	GREAT PLAINS & NEBRASKA
GEOG 4260	PROCESS GEOMORPHOLOGY
GEOG 4320	CLIMATOLOGY
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION
GEOG 4340	WATER RESOURCES
GEOG 4350	GLOBAL CLIMATE CHANGE
GEOG 4630	ENVIRONMENTAL REMOTE SENSING
<b>Geology</b>	
GEOL 3300	STRUCTURAL GEOLOGY
GEOL 3310	STRUCTURAL GEOLOGY FIELD METHODS

GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY
GEOL 4260	PROCESS GEOMORPHOLOGY
GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION
GEOL 4540	GEOCHEMISTRY
GEOL 4640	CRITICAL ZONE SCIENCE
<b>Society, Environment and Resource Conservation</b>	
SOC 4760	ENVIRONMENTAL SOCIOLOGY
<b>Total Credits</b>	
<b>16-17</b>	

## Sustainability Minor

Sustainability is an interdisciplinary field that explores, from multiple perspectives, the interconnectedness of every system on the planet and how to maintain and improve earth's resources for current and future generations. Environmental science provides the basis for understanding Earth's systems and how humans impact them. Humanities values our physical and ethical connection to these systems. Social sciences allows us to understand political, economic, and cultural sustainability, as well as formulate workable policies for a sustainable future.

Sustainability integrates a broad range of topics, including:

- green business practices
- ecology
- natural resources management
- city planning (including land development, housing, transportation, and urban infrastructure)
- international law, policy, and politics
- ethics, values, and environmental justice
- energy and international development
- food security
- human health and quality of life.

A minor in sustainability can be combined with any major in any college at UNO, offering students a flexible and interdisciplinary curriculum. Students who complete this minor will be able to:

- Understand sustainability, its various sub-disciplines, major themes, and analytical techniques as it relates to virtually any career field
- Recognize the political, economic, and cultural forces acting upon the global ecosystem
- Appreciate the significant value of the global ecosystem services provided by a healthy environment
- Identify ways to advance equity, improve quality of life, and lower our personal and collective environmental footprint, on campus and in the community.

## Other Information

All coursework taken for the sustainability minor must be completed with a grade of "C-" or better.

## Contact

Dr. Julie Pelton, Director  
 jpelton@unomaha.edu  
 Website (<https://www.unomaha.edu/college-of-arts-and-sciences/sustainability/>)

## Requirements

Undergraduate students will be expected to complete at least 15 credit hours of Sustainability courses, including an introductory course in Sustainability, one course in environmental science, and advanced sustainability coursework. Nine credit hours must be upper division (3000

or higher) courses. No more than six credit hours will be accepted as transfer credit.

Code	Title	Credits
<b>Required Courses</b>		
SUST 1000	INTRODUCTION TO SUSTAINABILITY	3
Select one of the following approved courses in environmental science:		3-4
BIOL 1330	ENVIRONMENTAL BIOLOGY	
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	
GEOL 1010	ENVIRONMENTAL GEOLOGY	
GEOL 1100	EARTH SYSTEM SCIENCE	
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
Plus a minimum of 9 credit hours selected from the following. Courses can only be applied to one area.		
Select one of the following in the economic and public policy aspects of sustainability:		3
ECON 3320	INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS	
ECON 4320	NATURAL RESOURCE ECONOMICS	
GEOG 4160	URBAN SUSTAINABILITY	
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
Select one of the following in social and ethics dimensions of sustainability:		3
PHIL 3180	ENVIRONMENTAL ETHICS	
SOC 4760	ENVIRONMENTAL SOCIOLOGY	
GEOG 4160	URBAN SUSTAINABILITY	
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
ENVN 2000	LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY	
ENVN 3660	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN	
Select one of the following in sustainability and natural resource management:		3-4
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG 4350	GLOBAL CLIMATE CHANGE	
BIOL 4120	CONSERVATION BIOLOGY	
ENVN 2120	SUSTAINABLE LANDSCAPE PLANTS	
ENVN 3660	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN	
ENVN 4310	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	
ENVN 4320	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	
<b>Students may also pursue the following options, as approved by the director of the minor:</b>		
SUST 4090	SPECIAL TOPICS IN SUSTAINABILITY	1-5
SUST 4800	INTERNSHIP IN SUSTAINABILITY	1-6
SUST 4900	INDEPENDENT STUDY	1-3

Please be advised that students who elect to complete both the ENVN major and Sustainability minor may only count 1000-level classes for both the major and minor. For other majors, students may count one lower-level course and one upper-level course for both the major and minor.

## Foreign Languages and Literature

The Department of Foreign Languages & Literature offers a Bachelor of Arts (B.A.) in Foreign Languages and Literature with concentrations in: French, German, or Spanish. For all languages, a total of 30 upper-division (3000-4000 level) credit hours are required.

The department offers introductory through advanced courses in French, German, and Spanish, as well as courses through the intermediate level in Japanese. It should be noted that the Spanish minor may be earned on campus, entirely online, or a combination of the two. Chinese is offered at the beginning level. In addition, the department participates in such interdisciplinary programs as International Studies, Latino and Latin American Studies, Women's and Gender Studies, Medical Humanities, and also offers summer courses in France, Germany, Canada, Mexico and Spain.

### Double Majors for Secondary Education World Language Majors

Students pursuing a B.S. from the College of Education with a first major in Secondary Education (World Language-French or German or Spanish 7-12 Endorsement) and working toward Nebraska State Certification to teach in this area may also earn a second major in Foreign Languages and Literature by declaring that major with the College of Arts & Sciences Advising Center (<https://www.unomaha.edu/college-of-arts-and-sciences/academic-advising-center/>).

Students will complete 30 credit hours in French, German, or Spanish with grades of C or above (this is different from the Foreign Languages & Literature Department's requirement of a minimum grade of C- or above). Students declaring this second major should work with their advisor to select courses that align with both programs and require no additional coursework on the part of the student.

### Other Information

Courses in the 1110, 1120, 2110, 2120 sequences may not be taken out of order. Students must pass the prerequisite course with a grade of "C-" or better before taking the next course in the sequence, and may not take an earlier course in any sequence for credit once they have received credit in a later course in any sequence. All 3000 and 4000 level courses may be taken for honors credit in cooperation with the University Honors Program.

There is a laboratory fee for all foreign language courses at the 1000 and 2000 levels.

### Special Requirements

The Department of Foreign Languages and Literature does not accept transfer credits from any institution for its 1000/2000 level courses except for those as allowed by the College of Arts and Sciences. To enroll in any French, German, or Spanish course beyond 1110, a student who has not successfully completed the prerequisite courses at UNO must take the appropriate placement exam and qualify for the desired course. Native and heritage speakers of French, German or Spanish wishing to take a course in their language of nurture are exempt from this requirement. They are advised to make an appointment with an advisor in the Department of Foreign Languages and Literature for appropriate placement. All other students are subject to this requirement including transfer students. UNK/UNL students are not exempt from this requirement. The Department of Foreign Languages and Literature reserves the right to cancel the registration of any student who has not met the prerequisites for a course. Transfer courses at the 3000/4000 level are subject to the approval of

a departmental adviser and the department chair. All foreign language courses must be completed with a grade of C- or better in order for the student to continue to the next course.

## Residency

All majors in Foreign Languages and Literature must complete a minimum of 12 credit hours in their major language at the 3000 or 4000 level in residence at UNO.

All minors in Foreign Languages and Literature must complete a minimum of 9 credit hours in their minor language at the 3000 or 4000 level in residence at UNO.

## Student Groups

The department of Foreign Languages has active student groups: Le Cercle Français, Stammtisch, Pi Delta Phi, Sigma Delta Pi, and Tertulia. Visit (<https://www.unomaha.edu/college-of-arts-and-sciences/foreign-languages-and-literature/student-opportunities/student-organizations.php>) for more information.

## Option for Degree Completion Fast Track Program

The Department of Foreign Languages and Literature has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing the BA degree with Foreign Languages & Literature major with concentrations in Spanish and/or French desiring to pursue an MA in Language Teaching
- Students must have completed no fewer than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good academic standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted to undergraduate status including financial aid
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code
- Admission to Fast Track does NOT guarantee admission to the graduate program.
- The admit term must be after the completion term of the undergraduate degree.
- Students can complete 9 credit hours in the target language (cross-listed courses at the 4000 level).

Contact

301 Arts & Sciences Hall  
402.554.4841

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/foreign-languages-and-literature/>)

## Degrees Offered

- Foreign Languages and Literature, Bachelor of Arts (p. 157)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the foreign language and literature major, FREN 4040, GERM 4040, and SPAN 4040 are the approved university writing courses for French, German and Spanish. Students must have completed ENGL 1160 in order to take their writing in the discipline course (of the university core curriculum) in a foreign language.

## Minors Offered

- French Minor (p. 161)
- German Minor (p. 161)
- Spanish Minor (p. 162) -Available online or on campus

## Minor in Foreign Languages

A minimum of 15 credit hours in courses at the 3000 and 4000 level are required for a minor in French, German, or Spanish. All foreign language minors must complete a minimum of 9 credit hours in their minor language at the 3000 or 4000 level in residence at UNO.

Students may earn the Spanish minor by taking courses on campus, online, or a combination of the two.

In the Department of Foreign Languages and Literature at UNO, our goal is to provide students with the linguistic and cultural proficiency required of a global education. Language study at UNO provides a myriad of opportunities to use the language you are studying both within and outside of the classroom through study abroad opportunities and engagement in the Omaha community. Foreign Languages & Literature majors often pursue career paths such as the following:

- business: human resources, sales, marketing, logistics, international business
- law/law enforcement: police, immigration, law (international, immigration or environmental law)
- government and non-profit services: non-profit management or administration, Peace Corps, Foreign Service, linguistics, social work, environmental justice, research (for think tanks, non-profits, government)
- healthcare: healthcare navigation, patient relations, nursing, medicine, dentistry, speech therapy
- education (p-16): teaching, bilingual assistance, administration (OPS requires that principals be or become bilingual), counseling, special education, library services
- communication/journalism: radio, television, publishing (e.g. newspapers, magazines, blogs, books), and advertising. Specialized areas include writing, editing, proofreading, transcribing, subtitling, voice-over recording
- travel and hospitality: travel agency services, tour guiding, event coordination, concierge services

## French

### FREN 1110 ELEMENTARY FRENCH I (5 credits)

Elementary French I emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, as well as introduces cultural issues from the francophone world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**FREN 1120 ELEMENTARY FRENCH II (5 credits)**

French 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including listening, writing, speaking, and reading.

**Prerequisite(s)/Corequisite(s):** FREN 1110 with a grade of C- or better or placement by diagnostic examination. Department permission is needed for transfer credit.

**FREN 2110 INTERMEDIATE FRENCH I (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** FREN 1120 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**FREN 2120 INTERMEDIATE FRENCH II (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** FREN 2110 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**FREN 3020 SPECIAL TOPICS IN FRENCH (3 credits)**

Topics for this course will include French grammar review, conversation practice, composition, and structure. This course is a bridge course designed for students who have completed FREN 2120, FREN 3030, or FREN 3040, to prepare them for 3000/4000-level content courses in French.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or equivalent. Not open to non-degree graduate students.

**FREN 3030 FRENCH CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or placement by Department of Foreign Languages diagnostic examination.

**FREN 3040 FRENCH GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles, practice in written composition.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or placement by Department of Foreign Languages diagnostic examination.

**FREN 3050 INTRODUCTION TO TRANSLATION (3 credits)**

Introduction to the theory and various techniques of translation from French into English. Students will review specific differences between French and English grammar and lexicon. Students will first practice translating sentences, moving to paragraphs to end on translating various genres of literary works. Throughout the course, students will translate a great variety of texts such as news articles, administrative forms, official records, business documents, brochures, operating instructions, and how to translate subtitles.

**Prerequisite(s)/Corequisite(s):** FREN 3040 or permission

**FREN 3060 READINGS IN FRENCH (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** FREN 2120. Not open to non-degree graduate students.

**FREN 3160 INTRODUCTION TO FRENCH LITERATURE (3 credits)**

Readings in this survey course will include a selection of French authors from the medieval period to the present. This selection will vary depending on the instructor. The main objective of this course is the development of critical reading skills and an understanding of major authors, movements, and themes in French literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. The course also focuses on continuing to develop French language skills, in particular through reading for comprehension and interpretation of metaphorical meaning. Discussion will help to hone speaking skills.

**Prerequisite(s)/Corequisite(s):** FREN 3060 or instructor permission.

**FREN 3370 FRENCH CIVILIZATION (3 credits)**

A historical view of France through its political, artistic, musical, literary, architectural and philosophical development from prehistory to the present.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or permission

**FREN 3580 BUSINESS FRENCH (3 credits)**

An introduction to the French business world. Students will acquire the necessary vocabulary, skills and cultural strategies to perform adequately in a French business environment so they can understand the cultural differences between the American and French business worlds.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or equivalent

**FREN 4030 ADVANCED FRENCH CONVERSATION (3 credits)**

This course focuses on the development of oral skills in French through the use of complex and sophisticated conversational structures and nuanced lexicon. Students will be involved in expressing or presenting their ideas and opinions, interpersonal speaking activities, and a variety of activities including reading short literary and cultural texts and screening films. (Cross-listed with FREN 8036).

**Prerequisite(s)/Corequisite(s):** FREN 3030 or departmental permission. Not open to non-degree graduate students.

**FREN 4040 ADVANCED FRENCH COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics.

**Prerequisite(s)/Corequisite(s):** French majors with Junior or Senior standing. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**FREN 4050 SEMINAR IN THE CULTURE AND CIVILIZATION OF QUEBEC (3 credits)**

An introduction to the many facets of Quebec Culture & Civilization, through readings on Quebec's history and contemporary culture and also through films and other media related to Quebec. (Cross-listed with FREN 8056).

**Prerequisite(s)/Corequisite(s):** FREN 2120 or permission, and ENGL 1160

**FREN 4150 CONTEMPORARY FRENCH NOVEL (3 credits)**

Selected contemporary French novels are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. In addition, students will examine the sociopolitical and cultural contexts of these literary works. (Cross-listed with FREN 8156).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 4170 CONTEMPORARY FRENCH THEATER (3 credits)**

Selected contemporary French plays are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. (Cross-listed with FREN 8176).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission of instructor. Not open to non-degree graduate students.

**FREN 4220 THE STRUCTURE OF FRENCH (3 credits)**

A survey of the linguistic structure of modern French, including phonology, morphology, and syntax. (Cross-listed with FREN 8226).

**Prerequisite(s)/Corequisite(s):** FREN 3040 or departmental permission. Not open to non-degree graduate students.

**FREN 4860 MODERN FRENCH WOMEN AUTHORS (3 credits)**

Selected contemporary French literary texts written by women are analyzed and discussed. This may include novels, short stories, poetry, and graphic novels. The primary objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the works under consideration. In addition, students will examine the sociopolitical and cultural contexts of these works. (Cross-listed with FREN 8866).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work. (Cross-listed with FREN 8906).

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**FREN 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the Francophone world. (Cross-listed with FREN 8956).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

**FREN 4960 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address narrow field of study of the civilization, history, film, contemporary culture, art, politics, and or cultural studies of the Francophone world. (Cross-listed with FREN 8966).

**Prerequisite(s)/Corequisite(s):** FREN 2120; FREN 3030, FREN 3040, and FREN 3060

**FREN 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Francophone world. (Cross-listed with FREN 8976).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

## German

**GERM 1110 ELEMENTARY GERMAN I (5 credits)**

Elementary German I emphasizes the mastery of all four language skills (speaking, listening, reading, and writing) and introduces cultural issues from the German-speaking world.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**GERM 1120 ELEMENTARY GERMAN II (5 credits)**

German 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It also includes a cultural component.

**Prerequisite(s)/Corequisite(s):** GERM 1110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 2110 INTERMEDIATE GERMAN I (3 credits)**

German 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It also includes a cultural component.

**Prerequisite(s)/Corequisite(s):** GERM 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 2120 INTERMEDIATE GERMAN II (3 credits)**

German 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It includes a culture component.

**Prerequisite(s)/Corequisite(s):** GERM 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 3030 GERMAN CONVERSATION (3 credits)**

This course focuses on improving students' oral production of German including improvements to pronunciation, fluidity, and vocabulary.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement by Department of Foreign Languages diagnostic examination, or permission from instructor.

**GERM 3040 GERMAN GRAMMAR & COMPOSITION (3 credits)**

The course will review previously studied grammar topics in the German language, as well as cover more advanced grammar points that are essential for expressing complex ideas. It will focus on writing strategies for writing in a foreign language, for developing a descriptive essay and a narrative.

**Prerequisite(s)/Corequisite(s):** GERM 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission.

**GERM 3060 READINGS IN GERMAN (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** GERM 2120; Not open to non-degree graduate students

**GERM 3190 LISTENING COMPREHENSION (3 credits)**

Students will strengthen their listening comprehension skills in a wide variety of genres.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement into the 3000-level in German or permission from the instructor

**GERM 3250 CONTEMPORARY CULTURE IN GERMAN SPEAKING COUNTRIES (3 credits)**

In this course students will learn about the political, social, economic, and aesthetic life in German-speaking countries.

**Prerequisite(s)/Corequisite(s):** GERM 2120 with a grade of C- or better, placement by department diagnostic exam, or instructor permission. Department permission is needed for transfer credit.

**GERM 3370 GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD (3 credits)**

This course covers history, art, architecture, customs, and philosophy of central Europe and the German-speaking world from prehistory until the early 18th century.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or permission.

**GERM 3380 GERMAN HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT (3 credits)**

This course will cover the history, art, architecture, customs, and philosophy of central Europe and the German-speaking world from the Enlightenment until the present.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or permission.

**GERM 3580 GERMAN FOR PROFESSIONAL LIFE (3 credits)**

This course focuses upon the development of German language skills and concomitant cultural awareness that can be utilized to conduct oneself appropriately in professional situations in German-speaking countries.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or the equivalent.

**GERM 3650 INTRODUCTION TO GERMAN FILM (3 credits)**

This course introduces students to seminal works in the history of German film.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or by permission.

**GERM 4040 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics.

**Prerequisite(s)/Corequisite(s):** Last two semesters of the major or permission of the department. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**GERM 4150 INTRODUCTION TO GERMAN LITERATURE (3 credits)**

Introduction to the history of literature of Germany, Austria, and German-speaking Switzerland. Students will read selections from the 18th, 19th and 20th centuries.

**Prerequisite(s)/Corequisite(s):** GERM 3060 or instructor permission.

**GERM 4210 TRANSLATING GERMAN (3 credits)**

Students learn basic translation theory and techniques from the German to the English language.

**Prerequisite(s)/Corequisite(s):** GERM 3030 and GERM 3040 or by permission

**GERM 4220 THE STRUCTURE OF GERMAN (3 credits)**

A survey of the linguistic structure of modern German, including phonology, morphology, and syntax. (Cross-listed with GERM 8226).

**Prerequisite(s)/Corequisite(s):** GERM 3040 and GERM 4610, or permission of instructor.

**GERM 4900 INDEPENDENT STUDY (1-3 credits)**

This is a course in which an individual student or a small group of students complete specially planned readings in a well-defined field of study, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement by Department of Foreign Languages diagnostic examination, or permission from instructor.

**GERM 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the German-speaking world. (Cross-listed with GERM 8956).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

**GERM 4960 PRO-SEMINAR: SOCIETY AND CULTURE (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the German-speaking world. (Cross-listed with GERM 8966).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

**GERM 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the German-speaking world. (Cross-listed with GERM 8976).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060.

## Russian

**RUSS 1110 ELEMENTARY RUSSIAN I (5 credits)**

Elementary Russian I emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, as well as introduces cultural issues in Russia..

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RUSS 1120 ELEMENTARY RUSSIAN II (5 credits)**

Russian 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 1110 with a grade of C- or better or three years of high school Russian. Department permission is needed for transfer credit.

**RUSS 2110 INTERMEDIATE RUSSIAN I (3 credits)**

Russian 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**RUSS 2120 INTERMEDIATE RUSSIAN II (3 credits)**

Russian 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**RUSS 3030 RUSSIAN CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** RUSS 2120 or placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners.

**RUSS 3040 RUSSIAN GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles, practice in written composition.

**Prerequisite(s)/Corequisite(s):** RUSS 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners.

**RUSS 3050 WOMEN IN RUSSIAN SOCIETY & CULTURE: A HISTORICAL PERSPECTIVE (3 credits)**

This course discusses the history of women in Russia beginning from early Russia (10th Century) to the present. It includes the study of feminist activists, female educational, professional, and employment opportunities, historical and current status of women, and their social, cultural, and intellectual influences on Russian society. Course offered in English. (Cross-listed with WGST 3050).

**Prerequisite(s)/Corequisite(s):** Junior or permission.

**RUSS 3150 INTRODUCTION TO RUSSIAN LITERATURE I (3 credits)**

This course is designed to acquaint students with some of the highlights of Russian literature and develop their abilities to distinguish between various literary styles, ideas, and individual techniques and aesthetics of most prominent Russian authors. Readings in this survey course will include a selection of Russian authors from the 19th and 20th centuries. The main objective of this course is the development of critical reading skills and an understanding of major authors, movements, and themes in Russian literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. The course also focuses on continuing to develop Russian language skills, in particular through reading for comprehension and interpretation of metaphorical meaning. Discussion will help to hone speaking skills.

**Prerequisite(s)/Corequisite(s):** RUSS 2120 or department permission.

**RUSS 3370 RUSSIAN CULTURE AND CIVILIZATION (3 credits)**

A historical view of Russia through its political, literary, musical, religious and philosophical development from the 10th to the 20th centuries.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission.

**RUSS 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work.

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission. Not open to non-degree graduate students.

**RUSS 4940 RUSSIAN MASTERPIECES (3 credits)**

This course introduces Russian literature in translation and will be conducted in English. Readings in this survey course will include a selection of Russian authors from the early 19th century period to the present. The main objective of this course is the development of critical reading skills and an in-depth understanding of major authors, movements, and themes in Russian literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. (Cross-listed with RUSS 8946)

**Prerequisite(s)/Corequisite(s):** ENGL 1160

## Spanish

**SPAN 1100 ELEMENTARY SPANISH I FOR HEALTHCARE PROFESSIONALS (5 credits)**

Spanish 1100 presents an introduction to the Spanish language and fosters the mastery of all linguistic skills; i.e., speaking, listening, reading, and writing, via a communicative approach. It also promotes an understanding of the target language's culture with an emphasis on sociocultural issues relevant to healthcare services.

**SPAN 1110 ELEMENTARY SPANISH I (5 credits)**

Elementary Spanish I emphasizes the mastery of all four language skills (speaking, listening, reading, and writing) and introduces cultural topics from across the Spanish-speaking world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**SPAN 1120 ELEMENTARY SPANISH II (5 credits)**

Spanish 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 1110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 1200 ELEMENTARY SPANISH 2 HEALTHCARE PROFESSIONALS (5 credits)**

Spanish 1200 is built on the content introduced in Spanish 1100 and presents to students more complex communicative tasks that are typical of the interactions between patient/client and healthcare providers. The course fosters the mastery of all linguistic skills; i.e., speaking, listening, reading, and writing, via a communicative approach. It also promotes an understanding of the target language's culture with an emphasis on sociocultural issues relevant to healthcare services.

**Prerequisite(s)/Corequisite(s):** SPAN 1110 or SPAN 1100 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2110 INTERMEDIATE SPANISH I (3 credits)**

Spanish 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2120 INTERMEDIATE SPANISH II (3 credits)**

Spanish 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2130 ACCELERATED SECOND-YEAR SPANISH (6 credits)**

This accelerated course combines the content of Intermediate Spanish I and Intermediate Spanish II. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. Successful completion of this course fulfills the College of Arts and Sciences foreign language requirement. The entire course must be completed to receive credit.

**Prerequisite(s)/Corequisite(s):** SPAN 1120 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**SPAN 2150 INTRODUCTION TO HISPANIC LITERATURES AND CULTURES (3 credits)**

In this course, students become acquainted with canonical texts within the Spanish and Spanish American literary traditions. The course focuses on developing reading and writing skills, and on helping students distinguish between literal and metaphorical meanings, which serves as a preparation for the development of more advanced interpretive skills.

**Prerequisite(s)/Corequisite(s):** Placement exam results or advisor permission

**SPAN 3010 SPANISH FOR HERITAGE SPEAKERS I (3 credits)**

This course is designed to offer Spanish-speaking students an opportunity to study Spanish in an academic setting. Students will acquire Spanish literacy skills, develop their academic language skills in Spanish, and learn more about the Spanish language and their cultural heritage.

**Prerequisite(s)/Corequisite(s):** Placement exam results or adviser permission

**SPAN 3020 SPANISH FOR HERITAGE SPEAKERS II (3 credits)**

This course will continue to build upon the Spanish language skills students have covered in Spanish for Heritage Speakers I. Students will develop strategic academic vocabulary, learn to critically analyze a text, produce a variety of written texts, and acquire new information in different academic content areas.

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or adviser permission

**SPAN 3030 SPANISH CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** SPAN 2120 or placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners. Heritage and native students should not enroll.

**SPAN 3040 SPANISH GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles and practice in written composition.

**Prerequisite(s)/Corequisite(s):** SPAN 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners. Heritage and native students should not enroll.

**SPAN 3050 LATIN AMERICA IN CONTEXT: HEALTH, BUSINESS, ENVIRONMENT, AND SOCIETY THROUGH ORAL PRACTICE (3 credits)**

This course focuses on the development and intensive practice of oral expression in Spanish, and is intended for students interested in the fields of business, health, education, environmental sciences, social work, and cultural studies, who are either heritage speakers of Spanish or who are completing a major/minor in Spanish. The class provides a broad context of current relevant issues in Latin America, including politics and society; the state of the economy after decades of neoliberalism; racism; indigenous and Afro-descendent identities; domestic and gender violence; health and disabilities; adult, youth, & child immigration; and ecology and the environment. (Cross-listed with LLS 3050).

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or SPAN 3030 & SPAN 3040

**SPAN 3060 READINGS IN SPANISH (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** SPAN 2120: Intermediate Spanish II. Not open to non-degree graduate students.

**SPAN 3170 SURVEY OF SPANISH LITERATURE I (3 credits)**

Introduction to the principal authors and works of Spanish literature from El Cid to the 17th century.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or departmental permission. Not open to non-degree graduate students.

**SPAN 3180 SURVEY OF SPANISH LITERATURE II (3 credits)**

Spanish 3180, Introduction to Spanish Literature II, aims to familiarize students with the most important writers and literary movements from the 18th to the 21st centuries, giving an overview of the history, society and culture of these times. This course will also focus on the continued development of students' listening, speaking, reading, and essay skills. In pursuit of these goals, students will have the opportunity to read not only the specific texts but critical and introductory articles that will help them situate themselves within this particular historical and literary context. Students will also have to write essays, take tests, and develop their critical skills.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or departmental permission.

**SPAN 3410 SPANISH CIVILIZATION (3 credits)**

History, geography, national economy, politics, society, education, art, music and literature of Spain.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060.

**SPAN 3420 LATIN AMERICAN CIVILIZATION (3 credits)**

What do we know about Latin American culture, geography, politics and languages? How has Latin America been imagined from the United States? Does it make sense to think of Latin America as one space brought together by a similar history or is it better to imagine it as twenty particular countries with intersecting pasts and futures? This course will attempt to answer these questions by introducing you to a number of key topics and debates common to contemporary Latin American culture, including issues such as democracy, class, race/ethnicity, gender/sexuality, religion, family and globalization. (Cross-listed with LLS 3420).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060.

**SPAN 3510 SPANISH PHONETICS AND PHONOLOGY (3 credits)**

Introduction to basic concepts in phonetics and phonology, and intensive practice in Spanish pronunciation.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3040. Not open to non-degree graduate students.

**SPAN 3570 SPANISH FOR HEALTHCARE PROFESSIONALS (3 credits)**

Spanish for Healthcare Professionals provides an introduction of specialized communication in the healthcare context. Course objectives include the development of essential informal and formal vocabulary and expressions, and sociocultural competencies necessary for successful interaction with patients and other healthcare providers.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 or SPAN 3010, SPAN 3020

**SPAN 3580 BUSINESS SPANISH (3 credits)**

An introduction to the Spanish business world. Students will acquire the necessary skills and strategies to understand the differences in business practices and cultures between the US and Spanish-speaking countries. No prior business knowledge is required.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040, or permission from a Spanish advisor.

**SPAN 4020 LANGUAGE ENHANCEMENT THROUGH VOCABULARY LEARNING (3 credits)**

This class aims to expand students' vocabulary in Spanish. This will be achieved through doing an overview of current research that investigates how vocabulary is learned; identifying effective vocabulary learning strategies; and exploring topics not commonly encountered in Spanish classes such as commerce and science. The course also includes points of contact with the Spanish-speaking community in Omaha, where students can participate in interactions that connect what has been learned in the classroom to language use in real life. (Cross-listed with SPAN 8026).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060 OR SPAN 3010, SPAN 3020, and SPAN 3060

**SPAN 4030 ADVANCED SPANISH CONVERSATION (3 credits)**

This course targets the development of oral skills in Spanish through the incorporation of complex and sophisticated conversational structures and nuanced lexicon. In particular, the course focuses on presentational (i.e., expressing or exposing ideas or opinions), and interpersonal speaking (i.e., engaging in conversation where learners narrate and describe in the major time frames of past, present, and future in paragraph-length discourse with control of aspect). (Cross-listed with SPAN 8036)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060 or departmental permission

**SPAN 4040 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics. (Cross-listed with SPAN 8046).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020 and SPAN 3060; Majors only, senior standing. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**SPAN 4060 INTRODUCTION TO TRANSLATION AND INTERPRETATION (3 credits)**

This course offers an introduction to the translation and interpretation field. Course objectives include (a) understanding translation theory; (b) comprehending the role of communication in translation and interpretation; (c) targeting common grammatical and pragmatic errors; (d) increasing vocabulary knowledge in a variety of fields; and (e) gaining an increased awareness of the rigor and demands innate to the translation and interpretation fields. (Cross-listed with SPAN 8066).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060

**SPAN 4070 HISPANIC BILINGUALISM (3 credits)**

This course explores bilingualism among Spanish speaking populations. Topics include societal bilingualism, the history of Spanish and language policy in Spain, Latin America, and the U.S., psychological aspects of bilingualism, monolingual vs. bilingual acquisition, first vs second language acquisition, and Spanish as a heritage language in the U.S. (Cross-listed with SPAN 8076).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060 or SPAN 3010, SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4080 INTRODUCTION TO HISPANIC LINGUISTICS (3 credits)**

This course introduces students to the field of linguistics by exploring the following areas: phonetics and phonology (sound systems), morphology (word formation), historical linguistics (language development over time), and sociolinguistics and pragmatics (language in society and context), among others, as framed within the study of the Spanish language. (Cross-listed with SPAN 8086).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040 OR SPAN 3010 and SPAN 3020

**SPAN 4120 HISPANIC SOCIOLINGUISTICS (3 credits)**

This course introduces sociolinguistics, the study of the relationship between language and society, with an emphasis on the Spanish language. Its focus will be on correlational linguistics (how social factors such as age, gender and socioeconomic status affect language) and language and society (the role language plays in human conduct and social organization). Course topics will include the concept of speech communities, sociolinguistic variables, phonological and syntactic variation as well as languages in contact, bilingualism, Spanish in the U.S., Spanish as a heritage language, and language attitudes and ideologies. (Cross-listed with SPAN 8126).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4130 SPANISH IN THE UNITED STATES (3 credits)**

This course looks at Spanish in the U.S. from a sociolinguistic perspective. Course topics include: Dialectal/regional differences, dialect contact, Spanish- English bilingualism and code-switching, "Spanglish", language maintenance, language ideologies surrounding Spanish in the U.S., and Spanish in public spheres (e.g., TV, movies, radio, music, stand-up comedy). (Cross-listed with SPAN 8136).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4140 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 8146, LLS 4140).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060

**SPAN 4150 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 8156, CACT 8416)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 and SPAN 3060 or permission of instructor

**SPAN 4170 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 8176, LLS 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or SPAN 3010, SPAN 3020; SPAN 3060.

**SPAN 4220 THE STRUCTURE OF SPANISH (3 credits)**

This course introduces students to the structure of the Spanish language with a focus on its morphology and syntax as seen in the study of constituents of a sentence, lexical categories, content and function words, the pronominal system, the structure of simple and complex sentences, and the verbal system, among others. It reviews frequent syntactical errors in Spanish L2 and Heritage learners with the purpose of advancing their linguistic competence. (Cross-listed with SPAN 8226).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and 3040 or SPAN 3010 and SPAN 3020

**SPAN 4800 INTERNSHIP IN SPANISH (3 credits)**

This course is a supervised internship in a professional setting with a for-profit, government or non-profit organization. Students will receive hands-on experience involving translation, interpretation, community outreach, planning of educational opportunities or community events in Spanish. Internship specific projects and goals will be decided between employer and student and approved by the Spanish internship director. Some internships will be paid, but most will not.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060, junior or senior standing, and internship director permission. Not open to non-degree graduate students.

**SPAN 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work..

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**SPAN 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrower field of the literature and/or cinema of the Spanish-speaking world. (Cross-listed with SPAN 8956)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060

**SPAN 4960 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the Spanish-speaking world. (Cross-listed with SPAN 8966)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060.

**SPAN 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/ interpretation or the professional language of the Spanish-speaking world. (Cross-listed with SPAN 8976)

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060

# Foreign Languages and Literature, Bachelor of Arts

To obtain a B.A. with a major in Foreign Languages and Literature, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign languages (elementary and intermediate)
- 12-19 hours college breadth requirement
- 30 hours of major courses
- 9-16 hours of electives

TOTAL HOURS: 120

All majors take the following:

- 3 hours in Conversation (FREN 3030, GERM 3030, or SPAN 3030)
- 6 hours in Grammar, Composition, and Stylistics (FREN 3040 and FREN 4040, GERM 3040 and GERM 4040, or SPAN 3040 and SPAN 4040)
- 3 hours in Readings (FREN 3060, GERM 3060, or SPAN 3060)
- 18 hours of electives chosen from three tracks:
  - Literature and Film
  - Culture and Society
  - Linguistics and Language for the Professions.

A minimum of 3 hours must be taken within each of the three tracks. As long as students complete at least 3 hours in each track, they may fulfill their elective course requirements in whichever track or tracks they choose.

A total of 30 upper-division (3000-4000 level) credit hours is required.

It is strongly recommended that all foreign language majors include a study abroad component of at least one month during the second half of their program of study. All courses credited to a major or minor in a foreign language must be passed with a grade of "C-" or better.

## Concentration in French

Code	Title	Credits
<b>Required Coursework</b>		
FREN 3030	FRENCH CONVERSATION	3
FREN 3040	FRENCH GRAMMAR AND COMPOSITION	3
FREN 3060	READINGS IN FRENCH	3
FREN 4040	ADVANCED FRENCH COMPOSITION AND STYLISTICS <sup>1</sup>	3
<b>Electives</b>		
Select 18 credits from the following three tracks, with a minimum of 3 credits in each of the tracks: <sup>2</sup>		18
Track 1: Literature and Film		
FREN 3160	INTRODUCTION TO FRENCH LITERATURE	
FREN 4150	CONTEMPORARY FRENCH NOVEL	
FREN 4170	CONTEMPORARY FRENCH THEATER	
FREN 4860	MODERN FRENCH WOMEN AUTHORS	
FREN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
Track 2: Culture and Society		
FREN 3370	FRENCH CIVILIZATION	
FREN 4030	ADVANCED FRENCH CONVERSATION	

FREN 4050	SEMINAR IN THE CULTURE AND CIVILIZATION OF QUEBEC	
FREN 4960	PRO-SEMINAR: CULTURE AND SOCIETY	
Track 3: Linguistics and Language for the Professions		
FREN 3020	SPECIAL TOPICS IN FRENCH	
FREN 3050	INTRODUCTION TO TRANSLATION	
FREN 3580	BUSINESS FRENCH	
FREN 4220	THE STRUCTURE OF FRENCH	
FREN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Senior status and advisor permission required to enroll into FREN 4040.

<sup>2</sup> As long as students complete at least 3 credits in each track, they may fulfill their elective course requirements in whichever track or tracks they choose.

Native speakers of French should see a departmental advisor regarding major requirements.

## Concentration in German

Code	Title	Credits
<b>Required Coursework</b>		
GERM 3030	GERMAN CONVERSATION	3
GERM 3040	GERMAN GRAMMAR & COMPOSITION	3
GERM 3060	READINGS IN GERMAN	3
GERM 4040	ADVANCED COMPOSITION AND STYLISTICS <sup>1</sup>	3
<b>Electives</b>		
Select 18 credits from the following three tracks, with a minimum of 3 credits in each of the tracks: <sup>2</sup>		18
Track 1: Literature and Film		
GERM 3650	INTRODUCTION TO GERMAN FILM	
GERM 4150	INTRODUCTION TO GERMAN LITERATURE	
GERM 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
Track 2: Culture and Society		
GERM 3250	CONTEMPORARY CULTURE IN GERMAN SPEAKING COUNTRIES	
GERM 3370	GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD	
GERM 3380	GERMAN HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT	
GERM 4960	PRO-SEMINAR: SOCIETY AND CULTURE	
Track 3: Linguistics and Language for the professions		
GERM 3580	GERMAN FOR PROFESSIONAL LIFE	
GERM 4210	TRANSLATING GERMAN	
GERM 4220	THE STRUCTURE OF GERMAN	
GERM 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Senior status and advisor permission required to enroll into GERM 4040.

<sup>2</sup> As long as students complete at least 3 credits in each track, they may fulfill their elective course requirements in whichever track or tracks they choose.

Native speakers of German should speak with a departmental advisor regarding major requirements.

## Concentration in Spanish

Code	Title	Credits
<b>Required Coursework</b>		
SPAN 3030 or SPAN 3010	SPANISH CONVERSATION SPANISH FOR HERITAGE SPEAKERS I	3
SPAN 3040 or SPAN 3020	SPANISH GRAMMAR AND COMPOSITION SPANISH FOR HERITAGE SPEAKERS II	3
SPAN 3060	READINGS IN SPANISH	3
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS <sup>1</sup>	3
<b>Electives</b>		
Select 18 credits from the following three tracks, with a minimum of 3 credits in each of the tracks: <sup>2</sup>		18
Track 1: Literature and Film		
SPAN 3170	SURVEY OF SPANISH LITERATURE I	
SPAN 3180	SURVEY OF SPANISH LITERATURE II	
SPAN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
Track 2: Culture and Society		
SPAN 3410	SPANISH CIVILIZATION	
SPAN 3420	LATIN AMERICAN CIVILIZATION	
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY	
Track 3: Linguistics and Language for the professions		
SPAN 3510	SPANISH PHONETICS AND PHONOLOGY	
SPAN 3580	BUSINESS SPANISH	
SPAN 4060	INTRODUCTION TO TRANSLATION AND INTERPRETATION	
SPAN 4080	INTRODUCTION TO HISPANIC LINGUISTICS	
SPAN 4220	THE STRUCTURE OF SPANISH	
SPAN 4800	INTERNSHIP IN SPANISH	
SPAN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Senior status and advisor permission required to enroll into SPAN 4040.

<sup>2</sup> As long as students complete at least 3 credits in each track, they may fulfill their elective course requirements in whichever track or tracks they choose.

Native speakers of Spanish should speak with a departmental advisor regarding major requirements.

## French

### Freshman

Fall		Credits
FREN 1110	ELEMENTARY FRENCH I	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science		3
• ENGL 1150: Requires appropriate placement.		

Credits		14
<b>Spring</b>		
FREN 1120	ELEMENTARY FRENCH II (*)	5

ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120 or MATH 1220 or MATH 1130 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (*) or COLLEGE ALGEBRA or QUANTITATIVE LITERACY or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3

Social Science with US Diversity	3
----------------------------------	---

- FREN 1120: Requires FREN 1110 with grade of C- or better or placement via French Placement Exam.

- ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.

- Some Math courses require placement. See an advisor for options.

Credits		14
---------	--	----

### Sophomore

#### Fall

FREN 2110	INTERMEDIATE FRENCH I (*)	3
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major course*)	3

Natural/Physical Science with Lab	4
-----------------------------------	---

Humanities and Fine Arts	3
--------------------------	---

Social Science**	3
------------------	---

- FREN 2110: Requires FREN 1120 with grade of C- or better or placement via French Placement Exam.

- CAS College Requirement Options

\*\* Social Science must be from 2nd discipline.

Credits		16
---------	--	----

#### Spring

FREN 2120	INTERMEDIATE FRENCH II (*)	3
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course*)	3

Humanities and Fine Arts*	3
---------------------------	---

Natural/Physical Science*	3
---------------------------	---

A&S College Req: Humanities & Fine Arts for A&S OR Minor/2nd Major Course*	3
--	---

- FREN 2120: Requires FREN 2110 with grade of C- or better or placement via French Placement Exam.

- CAS College Requirement Option

- Humanities and Fine Arts Course must come from 2nd discipline.

- NPS must be from 2nd discipline

- CAS Humanity & Fine Arts Course must come from 3rd discipline.

Credits		15
---------	--	----

### Junior

#### Fall

FREN 3030	FRENCH CONVERSATION (*)	3
FREN 3040	FRENCH GRAMMAR AND COMPOSITION (*)	3

A&S College Requirement: Natural Science w/Lab OR Minor/2nd Major Course*	4
---	---

A&S College Req: Quantitative Literacy course OR Minor/2nd Major Course*	3
Elective	3

- FREN 3030: Requires FREN 2120 or placement
- FREN 3040: Requires FREN 2120 or placement
- CAS College Requirement Options

**Credits** **16**

#### Spring

FREN 3060	READINGS IN FRENCH (*)	3
Upper division French elective*		3
A&S College Req: Social Sciences OR Minor/2nd Major course*		3
Elective		3
Elective		3

- FREN 3060: Requires FREN 2120 or placement
- Many upper level French electives require only FREN 2120, but do vary.
- CAS College Requirement Social Science must come from 3rd discipline.

**Credits** **15**

#### Senior

##### Fall

FREN 4040	ADVANCED FRENCH COMPOSITION AND STYLISTICS (*)	3
Upper division French elective*		3
One FREN Culture & Society class		3
Elective		3
Elective		3

- FREN 4040: Pre-req is French Major with Jr or Sr standing.
- Upper Level French Course Pre-reqs Vary

**Credits** **15**

#### Spring

One FREN Literature & Film Class		3
One FREN Linguistics and Language class		3
Upper division French elective		3
Elective		3
Elective		3

Note: Students need a minimum of 120 credits to graduate. Electives, minors, and additional majors can assist with reaching that minimum requirement.

**Credits** **15**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### German

##### Freshman

		<b>Credits</b>
<b>Fall</b>		
GERM 1110	ELEMENTARY GERMAN I	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Social Science		3
	• ENGL 1150: Requires appropriate placement.	

**Credits** **14**

##### Spring

GERM 1120	ELEMENTARY GERMAN II (*)	5
ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120	INTRODUCTION TO MATHEMATICAL	3
or MATH 1220	AND COMPUTATIONAL THINKING (*)	
or MATH 1130	or COLLEGE ALGEBRA	
or STAT 1100	or QUANTITATIVE LITERACY	
or STAT 1530	or DATA LITERACY AND VISUALIZATION	
	or ELEMENTARY STATISTICS	
Social Science with US Diversity		3

- GERM 1120: Requires GERM 1110 with a grade of C- or better or placement via German Placement Exam.

- ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.

- Some Math classes require placement. See advisor for options.

**Credits** **14**

#### Sophomore

##### Fall

GERM 2110	INTERMEDIATE GERMAN I (*)	3
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major course*)	3
Natural/Physical Science with Lab		4
Humanities and Fine Arts		3
Social Science**		3

- GERM 2110: Requires GERM 1120 with grade of C- or better or placement via German Placement Exam.

- CAS College Requirement Options

\*\* Social Science must be from 2nd discipline

**Credits** **16**

##### Spring

GERM 2120	INTERMEDIATE GERMAN II (*)	3
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course*)	3
Natural/Physical Science*		3

Humanities and Fine Arts*	3
A&S College Req: Humanities & Fine Arts for A&S OR Minor/2nd Major Course*	3
<ul style="list-style-type: none"> <li>NPS Course must be from 2nd discipline</li> </ul>	
<ul style="list-style-type: none"> <li>HFA Course must be from 2nd discipline</li> </ul>	
<ul style="list-style-type: none"> <li>CAS College Requirement Options—HFA Course must be from 3rd discipline</li> </ul>	
<ul style="list-style-type: none"> <li>GERM 2120: Requires GERM 2110 with grade of C- or better or placement via German Placement Exam.</li> </ul>	

**Credits 15**

**Junior****Fall**

GERM 3060	READINGS IN GERMAN (*)	3
GERM 3030	GERMAN CONVERSATION (*)	3
A&S College Requirement: Natural Science w/Lab OR Minor/2nd Major Course*		3-4
A&S College Req: Quantitative Literacy course OR Minor/2nd Major Course*		3
Elective		3

- GERM 3060: Requires GERM 2120 or placement

- GERM 3030: Requires GERM 2120 or placement

- CAS College Requirement Options

**Credits 15-16**

**Spring**

GERM 3040	GERMAN GRAMMAR & COMPOSITION (*)	3
Upper division German elective		3
A&S College Req: Social Sciences OR Minor/2nd Major course*		3
Elective		3
Elective		3

- GERM 3040: Requires GERM 2120 or placement

- CAS College Requirement Options. A&S Social Science must be from a 3rd discipline.

**Credits 15**

**Senior****Fall**

GERM 4040	ADVANCED COMPOSITION AND STYLISTICS (*)	3
One GERM Literature & Film Class		3
One GERM Culture & Society class		3
Elective		3
Elective		3

- GERM 4040: Requires the student to be in the last 2 semesters of their major or by permission of the department

**Credits 15**

**Spring**

One GERM Linguistics and Language class		3
Upper division German elective		3
Upper division German elective		3
Elective		3

Elective	3
----------	---

Note: Students need a minimum of 120 credits to graduate. Electives, minors and additional majors can assist in reaching that minimum requirement.

**Credits 15**

**Total Credits 119-120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Spanish****Freshman****Fall**

SPAN 1110	ELEMENTARY SPANISH I	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science		3

- ENGL 1150: Requires appropriate placement.

**Credits 14**

**Spring**

SPAN 1120	ELEMENTARY SPANISH II (*)	5
ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1120 or MATH 1220 or MATH 1130 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (*) or COLLEGE ALGEBRA or QUANTITATIVE LITERACY or ELEMENTARY STATISTICS	3

Social Science with US Diversity	3
----------------------------------	---

- SPAN 1120: Requires SPAN 1110 with grade of C- or better or placement via Spanish Placement Exam.

- ENGL 1160: Requires ENGL 1150 or placement.

- Some Math courses require placement. See advisor for options.

**Credits 14**

**Sophomore****Fall**

SPAN 2110	INTERMEDIATE SPANISH I (*)	3
Natural/Physical Science with Lab		4
Humanities and Fine Arts		3

Social Science		3
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major course*)	3
<ul style="list-style-type: none"> <li>SPAN 2110: Requires SPAN 1120 with grade of C- or better or placement via the Spanish Placement Exam.</li> </ul>		
<ul style="list-style-type: none"> <li>CAS College Requirement Options</li> </ul>		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
SPAN 2120	INTERMEDIATE SPANISH II (*)	3
Natural/Physical Science		3
Humanities and Fine Arts		3
Humanities & Fine Arts for A&S OR Minor/2nd Major Course*		3
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course*)	3
<ul style="list-style-type: none"> <li>SPAN 2120: Requires SPAN 2110 with grade of C- or better or placement via the Spanish Placement Exam.</li> </ul>		
<ul style="list-style-type: none"> <li>CAS College Requirement Options</li> </ul>		
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
SPAN 3010 or SPAN 3030	SPANISH FOR HERITAGE SPEAKERS I (*) or SPANISH CONVERSATION	3
SPAN 3060	READINGS IN SPANISH (*)	3
Natural/Physical Science w/Lab OR Minor/2nd Major Course*		4
Quantitative Literacy course OR Minor/2nd Major Course*		3
Elective/Minor/2nd Major Course		3
<ul style="list-style-type: none"> <li>SPAN 3010: Requires advisor permission; For native Spanish speakers. SPAN 3030: Requires SPAN 2120 or placement via Spanish Placement Exam. This course is for second-language learners. Heritage and native students should not enroll in SPAN 3030.</li> </ul>		
<ul style="list-style-type: none"> <li>SPAN 3060: Requires SPAN 2120.</li> </ul>		
<ul style="list-style-type: none"> <li>CAS College Requirement Options</li> </ul>		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
SPAN 3020 or SPAN 3040	SPANISH FOR HERITAGE SPEAKERS II (*) or SPANISH GRAMMAR AND COMPOSITION	3
Upper division Spanish elective		3
Social Science for A&S OR Minor/2nd Major course*		3
Elective		3
Elective		3
<ul style="list-style-type: none"> <li>SPAN 3020: Requires SPAN 3010 or advisor permission. SPAN 3040: Requires SPAN 2120 or placement via the Spanish Placement Exam.</li> </ul>		
<ul style="list-style-type: none"> <li>CAS College Requirement Options</li> </ul>		
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS (*)	3
One SPAN Literature & Film class		3
One SPAN Culture & Society class		3

Elective	3
Elective	3
<ul style="list-style-type: none"> <li>SPAN 4040: Requires SPAN 3030 or 3010, SPAN 3040 or 3020, and SPAN 3060. Majors only, senior standing.</li> </ul>	

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
One SPAN Linguistics and Language class		3
Upper division Spanish elective		3
Upper division Spanish elective		3
Elective		3
Elective/Minor/2nd Major course		3
Note: Students need a minimum of 120 credits to graduate. Electives, minors, and additional majors may be needed to reach this minimum credit requirement.		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## French Minor Requirements

Code	Title	Credits
FREN 3030	FRENCH CONVERSATION	3
FREN 3040	FRENCH GRAMMAR AND COMPOSITION	3
Select 9 credit hours in French electives at the 3000 or 4000 level		9
<b>Total Credits</b>		<b>15</b>

Native speakers of this language should see a departmental advisor regarding placement.

## German Minor Requirements

Code	Title	Credits
GERM 3030	GERMAN CONVERSATION	3
GERM 3040	GERMAN GRAMMAR & COMPOSITION	3

Select 9 credit hours in German electives at the 3000 or 4000 level

**Total Credits** 15

Native speakers of this language should see a departmental advisor regarding placement.

# Spanish Minor

The Spanish minor may be completed by taking courses on campus, entirely online, or a combination of the two.

## Requirements

Code	Title	Credits
Select one of the following options:		9
Option 1 for students learning Spanish as a second language:		
SPAN 3030	SPANISH CONVERSATION	
SPAN 3040	SPANISH GRAMMAR AND COMPOSITION	
SPAN 3060	READINGS IN SPANISH	
Option 2 for native Spanish speakers:		
SPAN 3010	SPANISH FOR HERITAGE SPEAKERS I	
SPAN 3020	SPANISH FOR HERITAGE SPEAKERS II	
SPAN 3060	READINGS IN SPANISH	
Additionally, select 6 credit hours in Spanish electives at the 3000 or 4000 level		6
<b>Total Credits</b>		15

Native speakers of this language should see a departmental advisor regarding placement.

# General Science

The Bachelor of Science in General Science is offered with or without a concentration. Without a concentration, it is a major with courses taken from multiple disciplines: biology, chemistry, physics, mathematics and geology. It is ideal for the student who enjoys a variety of sciences, preferring breadth over depth. A concentration in Medical Laboratory Science is available for students planning to apply to UNMC's program, and allows for more specificity as it applies to Medical Laboratory Science pre-requisites.

## Contact

Arts and Sciences Advising Center  
240 ASH  
402.554.2458

## Degrees Offered

- General Science, Bachelor of Science (p. 162)

All coursework taken for the General Science major must be completed with a grade of "C-" or better.

## Writing in the Discipline

Writing in the discipline course: All students are required to take a writing in the discipline course within their major. For the general science major this is ENGL 3980 or another approved course.

The General Science major is designed to help students gain a broad scientific background and develop fundamental skills in mathematics and science. Few students choose General Science initially. Instead, they transfer

into it after finding one of the other natural or physical science majors to be more demanding or more narrowly focused than expected.

The major in General Science is appropriate for students who are preparing for careers in some health professions (Pre-Occupational Therapy, Pre-Physical Therapy, Pre-Nursing, Pre-Medical Laboratory Science, etc.) for those who wish to enter graduate school programs at the Masters or Doctoral degree levels, for those students who wish to attain Teacher Certification, and those preparing for employment in a variety of science or science-related career areas.

When combined with other more specific majors or minors, a degree in general science can also be excellent preparation for careers in law, business, public relations, and writing careers in science, technology or natural history.

Career options include, but are not limited to

- Healthcare
- Technical Writing
- Research
- Environmental Science
- Natural History
- Business
- Public Relations
- Law
- High School Science Teacher

# General Science, Bachelor of Science

## Requirements

To obtain a B.S. with a major in General Science, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of General Education courses  
Most commonly, General Science majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements and meet the seven-hour University General Education natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 33 or fewer.
- 12-19 hours college breadth requirement
- 64-65 hours major courses
- 3-11 hours electives

Total Hours: 120

The B.S. degree with a major in general science consists of 49-50 credits of natural science courses as outlined below and 15 credits of cognate coursework selected in collaboration with the advisor from complementary disciplines.

Arts and Sciences students must complete 27 credits of upper division coursework within their degree.

Code	Title	Credits
<b>Biology Required Courses</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5

**Chemistry Required Courses**

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4

**Geology Required Course**

GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
-----------	----------------------------------	---

**Physics Required Courses****10**

Physics may be taken on an algebraic or calculus level. Select one of the following options:

## Option 1:

PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	

## Option 2:

PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	

**Mathematics/Statistics Required Courses****5-6**

Select one of the following options:

## Option 1:

MATH 1950 or MATH 1940	CALCULUS I CALCULUS FOR BIOMEDICINE	
---------------------------	--	--

## Option 2:

MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (and an approved statistics course)	
-----------	--	--

**Electives**

Select 12 credits of electives at the 2000 level or higher in at least two of the following disciplines: biology, chemistry, physics, geology.

**12****Total Credits****49-50****Medical Laboratory Science Concentration**

The B.S. in general science is offered with a concentration in medical laboratory science for students planning to apply to UNMC's Medical Laboratory Science Program (MLS). This program was designed in collaboration with UNMC to allow a student to complete two bachelor's degrees in as little as 122 credits. Students will apply to UNMC's General Science program and add on the medical laboratory science concentration. Following the guide below allows the student to complete UNMC's general education requirements and UNMC's MLS pre-requisite coursework in no more than three years. Near the beginning of the student's third year of UNMC studies, they will need to apply to UNMC's MLS program. Provided that the student has followed the curriculum as laid out below, and maintained a cumulative or math/science GPA of 3.0, he/she will be guaranteed an interview with UNMC's MLS program. Upon acceptance into UNMC's MLS program, students will complete 11 months of studies in specific MLS courses. After completion of the MLS program at UNMC, students may transfer their UNMC coursework back to UNMC to earn a dual degree of BS MLS from UNMC/ BS GSCI-MLS concentration from UNMC. Students must have a minimum of 30 credits in residence at UNMC and of those, 15 credits must come from the natural and physical sciences..

Code	Title	Credits
<b>BIOLOGY (21 credits)</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5

BIOL 2140	GENETICS	4
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3

**CHEMISTRY (14 credits)**

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY CHEM 1180-1184 and CHEM 1190-1194 may be substituted for CHEM 1140-1144.	5
--------------------------	--	---

CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY CHEM 2250 and CHEM 2260-2274 may be substituted for CHEM 2210-2214.	5
--------------------------	---	---

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
--------------------------	--	---

**MATHEMATICS (3 credits)**

MATH 1220	COLLEGE ALGEBRA (–Not required if student has MATH ACT sub score of 23 or higher)	3
-----------	---	---

**STATISTICS (3 credits)**

Select one of the following:

PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
STAT 3000	STATISTICAL METHODS I	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3

**ENGLISH COMPOSITION (3 credits)**

ENGL 1160	ENGLISH COMPOSITION II (–UNMC will accept ENGL 1150 or 1160 but UNMC requires at least ENGL 1160 or placement beyond via Advanced Placement or EPPE.)	3
-----------	---	---

**PUBLIC SPEAKING (3 credits)**

CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS ARGUMENTATION AND DEBATE	3
---------------------------	---	---

**HUMANITIES & FINE ARTS (9 credits)**

3 Humanities & Fine Arts courses of choice from UNMC's University Gen Ed list and coming from at least 2 different disciplines –One should be a U.S. Diversity or Global Diversity	9
--	---

**SOCIAL SCIENCES (6 credits)**

2 Social Sciences of choice from UNMC's University Gen Ed list –At least one should be a U.S. Diversity or Global Diversity (whichever one wasn't taken as a humanities)	6
--	---

**COGNATE COURSES (15 credits minimum)**

Selected in collaboration with UNMC advisor. May not be transferred back from UNMC. Suggested courses are:

BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS	2
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
MATH 1320	PRE-CALCULUS ALGEBRA	3
Social Science of choice (3)		3

Upon acceptance to the Bachelor of Science in Medical Laboratory Science program at UNMC, students will take at least 43 credits of professional MLS coursework to transfer back toward the completion of this additional

UNO degree—a B.S. in general science—medical laboratory science concentration.

If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: PHYS 1110-1154, GEOL 1170, an additional 3 credits of social sciences if not taken within the cognate, an Advanced Writing course, a minor or additional College of Arts & Sciences Gen Eds, and electives to reach 120 credits total. Students must have a minimum of 27 credits at the 3000/4000 level throughout the entire degree.

## General Science Bachelor of Science

### Freshman

Fall		Credits
BIOL 1450	BIOLOGY I (*)	5
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (**)	3
ENGL 1150	ENGLISH COMPOSITION I (***)	3
Humanities and Fine Arts		3

\*BIOL 1450: Requires high school biology and chemistry. College level chemistry recommended. This course will count as a Natural & Physical Science Lecture/Lab course as well as major requirement.

\*\*MATH 1930: Requires MATH 1320 within the last two years, or Math ACT sub-score of 25 within the last two years, or appropriate Math Placement Exam score within the last 2 years. (Student may take MATH 1950, as an alternative, with proper placement.) This course is higher than the general education Math/QL requirement, so would count as that and the College of Arts and Sciences QL requirement for the Add'l Gen Eds, in addition to counting as a calculus course for the major.

\*\*\*ENGL 1150: Requires appropriate placement via EPPE or AP.

Credits		14
<b>Spring</b>		
BIOL 1750	BIOLOGY II (*)	5
STAT 1530	ELEMENTARY STATISTICS (**)	3
ENGL 1160	ENGLISH COMPOSITION II (***)	3
Social Science		3

\*BIOL 1750: Requires BIOL 1450. This course counts as the A&S Add'l Gen Ed Natural & Physical Science Lec/Lab in addition to being a major requirement.

\*\*STAT 1530: Requires MATH 1210 within the last two years, or Math ACT sub-score of 19 within the last two years, or appropriate Math Placement Exam score within the last two years.

\*\*\*ENGL 1160: Requires ENGL 1150 or appropriate placement via EPPE, AP scores or transfer credit.

Credits		14
<b>Sophomore</b>		
<b>Fall</b>		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)	5
Social Science		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Humanities and Fine Arts/US Diversity		3

\*PHYS 1110: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score. This course counts as the 2nd Natural & Physical Science gen ed. Taking PHYS 1154 is also required for the major.

Credits		14
<b>Spring</b>		
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II (*)	5
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Social Science/Global Diversity**		3
Humanities and Fine Arts***		3

\*PHYS 1120: Requires PHYS 1110

\*\*Social Science must come from a 2nd discipline.

\*\*\*Humanities and Fine Arts course must come from a 2nd discipline.

Credits		15
<b>Junior</b>		
<b>Fall</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
Advanced General Science Elective**		3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (***)	3
HIST 1000 or Course towards Minor/2nd Major^		3
BS Cognate Course#		3

\*CHEM 1180: Requires MATH 1320 within last two years, or CHEM 1140/1144 within last two years, or Math ACT sub-score of 25 or higher within the last two years, or appropriate Math Placement Exam score within the last two years. Must take CHEM 1184 concurrently.

\*\*Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.

\*\*\*ENGL 3980: Requires ENGL 1160 or appropriate placement via EPPE, AP scores or transfer credit.

^A&S College Requirement Options.

#15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.

Credits		16
<b>Spring</b>		
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
Advanced General Science Elective**		3
BS Cognate Course***		3
BS Cognate Course***		3
HIST 1010 or Minor/2nd Major Course^		3

\*CHEM 1190: Requires CHEM 1180/1184 and MATH 1320 or equivalent. Must take CHEM 1194 concurrently.

\*\*Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.

\*\*\*15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.

**^A&S College Requirement Options**

<b>Credits</b>		<b>16</b>
<b>Senior</b>		
<b>Fall</b>		
Advanced General Science Elective*	3	
Additional Humanities and Fine Arts Course for A&S or Course towards Minor/2nd Major**	3	
Additional Social Science Course for A&S or Course towards Minor/2nd Major***	3	
BS Cognate Course#	3	
BS Cognate Course#	3	
*Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.		
**A&S College Requirement Options. Additional HFA must be in a 3rd discipline.		
or Course towards Minor/2nd Major		
***A&S College Requirement Options. Additional SS must be in a 3rd discipline.		
#15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Advanced General Science Elective*	3	
Elective or Minor/2nd Major Course	3	
Elective or Minor/2nd Major Course	3	
Elective or Minor/2nd Major Course	3	
Elective or Minor/2nd Major Course	3	
Elective or Minor/2nd Major Course	1	
*Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.		
Students must have a minimum of 120 credits to graduate and at least 27 credits 3000/4000 level coursework throughout the degree. Utilize electives to reach these minimums.		
<b>Credits</b>		<b>16</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Medical Laboratory Science Concentration**

<b>Freshman</b>		
<b>Fall</b>		
BIOL 1450	BIOLOGY I (*)	5
MATH 1220	COLLEGE ALGEBRA (**)	3
ENGL 1160	ENGLISH COMPOSITION II (***)	3
Humanities and Fine Arts/US Diversity		3
BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS (for suggested cognate course)	2
*BIOL 1450: Requires high school biology and chemistry. College level chemistry recommended.		
**MATH 1220: Requires appropriate placement via ACT, SAT or Math Placement.		
***ENGL 1160: Requires appropriate placement via EPPE, AP scores or transfer credit.		
B.S. Cognate courses must be 15 credits of coursework outside of the major that complements the students interests. Suggested cognate courses are BIOL 1060, BIOL 2740, BIOL 2840, MATH 1320, and a Social Science.		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
BIOL 1750	BIOLOGY II (*)	5
Humanities and Fine Arts		3
MATH 1320	PRE-CALCULUS ALGEBRA (**)	3
Social Science		3
*BIOL 1750: Requires BIOL 1450		
**MATH 1320: Requires Math 1220 with grade of C- or better within the past 2 years or placement.		
<b>Credits</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
Social Science/Global Diversity		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
BIOL 2440	THE BIOLOGY OF MICROORGANISMS (**)	4
*CHEM 1140: Requires MATH 1220 with grade of C- or better within past 2 years, or Math ACT sub-score of 23, or appropriate SAT or Math Placement Exam score. Also requires concurrent enrollment in CHEM 1144.		
**BIOL 2440: Requires high school biology and chemistry.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
BIOL 2140	GENETICS (*)	4
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (**)	5
Humanities and Fine Arts***		3
Elective/Minor Course/ Course toward parallel plan major^		3
***HFA #3 must come from a second discipline.		
*BIOL 2140: Requires BIOL 1450 and 1750, in addition to CHEM 1140 or 1180.		
**CHEM 2210: Requires CHEM 1140-1144 or CHEM 1190-1194 with a grade of C- or better in each. CHEM 2214 must be taken concurrently.		

^It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.

Credits		15
<b>Junior</b>		
<b>Fall</b>		
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)	4
PSYC 3130 or STAT 3000 or PA 3000 or SOWK 3000 or CRCJ 3000	STATISTICS FOR THE BEHAVIORAL SCIENCES (**) or STATISTICAL METHODS I or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
BIOL 1160	TERMINOLOGY OF HUMAN HEALTH & DISEASE	2

\*CHEM 3650: Requires concurrent enrollment in CHEM 3654. Requires CHEM 2210-2214 or CHEM 2260-2274, either of which needs to be a C- or better.

\*\*PSYC 3130 or STAT 3000 or PA/SOWK/CRCJ 3000 all require MATH 1220 or MATH 1120 as a prereq, but MATH 1220 or higher is needed for this program.

\*\*BIOL 1160 is helpful prior to or concurrent with enrollment in BIOL 2740, but not required.

NOTE: It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.

**UNMC'S Medical Laboratory Science Program**  
**Application needs to be started this semester.**  
**Typically applications are due early October, and the program begins late May in the following year. BEGIN APPLICATION NOW. Students must have taken the required courses, even if in a different plan of study, and must have a cumulative or math/science GPA of 3.0 minimum for a guaranteed interview with UNMC.**

Credits		13
<b>Spring</b>		
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II (*)	4
BIOL 3240	INTRODUCTION TO IMMUNOLOGY (**)	3
BS Cognate Course: Social Science of choice from 2nd discipline#		3
Elective/Minor course/ Course toward parallel plan major.^		3
*BIOL 2840: Requires BIOL 2740		
**BIOL 3240: Requires BIOL 1450, 1750, 2140, and junior standing. Recommended: BIOL 2440 or CHEM 3650 or Organic Chemistry.		
#B.S. Cognate courses must be 15 credits of coursework outside of the major that complements the students interests. Suggested cognate courses are BIOL 1060, BIOL 2740, BIOL 2840, MATH 1320, and a Social Science.		
^It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.		
Credits		13

## Summer

### AT UNMC

After taking the above 3 years worth of courses, upon acceptance to the Bachelor of Science in Medical Laboratory Science program at UNMC, students will take at least 43 credits of professional MLS coursework to transfer back toward the completion of this additional UNO degree—a B.S. in general science—medical laboratory science concentration. 43

If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: PHYS 1110-1154, GEOL 1170, an additional 3 credits of social sciences if not taken within the cognate, an Advanced Writing course, a minor or additional College of Arts & Sciences Gen Eds, and electives to reach 120 credits total. Students must have a minimum of 27 credits at the 3000/4000 level throughout the entire degree.

Credits	43
<b>Total Credits</b>	<b>129</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Graduation Requirements:** The B.S. in general science is offered with a concentration in medical laboratory science for students planning to apply to UNMC's Medical Laboratory Science Program (MLS). This program was designed in collaboration with UNMC to allow a student to complete two bachelor's degrees in as little as 122 credits. Students will apply to UNO's General Science program and add on the medical laboratory science concentration. Following the guide below allows the student to complete UNO's general education requirements and UNMC's MLS prerequisite coursework in no more than three years. Near the beginning of the student's third year of UNO studies, they will need to apply to UNMC's MLS program. Provided that the student has followed the curriculum, for example, as laid out above, maintained a cumulative or math/science GPA of 3.0, he/she will be guaranteed an interview with UNMC's MLS program. Upon acceptance into UNMC's MLS program, students will complete 11 months of studies in specific MLS courses. After completion of the MLS program at UNMC, students may transfer their UNMC coursework back to UNO to earn a dual degree of BS MLS from UNMC/ BS GSCI-MLS concentration from UNO. Students must have a minimum of 30 credits in residence at UNO and of those, 15 credits must come from the natural and physical sciences.

## Geography

The Department offers both a Bachelor of Arts and a Bachelor of Science in Geography. We also offer concentrations in Geographic Information Systems and Travel & Tourism, and a Minor in Geography. The geography program at UNO prepares students for careers in urban and environmental

planning, geographic information systems, cartography, remote sensing, and other areas of geographic research.

## Other Information

All coursework taken for the Geography major or minor must be completed with a grade of "C-" or better.

### Note for students double majoring in both A&S Geography and Environmental Science-Geography and Planning:

All geography courses may count toward both majors.

### Double-counting rule for Geography majors with a Geology minor:

Only one course at the upper level may be counted as credit for both the Geography major and Geology minor. All other upper level courses can only count in either the major or minor

Geography may also be studied through the College of Public Affairs and Community Service in the Division of Continuing Studies. Students interested in this degree program must meet with an adviser in the Division of Continuing Studies. The concentration consists of a minimum of 30 credit hours in geography, details of which are found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/division-of-continuing-studies/academics/areas-of-concentration/geography.php>).

## Option for Degree Completion Fast Track Program

The Department of Geography/Geology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

### Program Specifics:

- This program is available for undergraduate students pursuing a BA/BS in Geography desiring to pursue an MS in Geography.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must have a graduate faculty member in the department of Geography/Geology provide a short letter of support for their application to Fast Track as a faculty sponsor/mentor.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 for graduate coursework is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Student Groups

University of Nebraska Omaha Geography Club (<https://www.unomaha.edu/college-of-arts-and-sciences/geography/student-opportunities/student-organizations.php>)

## Contact

260 DSC  
402.554.2662

Website (<https://www.unomaha.edu/college-of-arts-and-sciences/geography/>)

## Degrees Offered

- Geography, Bachelor of Arts (p. 171)
- Geography, Bachelor of Science (p. 173)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the geography major, students may choose from the following: ENGL 3050 or ENGL 3980.

Geography is offered as a Bachelor of Arts in geography or a Bachelor of Science in geography. Students who wish more concentrated applications in geography may choose an optional concentration of either geographic information systems or travel and tourism. The specific course requirements for these concentrations may also be used to satisfy the major requirements.

The geography major requires a minimum of 29 credit hours of geography at the 3000 level or higher. All 3000 level or higher courses taken in the Geography Fundamentals and Geography Diversity Requirements count toward this requirement.

For the B.A. degree: Foreign language is required through the intermediate level.

For the B.S. degree: In lieu of foreign language, a 15 credit hour cognate is required, consisting of 6 credit hours of approved computer science coursework and an additional 9 credit hours of coursework complementary to the major and chosen in consultation with a departmental adviser.

## Minors Offered

- Geography Minor (p. 176)

Geographers are on the front line, tackling some of the most urgent issues facing our world, such as climate change, rapid urbanization, and the spread of infectious diseases. Want to make a difference in our world? – become a geographer!

Geography is the study of the earth as the home to humans, from the environment and landscape to the ways in which humans depend on, adapt to, and modify our world. It mixes the physical sciences (landforms, climate, biology), with the social sciences (population, land use, culture, economic development), using cutting-edge spatial technologies (geographic information systems, global positioning systems, remote sensing). We are interested not only in where things are, but why they are there, and "why should we care?" To study geography means honing both observational and analytical skills. With these skills, our graduates work in a wide range of fields, including:

- urban planning
- environmental management (for state and federal agencies)
- cartography and spatial analysis (for state and federal agencies as well as private companies)
- emergency planning
- meteorology
- education.

**GEOG 1000 FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY (3 credits)**

An introductory course designed to acquaint students with the basic concepts of geography and to examine the interrelationships between people and their environments.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**GEOG 1020 INTRODUCTION TO HUMAN GEOGRAPHY (3 credits)**

An introductory course which studies the geography of human activity through a topic by topic coverage of cultural traits and complexes that characterize different societies in the world. Major cultural topics of focus are the geography of population, agricultural systems, settlement, language, religion, political patterns, and man's ways of occupying urban and industrial space, among others.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**GEOG 1030 INTRODUCTION TO PHYSICAL GEOGRAPHY (4 credits)**

This course is designed to acquaint the student with those processes active in shaping the surface of the earth and their relationship to one another. Includes the study of the atmosphere, river systems and hydrology, glaciers, climate, plate tectonics and landforms. Includes weekly laboratory sessions. One half-day field trip is included.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 1050 HUMAN-ENVIRONMENT GEOGRAPHY (4 credits)**

Learn about how sustainability and quality of life depend on human interactions with environmental phenomena such as Climate, Drought, Energy, Water, and Biodiversity. These interactions influence patterns of Urbanization, Technology, Consumption, and Agriculture that can improve or degrade quality of life and sustainability. Lecture emphasizes concepts for understanding and explaining human-environment interaction. Labs focus on fundamentals of physical earth science and how these offer possibilities for sustainable development.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 1090 INTRODUCTION TO GEOSPATIAL SCIENCES (4 credits)**

An introductory lecture/lab that has students learn and apply the principles of geospatial science within the frameworks of Geographic Information Science (GISc), Remote Sensing, Aerial Photography, Photogrammetry, Global Positioning Systems and Cartography/Visualization. The course focuses on the underlying scientific basis that is shared across all of these frameworks. Students will produce both maps and spatial analysis by the end of the course using all of the above frameworks.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 2500 SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY (1 credit)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Various classes will be offered as sections of GEOG 2500/GEOL 2500, but will be separate from one another. Students may repeat GEOG 2500/GEOL 2500 as often as they like as long as no specific subject is duplicated.

**Prerequisite(s)/Corequisite(s):** Variable.

**GEOG 2620 AERIAL PHOTOGRAPHIC INTERPRETATION (3 credits)**

A practical application of various types of air photographs to the interpretation and analysis of both physical and cultural landscapes. Provides a fundamental tool for those interested in geography, geology, ecology and the environment. Recommended: Three hours in geography or geology.

**GEOG 3000 TRAVEL STUDY IN GEOGRAPHY (3 credits)**

The course examines the development of travel as a human endeavor and the process of planning a trip to a foreign country. A major objective of the course is the use and evaluation of Internet travel resources. This is accomplished by searching for relevant sources and assembling this material for presentation to others through the Internet.

**Prerequisite(s)/Corequisite(s):** An introductory course in geography is highly recommended along with a basic knowledge of online tools available through the Internet.

**GEOG 3030 GEOGRAPHY OF AFRICA (3 credits)**

A comprehensive and systematic survey of the environments, natural resources, populations, their cultures, and histories of the geographic regions of Africa and their development.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3050 GEOGRAPHY IN FILM (3 credits)**

Our views of the world are largely shaped by images that we see through popular media. This course examines contemporary films from around the world and how they depict places, the environment, and the lives of people. Critical and constructive examination of film will enable students to understand how images produce powerful ideological messages and how they shape the representation of entire cultures and people.

**Prerequisite(s)/Corequisite(s):** Junior standing. Introductory courses in regional, human, physical geography are highly recommended.

**GEOG 3070 GEOGRAPHY OF LATIN AMERICA (3 credits)**

This course surveys the physical and human environments of Latin America. Emphasis is placed upon the persistence of cultural factors in the use of land and on the difficulty in developing the various areas of Latin America.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3080 EAST & SOUTHEAST ASIA (3 credits)**

An introduction to the physical and human landscape of East, and Southeast Asia, encompassing countries from Japan to Myanmar. Emphasis is placed upon the sequence of occupancy of the land, agrarian traditional economies and contemporary development. Dominated by China, the region represents a major area for economic development.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3130 ECONOMIC GEOGRAPHY (3 credits)**

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with ECON 3130)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, and ECON 2220, each with a "C" (2.0) or better.

**GEOG 3230 GEOGRAPHY OF EUROPE (3 credits)**

This course is a comprehensive examination of contemporary Europe from a geographical perspective. The course covers physical, cultural, political, urban, population and economic geography of Europe as well as the recent political and economic transformations in both Western and Eastern Europe.

**Prerequisite(s)/Corequisite(s):** GEOG 1000, GEOG 1020, GEOG 1030 or GEOG 1050, and junior.

**GEOG 3240 GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS (3 credits)**

A comprehensive examination of Russia and the former Soviet republics from a geographical perspective. The course is organized topically to cover physical, historical, political, urban, population, economic and environmental geography. Special attention is given to geographical and environmental effects of the collapse of the former Soviet Union and the post-Communist transformation.

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 or GEOG 3130 and junior, or permission of instructor

**GEOG 3330 UNITED STATES & CANADA (3 credits)**

GEOG 3330: UNITED STATES & CANADA involves the analysis of the natural environment, historical development, economic systems, cultural patterns, and political structures of the Canada geographic region. The course provides a regional geographic perspective on these two countries by examining the expression of culture on the landscape. The course is designed for students wishing to gain regional geographical knowledge, while expanding their understanding of the interconnections among people and place within the United States and Canada.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3440 NEBRASKA NATURAL RESOURCES MANAGEMENT (3 credits)**

Method and actual application of managing natural resources in Nebraska, with emphasis on individual stewardship. The course will focus on the most current political, physical and economic developments in resources management.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**GEOG 3510 METEOROLOGY (3 credits)**

A course designed to acquaint the student with the atmospheric environment. The course deals with atmospheric processes, their relationship and variation in both time and space, and their effect on the overall environment of the earth.

**Distribution:** Natural/Physical Sci General Education lecture

**GEOG 3514 INTRODUCTION TO METEOROLOGY LABORATORY (1 credit)**

This lab is designed to give students practice with atmospheric processes using scientific principles techniques, procedures and data associated with meteorology. Offered on-line only.

**Prerequisite(s)/Corequisite(s):** Concurrent or previous enrollment in GEOG 3510

**Distribution:** Natural/Physical Sci General Education lab course

**GEOG 3530 CARTOGRAPHY AND DATA VISUALIZATION (4 credits)**

An introduction to the concepts and techniques of map construction and visual data communication. Topics include map scale, map projections, thematic cartography, history of cartography, computer mapping, and global positioning systems. Particular attention is given to designing both paper and Internet distributed maps. This course is offered in both the Fall and Spring semesters. (Cross-listed with GEOG 8535).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 and GEOG 1030 or GEOG 1050, a statistics course, and a programming course.

**GEOG 3540 CARTOGRAPHY & GIS LAB (2 credits)**

An introduction to the methods and techniques of map construction using both graphic design and geographic information system software. Topics include map design for both general reference and thematic maps. Particular attention is given to the processing, compilation, data classification, and symbolization of various types of spatial data. This course is the lab component of GEOG 3530.

**Prerequisite(s)/Corequisite(s):** Concurrent registration in GEOG 3530.

**GEOG 3930 POLITICAL GEOGRAPHY (3 credits)**

An introduction to the basic concepts and approaches in contemporary political geography at the global, national and local scales. Core topics to be examined include geopolitics, imperialism, war and peace, global ecopolitics, states, nationalism and electoral geography.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 4010 CONSERVATION OF NATURAL RESOURCES (3 credits)**

This course provides a diverse overview of the principles and contemporary issues related to ecology and management of wildlife, fisheries, forests, soil, rangeland, minerals, and water. It includes the philosophical, economic and social aspects of resource management. Current local, regional, and global issues are examined. (Cross-listed with GEOG 8016).

**Prerequisite(s)/Corequisite(s):** Three hours of geography.

**GEOG 4020 SPATIAL ANALYSIS IN GEOGRAPHY (3 credits)**

An introduction to spatial analysis with a focus on spatial statistics. Emphasis will be placed on the nature of geographic data, spatial data handling, modeling logic, sampling theory, and design. Both descriptive and spatial statistics methods are covered. Students will receive hands-on experience working with statistical data sets, software, and scientific visualization of research results. (Cross-listed with GEOG 8026).

**Prerequisite(s)/Corequisite(s):** STAT 1530 or equivalent

**GEOG 4030 COMPUTER MAPPING AND VISUALIZATION (3 credits)**

Computer techniques in the mapping and visualization of spatial data. Various forms of spatial data manipulation and computer graphic output techniques are examined. Particular attention is given to the creation of maps for the internet and the incorporation of interaction and animation in their display. (Cross-listed with GEOG 8036).

**Prerequisite(s)/Corequisite(s):** GEOG 1090 or permission of instructor. Background in programming, particularly JavaScript, highly recommended.

**GEOG 4040 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOG 8046, GEOL 4040).

**Prerequisite(s)/Corequisite(s):** Major in geology or geography; or major in anthropology, philosophy or religion with GEOG 1030, GEOG 1060 or GEOG 1070; or GEOL 1170 or GEOL 1010; or permission

**GEOG 4050 GEOGRAPHIC INFORMATION SYSTEMS I (4 credits)**

An introduction to the concepts and principles of geographic information systems (GIS). Emphasis will be placed on geographic data inputs, manipulation, analysis, and output functions. Exercises introduce students to GIS software and applications. Usually offered Fall, Spring, Summer. (Cross-listed with GEOG 8056).

**Prerequisite(s)/Corequisite(s):** GEOG 3530 and GEOG 3540 or 6 credit hours of GEOG course.

**GEOG 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOL 4100, BIOL 8106, GEOG 8106, GEOL 8106).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**GEOG 4120 URBAN GEOGRAPHY (3 credits)**

This course is designed to serve as an introduction to the complex and dynamic urban system, including the physical, economic, political, cultural, social, and environmental forces that shape the form and function of cities, as well as how individuals and groups experience urban life. We make ample use of geographic information systems (GIS) to analyze cities and better understand crucial urban concepts such as urban growth and development, patterns of urban form, segregation and neighborhood change, economic specialization and agglomeration, urban sprawl, and environmental justice. (Cross-listed with GEOG 8126).

**GEOG 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with WGST 4150, ENTR 4150, ENTR 8156, GEOG 8156 and WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**GEOG 4160 URBAN SUSTAINABILITY (3 credits)**

Using sustainability as a conceptual framework, students in this course will investigate a variety of social, economic, and environmental challenges facing cities of the 21st century. Topics and issues explored include urban growth and expansion, livability, equity & gentrification, energy use & production, urban farming, poverty, automobility & transportation, water security, urban pollution, and the role of cities in climate change. (Cross-listed with GEOG 8166)

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 4170 ADVANCED CULTURAL GEOGRAPHY (3 credits)**

This course examines current theoretical debate and research practice in a select topic in Cultural Geography. Emphasis will be on readings and discussion with students engaging in original research. Specific thematic focus will vary from year to year. This course may be taken multiple times as long as topics differ. (Cross-listed with GEOG 8176).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020, junior standing, or permission of the instructor.

**GEOG 4230 GREAT PLAINS & NEBRASKA (3 credits)**

This course is a comprehensive examination of the Great Plains region from a geographical perspective. It considers both the physical and human geography of the Plains, with particular attention to our home, Nebraska. Topics to be covered include: the Plains' unique ecosystems, its early human inhabitants, its later settlers, its evolving land-use patterns, and current issues. (Cross-listed with GEOG 8236).

**GEOG 4260 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 8266, GEOL 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOG 4320 CLIMATOLOGY (3 credits)**

A study of climatic processes and their effect on shaping the physical landscape. Emphasis on physical and applied aspects of the field. (Cross-listed with GEOG 8326).

**Prerequisite(s)/Corequisite(s):** GEOG 1030, GEOG 1050, GEOG 3510, or permission of instructor.

**GEOG 4330 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOL 4330, GEOG 8336).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOG 4340 WATER RESOURCES (3 credits)**

This course explores the applied principles of hydrology, water systems modeling, river basin development, and water management issues and practices in the United States and other parts of the world. Two local Saturday field trips will be required. (Cross-listed with GEOG 8346).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 and Junior standing

**GEOG 4350 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 8356, ENVN 8356, ENVN 4350).

**Prerequisite(s)/Corequisite(s):** At least one of the following:

GEOG 1030, GEOG 1050, GEOG 3510, GEOG 4320, or permission from instructor

**GEOG 4530 HISTORICAL GEOGRAPHY OF THE UNITED STATES (3 credits)**

This course examines the geography, physical and human, real, perceived, or theoretical, of the United States' historical development. It considers the ways history has and has not been affected by geography. It will also cover the field of historical geography, its theories and practices. (Cross-listed with GEOG 8536).

**Prerequisite(s)/Corequisite(s):** Junior and HIST 1110 and HIST 1120 or GEOG 1020 or GEOG 3330

**GEOG 4550 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 8556, CACT 8116).

**Prerequisite(s)/Corequisite(s):** An introductory level human geography course: GEOG 1020 or GEOG 1000

**GEOG 4600 INDEPENDENT RESEARCH (1-3 credits)**

Advanced study in the form of a major paper to give the senior student knowledge of and experience in using government documents, professional, and/or primary materials on a topic. Must be under the supervision of the instructor who is particularly qualified for the topic chosen. (Cross-listed with GEOL 4600).

**Prerequisite(s)/Corequisite(s):** Permission of department chair.

**GEOG 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOL 4610, GEOG 8616, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOG 4620 GEOGRAPHICAL FIELD STUDIES (3 credits)**

Field experience course based on variable topics and themes. Students must attend the multiple day field trip that will require overnight stays. (Cross-listed with GEOG 8626).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**GEOG 4630 ENVIRONMENTAL REMOTE SENSING (4 credits)**

An introduction to remote sensing science and technology. Emphasis will be placed on multispectral data, matter/energy interactions, sensor system characteristics, photogrammetry, image interpretation, digital image processing, and environmental applications. Formal laboratory instruction will provide students with problem-solving skills and hands-on experience with remote sensing and GIS software. (Cross-listed with GEOG 8636).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 or GEOG 1070 or GEOL 1170. Introductory statistics highly recommended.

**GEOG 4640 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 8646, GEOL 4640)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOG 4660 GEOGRAPHIC INFORMATION SYSTEMS II (4 credits)**

An introduction to advanced geographic information systems (GIS) topics. Emphasis will be placed on algorithms and analysis for information extraction. Topics include spatial interpolation, remote sensing GIS integration, software development, spatial analysis, GIS modeling, and future advances in GIS. Formal laboratory instruction will provide students with GIS experience to solve application problems. Usually offered in Fall. (Cross-listed with GEOG 8666).

**Prerequisite(s)/Corequisite(s):** GEOG 4050 / GEOG 8056

**GEOG 4800 INTERNSHIP IN ENVIRONMENTAL REGIONAL PLANNING EARTH SCIENCE (1-6 credits)**

Internships with local agencies or corporations enable students to gain knowledge and experience and apply their learning in comprehensive regional or environmental planning or environmental science.

**Prerequisite(s)/Corequisite(s):** Senior, major or area of concentration in geography or environmental science and permission

**GEOG 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 8826, PA 8826).

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

## Geography, Bachelor of Arts

To obtain a B.A. with a major in Geography, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign languages
- 12 hours college breadth requirement
- 39 hours of major courses
- Elective hours as required to total 120 hours.

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
<b>Geography Fundamentals Requirements</b>		
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	4
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION	4
GEOG 4620	GEOGRAPHICAL FIELD STUDIES <sup>1</sup>	3
STAT 1530	ELEMENTARY STATISTICS	3
<b>Geography Diversity Requirements</b>		
Select a minimum of one course from each of the groups of Geography Diversity courses (see below).		15-16
<b>Foreign Language Requirement</b>		
Foreign language is required through the intermediate level.		
<b>Total Credits</b>		<b>39-40</b>

<sup>1</sup> Optional method of completing GEOG 4620.

## Geographical Field Studies Requirement

Students who have completed study abroad, or military service for more than six months outside the USA can complete the course without going on the multiple day field trip. Contact the department for the details regarding this alternative method. GEOG 4620 can also apply to the upper level Global or North American category, depending on the field study destination.

## Geography Diversity Groups

Code	Title	Credits
<b>Physical Geography</b>		
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	3
GEOG 3510	METEOROLOGY	3
With or without the following laboratory:		0-1
GEOG 3514	INTRODUCTION TO METEOROLOGY LABORATORY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	3
GEOG/GEOL 4040	GEOARCHAEOLOGY	3
GEOG/BIOL/GEOL 4100	BIOGEOGRAPHY	3
GEOG 4260	PROCESS GEOMORPHOLOGY	4
GEOG 4320	CLIMATOLOGY	3
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
GEOG 4340	WATER RESOURCES	3
GEOG 4350	GLOBAL CLIMATE CHANGE	3
GEOG/ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
GEOG 4640	CRITICAL ZONE SCIENCE	4
<b>Human Geography</b>		
GEOG/ECON 3130	ECONOMIC GEOGRAPHY	3
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	3

GEOG 3930	POLITICAL GEOGRAPHY	3
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	3
GEOG 4120	URBAN GEOGRAPHY	3
GEOG/WGST 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
GEOG 4160	URBAN SUSTAINABILITY	3
GEOG 4170	ADVANCED CULTURAL GEOGRAPHY	3
GEOG 4550	GEOGRAPHY OF ECONOMIC GLOBALIZATION	3
GEOG/PA/BIOL/ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3

**Global Perspectives**

GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	3
GEOG 3030	GEOGRAPHY OF AFRICA	3
GEOG 3050	GEOGRAPHY IN FILM	3
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	3
GEOG 3080	EAST & SOUTHEAST ASIA	3
GEOG 3230	GEOGRAPHY OF EUROPE	3
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS	3

**North American Perspectives**

GEOG 3330	UNITED STATES & CANADA	3
GEOG 4230	GREAT PLAINS & NEBRASKA	3
GEOG 4530	HISTORICAL GEOGRAPHY OF THE UNITED STATES	3

**Geospatial Science**

GEOG 2620	AERIAL PHOTOGRAPHIC INTERPRETATION	3
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY	3
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION	3
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	4
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II	4

**Geographic Information Science and Technology Concentration**

Code	Title	Credits
<b>Required Courses</b>		
Select 9 credit hours of computer science coursework in consultation with an advisor		9
<b>Additional Required Courses</b>		<b>3-6</b>
Both:		
MATH 1320	PRE-CALCULUS ALGEBRA (3 cr)	
and		
MATH 1330	TRIGONOMETRY (3 cr)	
Or one of the following:		
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS (5 cr)	
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (3 cr)	
MATH 1950	CALCULUS I (5 cr)	
Additionally, select one of the following:		3-4
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY (3 cr)	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (3 cr)	

GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (4 cr)	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (4 cr)	

**Total Credits** **15-19****Travel and Tourism Concentration**

Code	Title	Credits
<b>Required Course</b>		
GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	3
<b>Additional Required Courses</b>		
Select four of the following:		12
GEOG/ECON 3130	ECONOMIC GEOGRAPHY (3 cr)	
GEOG 3230	GEOGRAPHY OF EUROPE (3 cr)	
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS (3 cr)	
GEOG 3330	UNITED STATES & CANADA (3 cr)	
GEOG 4230	GREAT PLAINS & NEBRASKA (3 cr)	
RLS 2440	FOUNDATIONS OF RECREATION AND LEISURE (3 cr)	

**Total Credits** **15****Freshman**

Fall		Credits
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY (*)	3
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	4
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1220	COLLEGE ALGEBRA (*)	3
Humanities and Fine Arts course		3
<ul style="list-style-type: none"> <li>Geog 1020 is a social science and global diversity as well as major course.</li> </ul>		
<ul style="list-style-type: none"> <li>ENGL 1150: Requires appropriate placement.</li> </ul>		
<ul style="list-style-type: none"> <li>MATH 1220: Requires appropriate placement.</li> </ul>		

**Credits** **16****Spring**

GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY (*)	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
ENGL 1160	ENGLISH COMPOSITION II (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
STAT 1530	ELEMENTARY STATISTICS (*)	3
<ul style="list-style-type: none"> <li>GEOG 1000 is a social science and global diversity as well as major course.</li> </ul>		
<ul style="list-style-type: none"> <li>ENGL 1160: Requires ENGL 1150 with grade of C- or higher or placement.</li> </ul>		
<ul style="list-style-type: none"> <li>STAT 1530: Requires appropriate placement.</li> </ul>		

**Credits** **16****Sophomore**

Fall		
CSCI 1200 or CIST 1300	COMPUTER SCIENCE PRINCIPLES (*) or INTRODUCTION TO WEB DEVELOPMENT	3
Humanities and Fine Arts course with US Diversity		3

Natural/Physical Science course without Lab*	3
Foreign Language 1110*	5
<ul style="list-style-type: none"> <li>CSCI 1200 or CIST 1300: Requires MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better.</li> </ul>	

- NPS course must not be Geography

- Foreign Language is a HFA and Global Diversity

Credits		14
<b>Spring</b>		
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION (*)	4
Foreign Language 1120		5
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major Course*)	3
Social Science **		3
<ul style="list-style-type: none"> <li>CAS Requirement Option</li> </ul>		
** Social Science must not be Geography		

Credits		15
<b>Junior</b>		
<b>Fall</b>		
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course*)	3
Physical Geography Elective		3-4
Global Perspectives Geography Elective		3
Foreign Language 2110		3
Elective**		3
<ul style="list-style-type: none"> <li>CAS College Requirement Option</li> </ul>		

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

Credits		15-16
<b>Spring</b>		
ENGL 3050 or ENGL 3980	WRITING FOR THE WORKPLACE (*) or TECHNICAL WRITING ACROSS THE DISCIPLINES	3
Human Geography Elective		3
Humanity & Fine Arts course for A&S or Minor/2nd Major Course*		3
Foreign Language 2120		3
Elective**		3
<ul style="list-style-type: none"> <li>ENGL 3050 or 3980: Requires ENGL 1160 with grade of C- or better or placement via EPPE or AP.</li> </ul>		

- CAS College Requirement Option. HFA must be from 3rd discipline

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

Credits		15
<b>Senior</b>		
<b>Fall</b>		
North American Perspectives Geography Course		3

Geospatial Science Elective Course	3-4
Social Science for A&S or Minor/2nd Major Course*	3
Elective**	3
Elective**	3
<ul style="list-style-type: none"> <li>CAS College Requirement Option. Social Science must be from a 3rd discipline.</li> </ul>	

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

Credits		15-16
<b>Spring</b>		
GEOG 4620	GEOGRAPHICAL FIELD STUDIES (*)	3
Elective		3
Elective		3
Elective		3
Elective		3
<ul style="list-style-type: none"> <li>GEOG 4620: Requires instructor permission.</li> </ul>		
Credits		15
Total Credits		121-123

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Geography, Bachelor of Science

To obtain a B.S. with a major in Geography, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

46 hours of University General Education courses

12 hours college breadth requirement

54 hours of major courses

Elective hours as required to total 120 hours.

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
<b>Geography Fundamentals Requirements</b>		
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	4
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION	4
GEOG 4620	GEOGRAPHICAL FIELD STUDIES <sup>1</sup>	3
STAT 1530	ELEMENTARY STATISTICS	3
<b>Geography Diversity Requirements</b>		
Select a minimum of one course from each of the groups of Geography Diversity courses (see below).		15-16
<b>Cognate Requirement</b>		
Select 6 credit hours of approved computer science coursework.		6
Select 9 credit hours of coursework complementary to the major and chosen in consultation with a departmental adviser.		9
<b>Total Credits</b>		<b>54-55</b>

<sup>1</sup> Optional method of completing GEOG 4620.

### Geographical Field Studies Requirement

Students who have completed study abroad, or military service for more than six months outside the USA can complete the course without going on the multiple day field trip. Contact the department for the details regarding this alternative method. GEOG 4620 can also apply to the upper level Global or North American category, depending on the field study destination.

### Geography Diversity Groups

Code	Title	Credits
<b>Physical Geography</b>		
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	3
GEOG 3510	METEOROLOGY	3
With or without the following laboratory:		0-1
GEOG 3514	INTRODUCTION TO METEOROLOGY LABORATORY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	3
GEOG/GEOL 4040	GEOARCHAEOLOGY	3
GEOG/BIO/GEOL 4100	BIOGEOGRAPHY	3
GEOG 4260	PROCESS GEOMORPHOLOGY	4
GEOG 4320	CLIMATOLOGY	3
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
GEOG 4340	WATER RESOURCES	3
GEOG 4350	GLOBAL CLIMATE CHANGE	3
GEOG/ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
GEOG 4640	CRITICAL ZONE SCIENCE	4
<b>Human Geography</b>		
GEOG/ECON 3130	ECONOMIC GEOGRAPHY	3
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	3

GEOG 3930	POLITICAL GEOGRAPHY	3
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	3
GEOG 4120	URBAN GEOGRAPHY	3
GEOG/WGST 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
GEOG 4160	URBAN SUSTAINABILITY	3
GEOG 4170	ADVANCED CULTURAL GEOGRAPHY	3
GEOG 4550	GEOGRAPHY OF ECONOMIC GLOBALIZATION	3
GEOG/PA/BIOL/ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3

### Global Perspectives

GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	3
GEOG 3030	GEOGRAPHY OF AFRICA	3
GEOG 3050	GEOGRAPHY IN FILM	3
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	3
GEOG 3080	EAST & SOUTHEAST ASIA	3
GEOG 3230	GEOGRAPHY OF EUROPE	3
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS	3

### North American Perspectives

GEOG 3330	UNITED STATES & CANADA	3
GEOG 4230	GREAT PLAINS & NEBRASKA	3
GEOG 4530	HISTORICAL GEOGRAPHY OF THE UNITED STATES	3

### Geospatial Science

GEOG 2620	AERIAL PHOTOGRAPHIC INTERPRETATION	3
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY	3
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION	3
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	4
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II	4

### Geographic Information Science and Technology Concentration

Code	Title	Credits
<b>Required Courses</b>		
Select 9 credit hours of computer science coursework in consultation with an adviser.		9
<b>Additional Required Courses</b>		<b>3-6</b>
Both:		
MATH 1320	PRE-CALCULUS ALGEBRA (3 cr)	
MATH 1330	TRIGONOMETRY (3 cr)	
Or one of the following options:		
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS (5 cr)	
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (3 cr)	
MATH 1950	CALCULUS I (5 cr)	
In addition, select one of the following:		3-4
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY (3 cr)	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (3 cr)	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (4 cr)	

GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (4 cr)	
<b>Total Credits</b>		<b>15-19</b>

### Travel and Tourism Concentration

Code	Title	Credits
<b>Required Course</b>		
GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	3
<b>Additional Required Courses</b>		
Select four of the following:		12
GEOG/ECON 3130	ECONOMIC GEOGRAPHY (3 cr)	
GEOG 3230	GEOGRAPHY OF EUROPE (3 cr)	
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS (3 cr)	
GEOG 3330	UNITED STATES & CANADA (3 cr)	
GEOG 4230	GREAT PLAINS & NEBRASKA (3 cr)	
RLS 2440	FOUNDATIONS OF RECREATION AND LEISURE (3 cr)	
<b>Total Credits</b>		<b>15</b>

### Freshman

<b>Fall</b>			<b>Credits</b>
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY (*)	3	
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	4	
ENGL 1150	ENGLISH COMPOSITION I (*)	3	
MATH 1220	COLLEGE ALGEBRA (*)	3	
Humanity & Fine Arts Course		3	
<ul style="list-style-type: none"> <li>GEOG 1020 is a social science and global diversity in addition to being a major course.</li> <li>ENGL 1150: Requires appropriate placement.</li> <li>MATH 1220: Requires appropriate placement.</li> </ul>			
<b>Credits</b>		<b>16</b>	

### Spring

GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY (*)	3	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4	
ENGL 1160	ENGLISH COMPOSITION II (*)	3	
CMST 1110	PUBLIC SPEAKING FUNDS	3	
or CMST 2120	or ARGUMENTATION AND DEBATE		
STAT 1530	ELEMENTARY STATISTICS (*)	3	
<ul style="list-style-type: none"> <li>GEOG 1000 is a social science and global diversity as well as a major course.</li> <li>ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.</li> <li>STAT 1530: Requires appropriate placement.</li> </ul>			
<b>Credits</b>		<b>16</b>	

### Sophomore

<b>Fall</b>			<b>Credits</b>
Humanities/Fine Arts/US Diversity Course		3	
Natural/Physical Science Course*		3	
CSCI 1200	COMPUTER SCIENCE PRINCIPLES (*)	3	
or CIST 1300	or INTRODUCTION TO WEB DEVELOPMENT		

MATH 1320	PRE-CALCULUS ALGEBRA (*)	3
Elective Course		3

- Must not be Geography

- CSCI 1200 or CIST 1300: Requires MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better.

- MATH 1320: Requires MATH 1220 with grade of C- or better within last 2 years or appropriate placement. Other options do exist for this requirement, depending on whether a concentration is chosen and depending on selection of computer science coursework. Please see catalog for options.

**Credits** **15**

### Spring

GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION (*)	4
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I (*)	3
HIST 1000 or Minor/2nd Major Course*		3
Social Science **		3
Humanities/Fine Arts course*		3

- GEOG 3530: Requires GEOG 1000 or 1020 and GEOG 1030 or GEOG 1050

- CIST 1400: Requires MATH 1320, and either CSCI 1200 or CSCI 1280 or CSCI 1300 with C- or better. More options may exist for the computer science requirement. Please see a major advisor.

- CAS College Requirement Option

\*\* Social Science must not be Geography

- HFA must come from 2nd discipline

**Credits** **16**

### Junior

#### Fall

HIST 1010 or Minor/2nd Major Course*	3
Physical Geography Elective	3-4
Global Perspectives Geography Elective	3
Cognate Course	3
Elective**	

- CAS College Requirement

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/ concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

**Credits** **12-13**

### Spring

Human Geography Elective		3
Humanity/Fine Arts course for A&S or Minor/ 2nd Major Course*		3
Cognate Course		3
ENGL 3050 or ENGL 3980	WRITING FOR THE WORKPLACE (*) or TECHNICAL WRITING ACROSS THE DISCIPLINES	3
Elective		3

- CAS College Requirement Option. HFA must come from 3rd discipline.

- ENGL 3050 or 3980: Requires ENGL 1160 with grade of C- or better or placement via AP or EPPE.

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

**Credits 15**

#### Senior

##### Fall

North American Perspectives Geography Course	3
Geospatial Science Elective Course	3-4
Social Science for A&S or Minor/2nd Major Course*	3
Cognate Course	3
Elective**	3

- CAS College Requirement Option. Social Science must be from a 3rd discipline.

\*\* Students need a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

**Credits 15-16**

##### Spring

GEOG 4620	GEOGRAPHICAL FIELD STUDIES (*)	3
Elective		3
Elective		3
Elective		3
Elective		3

- GEOG 4620: Requires instructor permission.

**Credits 15**

**Total Credits 120-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements: 2.0**

## Geography Minor

### Requirements

A minor in geography requires a minimum of 16 credit hours. Required coursework includes:

Code	Title	Credits
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
or GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	
<b>Choose one of the following:</b>		<b>4</b>
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES	
Select a minimum of 9 credit hours of geography coursework at the 3000 level or higher.		9
<b>Total Credits</b>		<b>16</b>

## Geology

The Geology Program in the Department of Geography/Geology at UNO is dedicated to educating students in the Geological Sciences. This program not only prepares students for a variety of geoscience careers, but also provides a broad education in the Arts & Sciences, which prepares students for careers in other fields and areas.

### Other Information

All coursework taken for a Geology major or minor must be completed with a grade of "C-" or better.

### Student Groups

University of Nebraska-Omaha Geoscience Society (UNOGS) (<https://www.unomaha.edu/college-of-arts-and-sciences/geology/student-opportunities/student-organizations.php>)

### Contact

260 DSC  
402.554.2662

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/geology/>)

### Degrees Offered

- Geology, Bachelor of Arts (p. 179)
- Geology, Bachelor of Science (p. 183)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the geology major, this is GEOL 4950 or other approved course.

### Minors Offered

- Geology Minor (p. 187)

Graduates from UNO's Geology Program will be well-prepared to enter the workforce and pursue a career in the geosciences field. This could include

working in the environmental geology and environmental engineering field, exploration for energy and mineral resources, in the policy and education areas, as well as being prepared to continue on to graduate school. Because our graduates are educated in the broad sciences as well as

Geology, they are also uniquely qualified for careers outside of traditional fields (for example, environmental law, administrative positions in science related organizations, K-12 education, etc.).

- Environmental Consulting + Engineering Firms
- Groundwater Management
- Petroleum Exploration
- Geology/Earth Science Education
- Mineral Exploration
- Natural Resource Management
- Museums/ Curation of Fossils
- National Park Education or Research

### **GEOL 1010 ENVIRONMENTAL GEOLOGY (3 credits)**

This is an introductory course for non-majors designed to make students aware of their physical environment and those factors that should influence where we site our home and communities. Topics will include hazards associated with volcanoes, earthquakes, landslides, floodplains and the problems associated with toxic waste disposal.

**Distribution:** Natural/Physical Science General Education course

### **GEOL 1100 EARTH SYSTEM SCIENCE (3 credits)**

This course is an introduction to system science as applied to the earth. Students learn about simple earth system models, focusing on the hydrologic, rock and carbon cycles and energy flow through and linkages among them. Students also learn how short and long term global changes result from system interactions.

**Distribution:** Natural/Physical Sci General Education lecture

### **GEOL 1104 EARTH SYSTEM SCIENCE LAB (1 credit)**

This laboratory course is an optional companion to GEOL 1100, Earth System Science, but can be taken alone. Computer and web based exercises lead students through scientific investigation of Earth components, processes and systems. Topics include: scientific visualization and methodology, energy flow in the earth environment, convection in fluids, population dynamics, plate tectonics, river systems, coastal systems, biodiversity and Earth system history.

**Distribution:** Natural/Physical Sci General Education lab course

### **GEOL 1170 INTRODUCTION TO PHYSICAL GEOLOGY (4 credits)**

Fundamentals of geology. The study of the internal geologic processes and external and erosional and depositional processes which create the subsurface and surface features of the earth. Fundamentals of contour mapping, topographic map interpretation and identification of common minerals and rocks will be covered in a required laboratory period. One field trip required.

**Distribution:** Natural/Physical Sci General Education lecture&lab

### **GEOL 1180 INTRODUCTION TO HISTORICAL GEOLOGY (4 credits)**

Basic fundamentals for interpretation of earth history. Deduction of history of earth-moon system through interpretation of geologic phenomena using principles of stratigraphy, sedimentation, structure and fossil content. Global tectonics, encompassing theories of sea-floor spreading and continental drift are presented. Fundamentals and interpretation of geologic environments and geologic maps, coupled with identification of fossils will be covered in a required laboratory period. One Saturday field trip required.

**Prerequisite(s)/Corequisite(s):** GEOL 1170 or GEOL 1070 or permission of Geography-Geology Department.

### **GEOL 2014 ENVIRONMENTAL GEOLOGY LAB (1 credit)**

Basic topics such as geohydrology, water quality, waste management (including landfill siting and design), flood frequency, slope stability and earthquake hazards are covered via labs and field trips at a detailed introductory level. Local sites and associated data are used where possible to illustrate fundamental principles and commonly used analytic techniques.

**Prerequisite(s)/Corequisite(s):** GEOL 1010 or GEOG 1170 or GEOG 1030 or permission of instructor.

### **GEOL 2100 GEOLOGY OF NEBRASKA (3 credits)**

An introduction to the geologic features of Nebraska, and how the evidence they provide can be used to scientifically interpret the ancient history of the region. A review of the geologic history of Nebraska as it is currently understood will place the events documented in the larger context of Earth history.

**Distribution:** Natural/Physical Science General Education course

### **GEOL 2300 GEOSCIENCE DATA ANALYSIS AND MODELING (3 credits)**

Introduction to foundation geoscience analysis and modeling techniques and conceptual frameworks. Topics covered include: describing and comparing populations, geologic map construction, fractals, surface contouring and modeling, non-linear behavior, GIS, graphic representation, photogrammetry, and computer modeling. Examples and exercises work with actual geoscience data. Students also gain experience with data retrieval from geoscience databases.

**Prerequisite(s)/Corequisite(s):** GEOL 1010 or GEOL 1170, or GEOG 1030 or GEOG 1060 or GEOG 1070, or permission of instructor.

### **GEOL 2500 SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY (1 credit)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Various classes will be offered as sections of GEOL 2500, but will be separate from one another. Students may repeat GEOL 2500 as often as they like as long as no specific subject is duplicated.

**Distribution:** Natural/Physical Science General Education course

### **GEOL 2600 GEOHYDROLOGY (3 credits)**

A course dealing with geology, chemistry and hydraulics of groundwater. Designed mainly for Geology majors but can be helpful to other disciplines where ground water is involved.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, MATH 1320 or higher, or permission of instructor

### **GEOL 2750 MINERALOGY (3 credits)**

Introduction to crystallography and mineralogy. Crystallography section is a study of crystal structure, symmetry and crystal systems. Mineralogy section is devoted to the description, identification and classification of minerals based on their crystal forms, physical properties, chemical composition and occurrence in nature. Must be taken concurrently with GEOL 2754.

**Prerequisite(s)/Corequisite(s):** GEOL 1170. Must be taken concurrently with GEOL 2754.

### **GEOL 2754 MINERALOGY LABORATORY (1 credit)**

A systematic investigation of minerals and the techniques of studying minerals to be taken concurrently with GEOL 2750. (Fall)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in GEOL 2750

### **GEOL 2760 IGNEOUS AND METAMORPHIC PETROLOGY (3 credits)**

A study of the nature, origin, and significance of igneous and metamorphic rocks. Topics include genesis and crystallization of magmas, phase equilibria of mineral assemblages, and pressure and temperature conditions of metamorphism. One weekend field trip will be required. Must be taken concurrently with GEOL 2764.

**Prerequisite(s)/Corequisite(s):** GEOL 2750. Must be taken concurrently with GEOL 2764.

### **GEOL 2764 IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY (1 credit)**

Petrology Laboratory is an introduction to the methods of petrology with emphasis on hand specimen identification and use of the petrographic microscope. Must be taken concurrently with GEOL 2760. (Spring)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in GEOL 2760

### **GEOL 3100 INVERTEBRATE PALEONTOLOGY (3 credits)**

An introduction to the development of life through the study of the morphology, evolution and geological distribution of fossils. Must be taken concurrently with GEOL 3104/BIOL 3104. (Cross-listed with BIOL 3100).

**Prerequisite(s)/Corequisite(s):** GEOL 1180. Must be taken concurrently with GEOL 3104/BIOL 3104.

**GEOL 3104 INVERTEBRATE PALEONTOLOGY LABORATORY (1 credit)**

An examination of representative specimens of groups of organisms important in the fossil record and an introduction to analytical techniques in paleontology. Must be taken concurrently with GEOL 3100.

**Prerequisite(s)/Corequisite(s):** GEOL 1180 or permission; Concurrent enrollment in GEOL 3100

**GEOL 3300 STRUCTURAL GEOLOGY (3 credits)**

A study of the deformation of rocks in the earth's crust. Recognition of structural features such as types of fractures, folds, faults and foliations. Analysis of stress and strain in rocks under physical conditions occurring in the earth's crust that form structural features. Knowledge of structural associations for crustal shortening, extension and other kinematic regimes.

**Prerequisite(s)/Corequisite(s):** GEOL 2750

**GEOL 3310 STRUCTURAL GEOLOGY FIELD METHODS (1 credit)**

A lab course to accompany GEOL 3300. Field trip is included. Emphasis will be on collection, interpretation and presentation of field and lab data. Must be taken concurrently with GEOL 3300.

**Prerequisite(s)/Corequisite(s):** GEOL 2750, concurrent enrollment in GEOL 3300.

**GEOL 3400 INTRODUCTION TO SEDIMENTARY GEOLOGY (3 credits)**

An introduction to the basic principles and concepts of sedimentology and stratigraphy. It will include a review of sedimentary processes and depositional environments and principles and techniques of stratigraphy, such as biostratigraphy and radiometric dating.

**Prerequisite(s)/Corequisite(s):** GEOL 2750 and GEOL 2754

**GEOL 3700 PLATE TECTONICS (3 credits)**

An introduction to and analysis of the paradigm that has revolutionized the Earth Sciences, the theory of plate tectonics; includes polar wandering and magnetic reversals, structure and life cycle of the oceanic crust, origin of major topographic and structural features of the earth, arc volcanism, continental collisions, mineral deposits, supercontinent cycles and mantle convection.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, GEOL 1180 and upper division standing.

**GEOL 4040 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOG 4040, GEOG 8046).

**Prerequisite(s)/Corequisite(s):** Major in geology or geography; or major in anthropology, philosophy, or religion with GEOG 1030, GEOG 1060 or GEOG 1070; or GEOL 1170 or GEOL 1010; or permission.

**GEOL 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with GEOL 8106, BIOL 4100, BIOL 8106, GEOG 4100, GEOG 8106).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**GEOL 4260 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 8266, GEOG 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOL 4330 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOG 4330, GEOG 8336)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOL 4400 GEOPHYSICS (3 credits)**

A study of geophysical techniques used to understand the earth, study environmental problems, and in resource exploration. Seismic, gravity, heat flow, magnetic and other methods will be presented. The insights from these methods into earthquake events, stress distributions, rock rheology and plate tectonics will also be addressed. Interpretive skills will be emphasized.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, PHYS 1110 or higher, or permission of instructor

**GEOL 4540 GEOCHEMISTRY (3 credits)**

This course will cover the application of chemical principles to geologic systems. Specific topics covered will include the origin of elements and their distribution in the earth, geochronology, stable isotope systems, aqueous geochemistry and crystal chemistry. These topics will be integrated to the study of soils, igneous, metamorphic and sedimentary rocks and ore deposits. (Every third semester).

**Prerequisite(s)/Corequisite(s):** GEOL 1170, CHEM 1140 or CHEM 1180, and either GEOL 2750 or CHEM 2500, or permission of Instructor

**GEOL 4600 INDEPENDENT RESEARCH (1-3 credits)**

Advanced study in the form of a major paper to give the senior student knowledge of and experience in using government documents, professional, and/or primary materials on a topic. Must be under the supervision of the instructor who is particularly qualified for the topic chosen. (Cross-listed with GEOG 4600).

**Prerequisite(s)/Corequisite(s):** Permission of department chair.

**GEOL 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOG 4610, GEOG 8616, GEOL 8616).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOL 4620 ADVANCED FIELD COURSE (6 credits)**

Six weeks of advanced study on selected field problems. Conducted in a geologically classic area where all the major rock types and structures may be studied in a variety of geological situations. Reports, which integrate the geology, surface processes and literature of the studied areas, is required. Recommended to follow the junior year.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, GEOL 1180, GEOL 2750, GEOL 2760, GEOL 3300: GEOL 3450 recommended.

**GEOL 4640 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 4640, GEOG 8646)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOL 4800 INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE (1-6 credits)**

Internship with local agencies or corporations enabling students to gain knowledge and experience in comprehensive regional or environmental planning or environmental science.

**Prerequisite(s)/Corequisite(s):** Senior, major or area of concentration in geography or environmental science and permission.

**GEOL 4950 SENIOR THESIS (3 credits)**

An independent research project undertaken by all geology majors during their final year. Topics will be selected in consultation with appropriate faculty and researched through field work, laboratory work and/or library sources.

**Prerequisite(s)/Corequisite(s):** Senior, ENGL 1150/ENGL 1154 and ENGL 1160/ENGL 1164

**Distribution:** Writing in the Discipline Single Course

## Geology, Bachelor of Arts

To obtain a B.A. with a major in Geology, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses - *(Most commonly, Geology majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least six hours of fundamental academic skills, take courses that meet both the three hours of U.S. Diversity requirements and three hours of social sciences requirements, meet five hours of humanities and 3 hours of global diversity requirements with a language course, and meet the seven-hour natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 22 or fewer.)*
- 12 hours of college breadth requirement
- 16 hours of foreign language
- 70 hours of major courses

TOTAL HOURS: 120

## Requirements

Geology is offered as a Bachelor of Arts or a Bachelor of Science degree. Students may choose one of two tracks to follow: a general Geology Track and a Geology Career Track. Requirements for each are below.

The required core courses for either the B.A. or B.S. degree in geology are:

Code	Title	Credits
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	4

GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING	3
GEOL 2750	MINERALOGY	3
GEOL 2754	MINERALOGY LABORATORY	1
GEOL 3300	STRUCTURAL GEOLOGY	3
GEOL 3310	STRUCTURAL GEOLOGY FIELD METHODS	1
GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY	3
GEOL 4620	ADVANCED FIELD COURSE	6
Students must choose one of the tracks below.		

For a B.A., the college requires completion of a foreign language through the intermediate level.

## General Geology Track

In addition to the core geology requirements, students wishing to follow the general geology track must also take one of the following:

Code	Title	Credits
GEOL 4260	PROCESS GEOMORPHOLOGY	4
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	4
GEOL/GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4

In addition, students in the General geology track must take one of the following:

GEOL 4800	INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE	3
GEOL 4950	SENIOR THESIS	3

In addition, the major must select at least 12 hours of geology or geography courses that should be chosen after consultation with an adviser.

Required cognate courses are:

An approved statistics course		3
CHEM 1140	FUNDAMENTALS OF COLLEGE CHEMISTRY	4
CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	1
PHYS 1110	GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1

Select one of the following options:

Option 1:		
PHYS 1120	GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
Option 2:		
GEOL 4400	GEOPHYSICS	3

## Geology Career Track

In addition to the core geology requirements, students wishing to follow the Geology career track must also take one of the following:

Code	Title	Credits
GEOL 4260	PROCESS GEOMORPHOLOGY	4
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	4
GEOL/GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4

Additionally, students in the Geology career track must take one of the following:

GEOL 4800	INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE	3
GEOL 4950	SENIOR THESIS	3

Students must also take additional Geology/Geography/related-field courses, which add up to at least 12 credits, and should be chosen after consultation with an advisor.

**Required cognate courses:**

**Chemistry**

CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1

Select one of the following options:

Option 1:

CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1

Option 2:

GEOL 4540	GEOCHEMISTRY	3
-----------	--------------	---

**Math**

Select one of the following options:

Option 1:

MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5

Option 2:

MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
-----------	--	---

**Physics**

PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1

Select one of the following options:

Option 1:

PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1

Option 2:

GEOL 4400	GEOPHYSICS	3
-----------	------------	---

**Career Geology Track**

**Freshman**

		Credits
<b>Fall</b>		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (*)	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Foreign Language 1110-level*		5

- MATH 1930: Requires MATH 1320 within the last two years, or Math ACT sub-score of 25 within the last two years, or appropriate Math Placement Exam score within the last two years. (As an alternative, students may opt to take MATH 1950 and MATH 1960 with proper placement.)

- ENGL 1160: Requires ENGL 1150 with grade of C- or better or appropriate placement via EPPE or AP.

- Foreign Language 1110 is a humanity and global diversity

**Credits 15**

**Spring**

GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY (*)	4
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4

CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language 1120 – level		5

- GEOL 1180: Requires GEOL 1170

- CHEM 1180: Requires MATH 1320, or Math ACT sub-score of 25 or higher, or appropriate Math Placement Exam score within the past 2 years. Must take CHEM 1184 concurrently.

**Credits 16**

**Sophomore**

**Fall**

GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (*)	4
GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING	3

Humanities and Fine Arts		3
--------------------------	--	---

Foreign Language 2110-level		3
-----------------------------	--	---

- GEOL 2750: Requires GEOL 1170. Must take GEOL 2754 concurrently.

- GEOL 2300: Requires GEOL 1010 or GEOL 1170 or GEOG 1030 or permission of instructor.

**Credits 13**

**Spring**

Approved GEOL Elective		4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (*)	5
CHEM 1190 & CHEM 1194 or GEOL 4540	GENERAL CHEMISTRY II (with lab*) or GEOCHEMISTRY	3-4
Foreign Language 2120-level		3

- PHYS 2110: Requires MATH 1930 for Geology majors (MATH 1950 for non-GEOL majors), or Math ACT sub-score of 25, or appropriate Math Placement Exam score.

- CHEM 1190: Requires CHEM 1180 and MATH 1320 or higher, plus concurrent enrollment in CHEM 1194.

\*\* GEOL 4540: Requires GEOL 1170, CHEM 1140 or 1180, and either GEOL 2750 or CHEM 2500 or permission of instructor. Not offered every semester.

**Credits 15-16**

**Junior**

**Fall**

GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY (*)	3
Approved GEOL elective**		4
PHYS 2120 & PHYS 1164 or GEOL 4400	GENERAL PHYSICS-CALCULUS LEVEL (with lab*) or GEOPHYSICS	3-5
Social Science/US Diversity		3

- GEOL 3400: Requires GEOL 2750 and 2754 or permission of instructor

- PHYS 2120: Requires PHYS 2110 and MATH 1930 for GEOL majors or MATH 1960 for non-GEOL majors.

- GEOL 4400: Requires GEOL 1170; PHYS 1110/2110, or permission of the instructor.

\*\* 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>		<b>13-15</b>
<b>Spring</b>		
GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (*)	4
GEOL/GEOG 4260 or GEOL 4640 or GEOG 4640 or GEOL 4330 or GEOG 4330	PROCESS GEOMORPHOLOGY (*) or CRITICAL ZONE SCIENCE or CRITICAL ZONE SCIENCE or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
Social Science		3
Humanities and Fine Arts*		3
<ul style="list-style-type: none"> <li>• GEOL 3300: Requires GEOL 2750+2754</li> <li>• GEOL 4260: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170</li> <li>• GEOL/GEOG 4640: Requires GEOL 1170 or GEOL 1010 or GEOG 1030; and one chemistry or physics course recommended</li> <li>• GEOL/GEOG 4330: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170</li> <li>• Humanities/Fine Arts #3 must be in a 2nd discipline.</li> </ul>		

<b>Credits</b>		<b>14</b>
<b>Summer</b>		
GEOL 4620	ADVANCED FIELD COURSE (*)	6
<ul style="list-style-type: none"> <li>• GEOL 4620 is usually taken in the Summer between Junior and Senior Years.</li> <li>• GEOL 4620: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300</li> </ul>		

<b>Credits</b>		<b>6</b>
<b>Senior Fall</b>		
Approved GEOL elective		1
Humanities and Fine Arts for A&S or Minor/2nd Major course^		3
Social Science*		3
Social Science for A&S or Minor/2nd Major course#		3
HIST 1010 or Minor/2nd Major Course**		3

^ A&S College Requirement Option. HFA for A&S must be from 3rd discipline.

- Social Science for University Gen Ed must be from a 2nd discipline

# A&S College Requirement Option. Social Science for A&S must be from a 3rd discipline

\*\* A&S College Requirement Option.

Note: 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>		<b>13</b>
<b>Spring</b>		
GEOL 4800 or GEOL 4950	INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE (**) or SENIOR THESIS	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES ( <ul style="list-style-type: none"> <li>• OR Upper Level Elective**</li> </ul> )	3
Approved GEOL Elective		3
Upper Level Elective**		3
HIST 1000 or Minor/2nd Major Course^		3

- GEOL 4800: Requires Senior status, major or area of concentration in geography or environmental science AND permission. If GEOL 4800 is taken, an advanced writing course such as ENGL 3980 must also be taken.

\*\* GEOL 4950: Requires Senior status. If GEOL 4950 is taken, taking an advanced writing course such as ENGL 3980 will not be needed for the writing requirement but could still be helpful toward overall upper level requirements.

- ENGL 3980: Requires ENGL 1160 with grade of C- or better or appropriate placement via AP or EPPE. ENGL 3980 specifically will not be needed if taking GEOL 4950.

^ CAS College Requirement Option.

<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120-123</b>

### General Geology Track

#### Freshman

		<b>Credits</b>
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
MATH 1220	COLLEGE ALGEBRA (*)	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Foreign Language 1110-level*		5
<ul style="list-style-type: none"> <li>• MATH 1220: Requires appropriate placement via ACT/ SAT or Math Placement.</li> </ul>		

- ENGL 1160: Requires ENGL 1150, or EPPE or AP placement.

- Foreign Language 1110 is a humanity/fine arts course and global diversity

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY (*)	4
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
Foreign Language 1120-level		5

- GEOL 1180: Requires GEOL 1170
- CHEM 1140: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score. CHEM 1144 must be taken concurrently.

<b>Credits</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (*)	4
Social Science/US Diversity		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language 2110-level		3
GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING (*)	3
<ul style="list-style-type: none"> <li>• GEOL 2750: Requires GEOL 1170. GEOL 2754 must be taken concurrently.</li> <li>• GEOL 2300: Requires GEOL 1010 or GEOL 1170 or GEOG 1030 or permission of instructor.</li> </ul>		

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
Approved GEOL Elective		4
Foreign Language 2110-level		3
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)	5
<ul style="list-style-type: none"> <li>• PHYS 1110: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score.</li> </ul>		

<b>Credits</b>		<b>12</b>
<b>Junior</b>		
<b>Fall</b>		
GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY (*)	3
Approved GEOL Elective**		3
PHYS 1120 & PHYS 1164 or GEOL 4400	GENERAL PHYSICS ( with lab) or GEOPHYSICS	3-5
Humanities and Fine Arts		3
Social Science		3
<ul style="list-style-type: none"> <li>• GEOL 3400: Requires GEOL 2750 and 2754</li> <li>• PHYS 1120: Requires PHYS 1110</li> <li>• GEOL 4400: Requires GEOL 1170 and PHYS 1110/2110, or permission of the instructor.</li> </ul>		

\*\* 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>		<b>15-17</b>
<b>Spring</b>		
GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (*)	4

GEOL/GEOG 4260 or GEOL 4640 or GEOG 4640 or GEOL 4330 or GEOG 4330	PROCESS GEOMORPHOLOGY (*) or CRITICAL ZONE SCIENCE or CRITICAL ZONE SCIENCE or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
--	---	---

GEOL elective**	2-3
Social Science^	3
HIST 1010 or Minor/2nd Major course*	3

- GEOL 3300: Requires GEOL 2750+2754

- GEOL 4260: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

- GEOL/GEOG 4640: Requires GEOL 1170 or GEOL 1010 or GEOG 1030; and one chemistry or physics course recommended

- GEOL/GEOG 4330: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

^ Social Science must be in a 2nd discipline.

- A&S College Requirement Option.

\*\* 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>		<b>16-17</b>
<b>Summer</b>		
GEOL 4620	ADVANCED FIELD COURSE (*)	6
<ul style="list-style-type: none"> <li>• GEOL 4620 is usually taken in the Summer between Junior and Senior Years.</li> <li>• GEOL 4620: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300</li> </ul>		

<b>Credits</b>		<b>6</b>
<b>Senior</b>		
<b>Fall</b>		
Humanities and Fine Arts*		3
Additional Humanity/Fine Arts for A&S or Minor/2nd Major course^		3
Statistics course		3
HIST 1000 or Minor/2nd Major Course~		3
Additional Social Science for A&S or Minor/2nd Major course#		3
<ul style="list-style-type: none"> <li>• Humanities/Fine Arts must be in a 2nd discipline.</li> </ul>		

^ A&S College Requirement Option. Additional HFA must be from a 3rd discipline.

~ A&S College Requirement Option.

# A&S College Requirement Option. Additional SS must come from 3rd discipline.

Note: 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
GEOL 4260	PROCESS GEOMORPHOLOGY (*)	4

GEOL 4800 or GEOL 4950	INTERNSHIP IN ENVIRONMENTAL/ REGIONAL PLANNING/EARTH SCIENCE (*) or SENIOR THESIS	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES ( • OR Upper Level Elective** )	3
Approved GEOL elective		3
• GEOL 4260: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300		
• GEOL 4800: Requires Senior status, major or area of concentration in geography or environmental science AND permission.		
• GEOL 4950: Requires Senior status.		

Note: If students take GEOL 4950, the Writing in the Discipline requirement will be fulfilled. If students select GEOL 4800, they must take a separate WID course, such as ENGL 3980. ENGL 3980 or other approved WID courses require ENGL 1160.

- ENGL 3980: Requires ENGL 1160 with grade of C- or better or appropriate placement via EPPE or AP.

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>122-125</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Geology, Bachelor of Science

To obtain a B.S. with a major in Geology, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses - (Most commonly, Geology majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements.

Instead, they often test out of at least three hours of fundamental academic skills, take courses that meet both the six hours of diversity requirements and six hours of distribution requirements, and meet the seven-hour natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.)

- 12 hours of college breadth requirement
- 74 hours of major courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

Geology is offered as a Bachelor of Arts or a Bachelor of Science degree. Students may choose one of two tracks to follow: a general geology track and a geology career track. Requirements for each are below.

The required core courses for either the B.A. or B.S. degree in geology are:

Code	Title	Credits
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	4
GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING	3
GEOL 2750	MINERALOGY	3
GEOL 2754	MINERALOGY LABORATORY	1
GEOL 3300	STRUCTURAL GEOLOGY	3
GEOL 3310	STRUCTURAL GEOLOGY FIELD METHODS	1
GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY	3
GEOL 4620	ADVANCED FIELD COURSE	6

Students must choose one of the tracks below.

## General Geology Track

In addition to the core geology requirements, students wishing to follow the general geology track must also take one of the following:

Code	Title	Credits
GEOL 4260	PROCESS GEOMORPHOLOGY	4
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	4
GEOL/GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4

In addition, students in the General geology track must take one of the following:

GEOL 4800	INTERNSHIP IN ENVIRONMENTAL/ REGIONAL PLANNING/EARTH SCIENCE	3
GEOL 4950	SENIOR THESIS	3

In addition, the major must select at least twelve hours of geology or geography courses that should be chosen after consultation with an advisor

Required cognate courses are:

An approved statistics course		3
CHEM 1140	FUNDAMENTALS OF COLLEGE CHEMISTRY	4
CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	1
PHYS 1110	GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1

Select one of the following options:

Option 1:

PHYS 1120	GENERAL PHYSICS	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
Option 2:		
GEOL 4400	GEOPHYSICS	3

## Geology Career Track

In addition to the core geology requirements, students wishing to follow the geology career track must also take one of the following:

Code	Title	Credits
GEOL 4260	PROCESS GEOMORPHOLOGY	4
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	4
GEOL/GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4

Additionally, students in the geology career track must take one of the following:

GEOL 4800	INTERNSHIP IN ENVIRONMENTAL/ REGIONAL PLANNING/EARTH SCIENCE	3
GEOL 4950	SENIOR THESIS	3

Students must also take additional geology/geography/related-field courses, which add up to at least twelve credits, and should be chosen after consultation with an advisor.

Required cognate courses:

### Chemistry

CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1

Select one of the following options:

Option 1:

CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1

Option 2:

GEOL 4540	GEOCHEMISTRY	3
-----------	--------------	---

### Math

Select one of the following options:

Option 1:

MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5

Option 2:

MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
-----------	---	---

### Physics

PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1

Select one of the following options:

Option 1:

PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1

Option 2:

GEOL 4400	GEOPHYSICS	3
-----------	------------	---

## Career Geology Track

### Freshman

Fall		Credits
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (*)	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3

CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
---------------------------	--	---

Humanities and Fine Arts 3

- MATH 1930: Requires MATH 1320 within the last two years, or Math ACT sub-score of 25 within the last two years, or appropriate Math Placement Exam score within the last two years. (As an alternative, students may opt to take MATH 1950 and MATH 1960 with proper placement.)

- ENGL 1150: Requires appropriate placement via EPPE or AP.

**Credits 16**

### Spring

GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY (*)	4
-----------	---	---

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
--------------------------	--	---

ENGL 1160	ENGLISH COMPOSITION II (*)	3
-----------	----------------------------	---

Social Science 3

- GEOL 1180: Requires GEOL 1170

- CHEM 1180: Requires MATH 1320, or Math ACT sub-score of 25 or higher, or appropriate Math Placement Exam score within the past 2 years. Must take CHEM 1184 concurrently. CHEM 1180 & 1184 are part of the BS Cognate.

- ENGL 1160: Requires ENGL 1150 or appropriate placement via EPPE or AP.

**Credits 14**

### Sophomore

#### Fall

GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (*)	4
--------------------------	---	---

GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING (*)	3
-----------	--	---

Humanities and Fine Arts/Global Diversity 3

HIST 1000 or Minor/2nd Major Course\* 3

- GEOL 2750: Requires GEOL 1170. GEOL 2754 must be taken concurrently.

- GEOL 2300: Requires GEOL 1010 or GEOL 1170 or GEOG 1030 or permission of instructor.

- A&S College Requirement Option.

**Credits 13**

### Spring

Approved GEOL Elective 4

PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (*)	5
--------------------------	---	---

Social Science/US Diversity 3

CHEM 1190 & CHEM 1194 or GEOL 4540	GENERAL CHEMISTRY II (*) or GEOCHEMISTRY	3-4
--	---	-----

- PHYS 2110: Requires MATH 1930 for Geology majors, or Math ACT sub-score of 25, or appropriate Math Placement Exam score. PHYS 2110-1154 is a part of the BS Cognate.

- GEOL 4540: Requires GEOL 1170, CHEM 1140 or 1180, and either GEOL 2750 or CHEM 2500 or permission of instructor. Not offered every semester.

- CHEM 1190: Requires CHEM 1180 and MATH 1320 or higher, plus concurrent enrollment in CHEM 1194.

### Credits 15-16

#### Junior

##### Fall

GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY (*)	3
-----------	---	---

Approved GEOL Elective		3
------------------------	--	---

Approved GEOL Elective		4
------------------------	--	---

PHYS 2120 & PHYS 1164 or GEOL 4400	GENERAL PHYSICS-CALCULUS LEVEL (*) or GEOPHYSICS	3-5
------------------------------------	--	-----

HIST 1010 or Minor/2nd Major Course^		3
--------------------------------------	--	---

- GEOL 3400: Requires GEOL 2750 and 2754

- PHYS 2120: Requires PHYS 2110 and MATH 1960 or for Geology majors, Math 1930

- GEOL 4400: Requires GEOL 1170 and PHYS 1110/2110, or permission of instructor.

^ A&S College Requirement Option.

### Credits 16-18

#### Spring

GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (*)	4
-----------------------	---	---

GEOL 4260 or GEOG 4260 or GEOL 4640 or GEOG 4640 or GEOL 4330 or GEOG 4330	PROCESS GEOMORPHOLOGY (*) or PROCESS GEOMORPHOLOGY or CRITICAL ZONE SCIENCE or CRITICAL ZONE SCIENCE or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
--	--	---

Social Science#		3
-----------------	--	---

Humanities and Fine Arts course^		3
----------------------------------	--	---

- GEOL 3300: Requires GEOL 2750+2754

- GEOL 4260: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

- GEOL/GEOG 4640: Requires GEOL 1170 or GEOL 1010 or GEOG 1030; and one chemistry or physics course recommended

- GEOL/GEOG 4330: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

# Social Science must be in a 2nd discipline.

^ HFA must be from 2nd discipline.

### Credits 14

#### Summer

GEOL 4620	ADVANCED FIELD COURSE (*)	6
-----------	---------------------------	---

- GEOL 4620 is usually taken in the Summer between Junior and Senior Years.

- GEOL 4620: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300

### Credits

6

#### Senior

##### Fall

GEOL elective		1
---------------	--	---

Additional Humanity/Fine Arts course for A&S or Minor/2nd Major course*		3
---	--	---

Additional Social Science for A&S or Minor/2nd Major course#		3
--	--	---

Elective** or Minor/2nd Major course		3
--------------------------------------	--	---

Elective** or Minor/2nd Major course		3
--------------------------------------	--	---

- A&S College Requirement Option. Humanities/Fine Arts course for A&S must be in a 3rd discipline.

# A&S College Requirement Option. Additional SS must be in a 3rd discipline.

\*\* 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

### Credits

13

#### Spring

GEOL 4800 or GEOL 4950	INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE (*)	3
------------------------	---	---

or SENIOR THESIS

ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES ( OR Elective )	3
-----------	--	---

Elective**		3
------------	--	---

Elective**		4
------------	--	---

- GEOL 4800: Requires Senior status, major or area of concentration in geography or environmental science AND permission.

- GEOL 4950: Requires Senior status

Note: If students take GEOL 4950, the Writing in the Discipline requirement will be fulfilled. If students select GEOL 4800, they must take a separate WID course, such as ENGL 3980. ENGL 3980 or other approved WID courses require ENGL 1160.

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

### Credits

13

### Total Credits

120-123

#### General Geology Track

#### Freshman

##### Fall

GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
-----------	----------------------------------	---

MATH 1220	COLLEGE ALGEBRA (*)	3
-----------	---------------------	---

### Credits

ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Humanities and Fine Arts		3
<ul style="list-style-type: none"> <li>MATH 1220: Requires appropriate placement via ACT/SAT or Math Placement.</li> </ul>		
<ul style="list-style-type: none"> <li>ENGL 1150: Requires EPPE or AP placement.</li> </ul>		

---

**Credits 16**

**Spring**

GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY (*)	4
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Social Science		3
<ul style="list-style-type: none"> <li>GEOL 1180: Requires GEOL 1170</li> </ul>		

- CHEM 1140-1144: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score. CHEM 1140+1144 is part of the BS Cognate.

- ENGL 1160: Requires ENGL 1150 with grade of C- or better, or EPPE or AP placement.

---

**Credits 15**

**Sophomore****Fall**

GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (*)	4
Statistics course*		3
HIST 1010 or Minor/2nd Major Course*		3
Humanities and Fine Arts/Global Diversity		3
<ul style="list-style-type: none"> <li>GEOL 2750: Requires GEOL 1170. Must take GEOL 2754 concurrently.</li> </ul>		
<ul style="list-style-type: none"> <li>Most statistics courses require some sort of prerequisite. Statistics is a part of the BS Cognate.</li> </ul>		
<ul style="list-style-type: none"> <li>A&amp;S College Requirement Option.</li> </ul>		

---

**Credits 13**

**Spring**

PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)	5
Approved GEOL Elective		4
Social Science/US Diversity		3
HIST 1000 or Minor/2nd Major Course^		3
<ul style="list-style-type: none"> <li>PHYS 1110: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score. PHYS 1110+1154 are part of the BS Cognate.</li> </ul>		

^ A&S College Requirement Option.

---

**Credits 15**

**Junior****Fall**

GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY (*)	3
-----------	---	---

GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING (*)	3
-----------	---	---

PHYS 1120 & PHYS 1164 or GEOL 4400	GENERAL PHYSICS (*) or GEOPHYSICS	3-5
--	--------------------------------------	-----

Approved GEOL elective**		4
--------------------------	--	---

Elective course (if doing GEOL 4400 above)		2
--	--	---

- GEOL 3400: Requires GEOL 2750 and 2754 or permission of instructor

- GEOL 2300: Requires GEOL 1010 or GEOL 1170 or GEOG 1030

- PHYS 1120: Requires PHYS 1110

- GEOL 4400: Requires GEOL 1170 and PHYS 1110/2110.

---

**Credits 15-17**

**Spring**

GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (*)	4
GEOL/GEOG 4260 or GEOL 4640 or GEOG 4640 or GEOL 4330 or GEOG 4330	PROCESS GEOMORPHOLOGY (*) or CRITICAL ZONE SCIENCE or CRITICAL ZONE SCIENCE or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4

Social Science#		3
-----------------	--	---

Social Science for A&S or Minor/2nd Major course^		3
---	--	---

Elective course		1
-----------------	--	---

- GEOL 3300: Requires GEOL 2750+2754

- GEOL 4260: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170. Offered in Spring semesters of even years.

- GEOL/GEOG 4640: Requires GEOL 1170 or GEOL 1010 or GEOG 1030; and one chemistry or physics course recommended. Offered in Spring semesters of odd years.

- GEOL/GEOG 4330: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

# Social Science must be in a 2nd discipline.

^ Additional SS must be in a 3rd discipline.

Note: 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

---

**Credits 15**

**Summer**

GEOL 4620	ADVANCED FIELD COURSE (*)	6
<ul style="list-style-type: none"> <li>GEOL 4620 is usually taken in the Summer between Junior and Senior Years.</li> </ul>		

- GEOL 4620: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300

---

**Credits 6**

**Senior****Fall**

Approved GEOL elective	3
Humanities and Fine Arts#	3
Additional Humanity & Fine Arts course for A&S or Minor/2nd Major course^	3
Elective**	3

# Humanities/Fine Arts must be in a 2nd discipline.

^ A&S College Requirement Option. HFA for A&S must be in a 3rd discipline.

\*\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>	<b>12</b>
----------------	-----------

**Spring**

GEOL 4800 or GEOL 4950	INTERNSHIP IN ENVIRONMENTAL/ REGIONAL PLANNING/EARTH SCIENCE (*) or SENIOR THESIS	3
GEOL 4260	PROCESS GEOMORPHOLOGY (if not taken previous spring) or elective/ minor/2nd major course)	4
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (OR Upper Level Elective**)	3
Minor or Elective course**		3

- GEOL 4800: Requires Senior status, major or area of concentration in geography or environmental science AND permission.

- GEOL 4950: Requires Senior status

Note: If students take GEOL 4950, the Writing in the Discipline requirement will be fulfilled. If students select GEOL 4800, they must take a separate WID course, such as ENGL 3980. ENGL 3980 or other approved WID courses require ENGL 1160.

\*\* 120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

<b>Credits</b>	<b>13</b>
----------------	-----------

<b>Total Credits</b>	<b>120-122</b>
----------------------	----------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found

at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Geology Minor

### Requirements

Code	Title	Credits
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
GEOL 2750	MINERALOGY	3
GEOL 2754	MINERALOGY LABORATORY	1
An additional 9 hours at or above the 3000-level courses from selected optional courses under specific faculty advisement is also required.		9
<b>Total Credits</b>		<b>17</b>

## History

The mission of the Department of History is to develop in our students a thorough appreciation of the historical events, personalities, and patterns that have coalesced through the centuries to create the world we live in today. In addition to the all-important sense of perspective and context that an understanding of the past provides, students of history also gain important tangible skills that equip them to succeed in a wide array of careers. Specifically, our majors learn to find and critically analyze source materials, to interpret evidence in subtle and nuanced ways, and to communicate their findings effectively, both orally and in writing. Study after study reveals that these are the skills that employers in countless fields value most in their workforce.

### Other Information

All coursework taken for a History major or minor must be completed with a grade of "C-" or better.

### Student Groups

Eligible students are encouraged to join the National History Honorary Society, Phi Alpha Theta. Our local chapter sponsors a variety of enrichment activities throughout the year.

### Contact

287 Arts and Sciences Hall  
402.554.2593

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/history/>)

### Degrees Offered

- History, Bachelor of Arts (p. 191)
- History, Bachelor of Science (p. 193)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the history major, this is HIST 2980.

### Bachelor of Arts and Bachelor of Science in History

For the Bachelor of Arts or the Bachelor of Science in history, a minimum of 36 hours in history are required. Specific requirements are below.

**B.A. degree seeking students** must take foreign language through the intermediate level.

**B.S. degree seeking students**, in lieu of foreign language, must complete a 15 hour “cognate field.” The cognate should consist of 12 hours at the 3000/4000 level in one or more related disciplines selected to complement the student’s interests in history. Additionally, one 3-hour course in logic or statistics or one 3-hour writing course from another department must also be taken. The specific composition of a student’s cognate field will be determined in consultation with the student’s faculty advisor.

## Bachelor of Multidisciplinary Studies

Students who wish to complete a Bachelor of Multidisciplinary Studies degree with a concentration in history should consult with an advisor in the Division of Continuing Studies. This degree requires 30 credit hours in history, of which nine hours must be at the 3000/4000 level. HIST 2980 and HIST 4990 are recommended for every student who plans to pursue a graduate degree in history. Students interested in this degree program must meet with an adviser in the Division of Continuing Studies. The major consists of a minimum of 30 credit hours in history, details of which are here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/division-of-continuing-studies/academics/areas-of-concentration/history.php>)

## Minors Offered

- History Minor (p. 194)

If you seek to understand how and why the world came to be the way that it is today, then the study of History is your starting point, and the Department of History should become your academic home.

At the most fundamental level, History majors ask “How did we get to this point?” And in seeking the answers to that question, they gain deep and rich insights into both the great diversity and the binding commonalities of the human experience. Ultimately, then, the study of History helps us to define and understand the most essential elements of our own identity – who we are, where we come from, and how we are connected. Who could ask for a more important, dramatic, or rewarding academic endeavor?

- Attorney
- Analyst in a wide variety of industries such as insurance and banking
- Paralegal
- Federal, state, and local governments
- Politics
- Teaching
- Federal Bureau of Investigation
- Archivists
- Museum work

### HIST 1000 WORLD CIVILIZATIONS I (3 credits)

An examination of selected traditional and pre-industrial civilizations in the context of their regional, cultural and historical roots.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

### HIST 1010 WORLD CIVILIZATIONS II (3 credits)

An examination of selected societies since the beginning of the modern era.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

### HIST 1050 CLASSICAL AFRICAN CIVILIZATIONS (3 credits)

Classical African Civilization is an introductory survey of the civilizations of Africa and African people prior to 1500 C.E., with emphasis on the evolution of the peoples and nations, their civilizations, and the rise and fall of indigenous states. In particular, this course will cover the classical civilizations of Kemet (Ancient Egypt), Nubia, Axum, Carthage, Ghana, Mali, and Songhay. (Cross-listed with BLST 1050).

**Distribution:** Global Diversity General Education course

### HIST 1110 AMERICAN HISTORY TO 1865 (3 credits)

A survey of North American history from the Indigenous and pre-contact era to the end of the Civil War.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

### HIST 1120 AMERICAN HISTORY SINCE 1865 (3 credits)

A general survey of American history since the Civil War, emphasizing social and political change and the emergence of the United States as a global power.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

### HIST 2040 AFRICAN AMERICAN HISTORY I: TO 1865 (3 credits)

The course examines the history of the earliest Africans in the Americas and briefly examines traditional African societies. It covers the transatlantic slave trade and its effects on Europe, Africa and the Americas, and analyzes the development of Afro-American culture and the struggle for freedom. (Cross-listed with BLST 2410)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

### HIST 2050 AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN (3 credits)

A survey of Afro-American history from the Civil War to the present. Covers Reconstruction and its overthrow, including the new methods of control which replaced slavery. Discusses the development of black ideologies and institutions. Traces urban migration and its impact on black society and culture. Follows black progress through World War II, the 1954 Supreme Court Decision, and rising militancy. (Cross-listed with BLST 2420)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

### HIST 2060 AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY (3 credits)

This course is divided into three main parts: the Civil Rights Phase (1954-1963), during which the dominant mood was optimism over the possibilities of integration; the Black Power Phase (1963-1974), and the Pragmatist Phase (1972-present), characterized by attempts to preserve and maintain gains already won. (Cross-listed with BLST 2430)

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

### HIST 2190 THE MODERN MIDDLE EAST (3 credits)

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with RELI 2190, SOC 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

### HIST 2480 HISTORY OF LATIN AMERICA: PRECONQUEST TO THE PRESENT (3 credits)

A history of the nations of Latin America from the pre-Columbian indigenous cultures to the present time. Among the topics included will be the nature of indigenous cultures, the various European incursions, regional revolutions against European empires, nation-building, and the place of Latin America in global history.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

### HIST 2510 ANCIENT GREECE: BRONZE AGE TO CLASSICAL ERAS (3 credits)

A study of cultures in the Aegean/Eastern Mediterranean, from the Bronze Age through Classical-era Greece, to better appreciate their influence on later cultures, especially those of Rome, Europe, and North America.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**HIST 2520 ANCIENT HISTORY - ROME (3 credits)**

A survey of Roman history including Rome's wars of expansion, the rise and fall of the Republican government, the reorganization of the state under the emperors, and the nature of Rome's Empire and its peoples. The course will also examine aspects of Roman society, including living conditions, family organization, religion, and the diversity of Roman culture, including in the visual arts.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

**HIST 2620 MODERN BRITAIN (3 credits)**

This course will provide an overview of some of the major events in modern British history, considering both national and global perspectives. Topics covered will include empire, war, industrialization, technology, welfare, decolonization, gender, and pop culture along with a myriad of other subjects.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

**HIST 2710 RUSSIA TO 1855 (3 credits)**

An interpretative analysis of the development of Russian culture and society from their Kievan beginnings through the establishment of autocracy and serfdom to the end of the reign of Nicholas I.

**HIST 2720 RUSSIA: FROM THE CRIMEAN WAR TO THE PRESENT (3 credits)**

This course examines Russian history from the great reforms ushered in under Alexandr II to the present day. Among the topics covered are the crisis of Imperial Russia, the Bolshevik Revolution, life in the USSR, the USSR in the Second World War, the USSR in the Cold War, the collapse of communism, and the changes in Russian society since 1991.

**Distribution:** Global Diversity General Education course

**HIST 2810 HISTORY OF CHINA: FROM THE MANCHU CONQUEST TO THE PRESENT (3 credits)**

This course examines Chinese history from the seventeenth-century Manchu conquests to the present. Topics covered will include the nature of the Manchu-Qing Dynasty, the destabilization which began in the nineteenth century, growing pressure exerted by other powers, and the rise and rule of the Chinese Communist Party.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**HIST 2820 JAPAN: FROM WARRING STATES TO THE MODERN DAY (3 credits)**

This course will examine the course of Japanese history beginning with the Warring States (Sengoku) era of fifteenth and sixteenth centuries. It will then continue by assessing unified Japan under the Tokugawa bakufu, the initial stability of this period, then the growing tensions which led to the collapse of the bakufu state in the 1860s. From there, the course will analyze the emergence of modern Japan during the Meiji Restoration, its evolution to a military state, and then conclude with an assessment of Japan's transformation in the post-World War II era.

**Distribution:** Global Diversity General Education course

**HIST 2900 AFRICAN CIVILIZATION - THE MIDDLE PERIOD (3 credits)**

This course traces the development of African history from the beginning of the Civilization of Ghana (800 B.C.) to the period of European exploration of Africa (Mid 15th C.) It examines the main achievements, events and individuals in the Empires of Ghana, Mali, Songhay, Zimbabwe and other states. (Cross-listed with BLST 2900).

**HIST 2920 HISTORY OF MODERN AFRICA (3 credits)**

This course covers the era of the beginning, development and decline of European colonialism in Africa. The movement for decolonization, the emergence of independent sovereign nations and the strategic role that Africa plays in the forum of industrialized and developed nations is investigated. It examines the impact of alien cultures on traditional Africa, and the struggle for a resolution of the conflict between the three major traditions on the continent - the Islamic, Western and Indigenous. (Cross-listed with BLST 2120).

**HIST 2980 HISTORICAL METHODOLOGY (3 credits)**

The critical method in collecting, organizing, and presenting historical material. Required for history majors. Students are encouraged to enroll in this course as soon as possible after declaring their major.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and permission of department chair or chair's designee. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**HIST 2990 PEOPLE AND ISSUES IN HISTORY (3 credits)**

An in-depth investigation of a topic as announced in the course subtitle. Students may enroll for different sections as long as no specific subject is duplicated.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**HIST 3520 HISTORY OF ROMAN EMPIRE (3 credits)**

This course examines the Roman Empire (30 BC to AD 476), also known as the Principate, with the class's main focus on its first three centuries. The course covers the rise of the Imperial government, its development, and the challenges it faced in the reigns of different emperors. Included will be discussion of Rome's relationship with neighboring kingdoms, with the peoples in its own provinces, and with religious minority groups such as the Jews and Christians.

**Prerequisite(s)/Corequisite(s):** Junior status or permission of instructor. Students must have written permission from the course instructor to apply the course to the requirements of the Ancient Mediterranean Studies Minor.

**HIST 4010 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 8016, RELI 4050).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Not open to non-degree graduate students.

**HIST 4040 HOMESCAPES: THE MATERIAL CULTURE OF EVERYDAY LIFE IN AMERICA, 1600-1860 (3 credits)**

This course examines the culture and technologies of house forms and work landscapes in North America, 1600-1860. (Cross-listed with HIST 8046).

**Prerequisite(s)/Corequisite(s):** 60 hours. Not open to non-degree graduate students.

**HIST 4050 HISTORY OF WOMEN IN AMERICA TO 1875 (3 credits)**

This course examines the history of women in what is now the United States from the seventeenth century to 1875. Topics include law, work, sexuality and reproduction, slavery, cross-cultural encounters, religion, political activism, and the transformation of gender by the market and industrial revolutions. (Cross-listed with HIST 8056).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor. Not open to non-degree graduate students.

**HIST 4060 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1992 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with WGST 4060, WGST 8066, and HIST 8066).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor; Not open to non-degree graduate students.

**HIST 4070 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 4650, BLST 8656, HIST 8076, LLS 8656).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing

**Distribution:** U.S. Diversity General Education course

**HIST 4140 COLONIAL AMERICAN HISTORY (3 credits)**

This course provides a study of the settlement and development of North America to c. 1763 with an emphasis on the British colonies. (Cross-listed with HIST 8146).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor

**HIST 4150 THE AMERICAN REVOLUTIONARY ERA, 1763-89 (3 credits)**

This course examines the period of the American Revolution beginning with the changed circumstances in the British North American colonies following the end of the French and Indian War and concluding with the ratification of the United States Constitution. The course analyses social, political, and military themes from this period. (Cross-listed with HIST 8156).

**Prerequisite(s)/Corequisite(s):** junior standing or permission of instructor.

**HIST 4160 THE EARLY AMERICAN REPUBLIC: FROM THE CONSTITUTION TO THE SECOND PARTY SYSTEM (3 credits)**

This course covers an important period of American history beginning with the first federal government and ending with an analysis of the consolidation of the Second American Party system. Topics to be covered include the earliest debates over the nature of the federal government, foreign relations, the emergence of political parties, and the rise of the Jacksonian democracy. (Cross-listed with HIST 8166).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4170 HISTORY OF THE AMERICAN WEST (3 credits)**

An examination of the unique aspects of the region of the United States known as "the west." Students will learn about the multiple peoples, cultures, and environments which combined to form this region. Content will also include an examination of how the myths of the west were created. (Cross-listed with HIST 8176).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4180 THE AMERICAN CIVIL WAR PERIOD: FROM THE TEXAS REVOLUTION THROUGH RECONSTRUCTION (3 credits)**

This course focuses on the period of the American Civil War. It will begin with the background to, and events of the Texas Revolution. It will then consider the growing national tensions over slavery, particularly as a consequence of the Mexican-American War before examining the immediate causes of the civil war. The course will then examine the war itself before concluding with analysis of Reconstruction. (Cross-listed with HIST 8186).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4240 EMERGENCE OF MODERN AMERICA (3 credits)**

This course examines American history from the end of Reconstruction to the end of World War II. Among the topics covered are western expansion, industrialization, immigration, and the expanding international footprint of the United States. (Cross-listed with HIST 8246).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4330 U.S. CONSTITUTIONAL HISTORY TO 1860 (3 credits)**

This course will examine the history of the United States constitution from its promulgation in 1787 through the end of the Civil War. This will include consideration of both English and colonial precedents. The course will analyze the process of writing and ratifying the document in the late 1780s and will then look at some of the key legal decisions between 1790 and 1860. (Cross-listed with HIST 8336).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4340 U.S. CONSTITUTIONAL HISTORY SINCE 1860 (3 credits)**

This course examine the increasingly important role played by competing interpretations of the United States constitution since the outbreak of he Civil War. This will include the emergence of the idea of a "living constitution," the extension of constitutional guarantees to the states, and examination of critical Supreme Court cases. (Cross-listed with HIST 8346).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4360 THE U.S. IN THE COLD WAR (3 credits)**

This course will examine the impact of the Cold War in modern American history on two levels. First it will seek to understand how the Cold War influenced American foreign policy decisions since the end of World War II and examine the long term consequences of those policies for both the U.S. and the world. Secondly, this course will examine how the Cold War impacted or shaped American culture, domestic politics, and social movements in the postwar period. (Cross-listed with HIST 8366).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor

**HIST 4400 HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES (3 credits)**

A survey of traditional North American Indigenous cultures, their interaction with the environment, with one another, and with other people groups. This course covers indigenous societies to the present day. (Cross-listed with HIST 8406).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4410 HISTORY OF NEBRASKA (3 credits)**

An examination of the history of Nebraska from Native American occupation to the present, with emphasis on environmental factors that have shaped the region and its people. (Cross-listed with HIST 8416).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4420 THE SIOUX TRIBE (3 credits)**

A cultural and historical study of the Sioux tribes emphasizing the earliest historic period to the present. (Cross-listed with HIST 8426).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**HIST 4450 NATIVE AMERICAN ENVIRONMENTALISM (3 credits)**

This course studies North American tribal subsistence and natural resource use practices from the early historic period to the present, Native Americans as environmentalists, and modern tribal environmentalism. (Cross-listed with HIST 8456).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**HIST 4460 AMERICAN IMMIGRATION HISTORY (3 credits)**

A study of American immigration from the colonial era to the present. Topics covered include Old World origins of migration, the old immigrants from western Europe, the new immigrants from southern and eastern Europe, non-European immigrants, native-born American responses to immigrants, the periods of immigrant adjustment in the new physical environment, and the contemporary revival of ethnicity. (Cross-listed with HIST 8466).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4480 THE UNITED STATES IN THE 1960S (3 credits)**

This course is a review of the economic, social, cultural, and political changes that marked the United States in the 1960s. (Cross-listed with HIST 8486).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4530 EUROPE: RENAISSANCE & REFORMATION (3 credits)**

This course will examine European history from the fifteenth through the seventeenth centuries. Among the topics which will be covered are the Renaissance, the Protestant Reformation, the Catholic Reformation, Wars of Religion, the beginning of European overseas expansion, and the Scientific Revolution. In addition to examining the religious ideas and revolutions of the period, there will also be analysis of economic, social, and political change. (Cross-listed with HIST 8536).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4540 MEDIEVAL EUROPE (3 credits)**

A dive into the history of medieval Europe through the stories of men and women, their beliefs, struggles, contradictions and achievements. (Cross-listed with HIST 8546).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4610 TUDOR AND STUART ENGLAND (3 credits)**

English history from the end of the Wars of the Roses in 1485 to the death of Queen Anne in 1714. The course will examine the efforts of the Tudors and Stuarts to establish dynasties, the religious upheavals in the sixteenth and seventeenth centuries, changes in the role of Parliament, the Civil Wars, and the beginning of English overseas expansion. (Cross-listed with HIST 8616).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4650 HISTORY OF MODERN IRELAND (3 credits)**

A survey of Irish history from the Act of Union of 1801 through the civil rights movement of "Troubles" of Northern Ireland in the 1970s. (Cross-listed with HIST 8656).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4720 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with RELI 4160, RELI 8166, HIST 8726).

**Prerequisite(s)/Corequisite(s):** Junior or instructor permission.

**HIST 4730 ISRAEL AND PALESTINE (3 credits)**

This course will outline the history of the conflict over Palestine/Israel, examine its present status, and explore its likely unfolding in the future. It seeks to provide a broad and concise understanding of the historical events which have shaped the relations between Israelis and Palestinians, as well as a keen awareness of the challenges and prospects related to their future. (Cross-listed with HIST 8736).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4740 COMPARATIVE GENOCIDE (3 credits)**

This course explores genocide and its many forms throughout history. It begins by considering the varied elements and definitions of the term. Next it looks at what makes people kill before going on to examine many different genocides throughout history. Finally, the course addresses the prosecution and prevention of genocide. (Cross-listed with HIST 8746)

**Prerequisite(s)/Corequisite(s):** Junior. Not open to non-degree graduate students.

**HIST 4800 U.S. AND THE MIDDLE EAST (3 credits)**

This course focuses on the evolution of US relations with and Foreign Policy vis-a-vis the Middle East over the last six decades. It seeks to illuminate the constant features in contrast to the changes in direction, examining the agendas of varying administrations as well as the treatment by the media of this region. It follows a chronological framework with particular emphasis on key thematic topics. While emphasizing the political dimensions of international relations, the class will also explore cultural and social aspects of the ties between the US and the peoples of the Middle East. (Cross-listed with HIST 8806).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4820 MESOPOTAMIA AND PRE-ISLAMIC PERSIA (3 credits)**

Examination of the Ancient Near East from the emergence of its earliest civilizations—Sumer, Akkad and Babylonia—through the Bronze and Iron Ages, concluding with Persia in the Common Era (CE) just before the rise of Islam. (Cross-listed with HIST 8826).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 4830 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 8836, RELI 4830, RELI 8836).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4840 ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN (3 credits)**

Examination of the conquests of Alexander the Great, as well as controversies in Alexander studies. Includes discussion of both the Macedonian culture that produced him and the career of his father, Philip II. (Cross-listed with HIST 8846).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4850 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 8856, RELI 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 4900 PROBLEMS IN HISTORY (1-3 credits)**

Project arranged individually with undergraduate students. May be repeated as long as the subject differs, to a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Written permission of instructor.

**HIST 4910 TOPICS IN HISTORY (3 credits)**

This course introduces students to specialized subject matter not available in existing History courses. Course may be repeated as long as the topic is substantially different each time. Course may be cross-listed with other programs e.g. Native American Studies (NAMS), Women's and Gender Studies (WGST) when topics are appropriate. (Cross-listed with HIST 8916).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4920 INTERNSHIP IN HISTORICAL STUDIES (1-3 credits)**

The undergraduate student is supervised by a member of the faculty in a project involving part-time employment or service with a museum, historic site, historical society or other institution. Work hours, activities, reporting requirements, and responsibilities must be specified in written agreement between employer, student, and/or History Intern Program Coordinator. This course is normally taken for 3 hours. If a hosting institution cannot commit to a supervised workload which the departmental advisor believes to be equivalent to 3 hours, course may be taken for fewer hours. In such circumstances, students may repeat the course up to a total of 3 hours.

**Prerequisite(s)/Corequisite(s):** Student must have completed or enrolled in at least 6 hours of upper-division history courses (3000-4000). Student must have approval of History Intern Program Coordinator before enrolling. Not open to non-degree graduate students.

**HIST 4990 SENIOR SEMINAR (3 credits)**

Capstone research course for history majors. Students will be required to produce an original research paper. Each section of this course will be offered with a specific subject or theme.

**Prerequisite(s)/Corequisite(s):** HIST 2980 and permission of department chair or chair's designee. Not open to non-degree graduate students.

## History, Bachelor of Arts

To obtain a B.A. with a major in History, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

1. 46 hours of University General Education courses
2. 16 hours of foreign languages
3. 12 hours college breadth requirement
4. 36 hours of major courses
5. Elective hours as required to total 120 hours.

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
HIST 1000	WORLD CIVILIZATIONS I	3
HIST 1010	WORLD CIVILIZATIONS II	3
HIST 2980	HISTORICAL METHODOLOGY	3
HIST 4990	SENIOR SEMINAR	3
Select 6 hours lower-division history courses (1000-2000) of which at least 3 must be HIST 1110 or HIST 1120.		6
Select an additional 18 hours upper-division history courses (3000-4000). <sup>1</sup>		18
<b>Foreign Language Requirement for B.A.</b>		
B.A. degree seeking students must take foreign language through the intermediate level.		
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> Within the courses taken at the 2000 level or above, the following “geographic distribution” requirements also apply:
- at least 3 hrs. in US History courses
  - at least 3 hrs. in European History courses
  - at least 3 hrs. in “Wider World” courses (not US or European)

### Freshman

Fall		Credits
Foreign Language Course I		5
Quantitative Literacy Gen Ed*		3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
HIST 1000	WORLD CIVILIZATIONS I	3
<ul style="list-style-type: none"><li>MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.</li></ul>		
<ul style="list-style-type: none"><li>ENGL 1150: Requires EPPE or AP score.</li></ul>		

### Spring

Foreign Language Course II		5
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
ENGL 1160	ENGLISH COMPOSITION II (*)	3
HIST 1010	WORLD CIVILIZATIONS II	3
• ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.		
Credits		14

### Sophomore

Fall		
Foreign Language Course III		3
HIST 2980	HISTORICAL METHODOLOGY (*)	3
HIST 1110	AMERICAN HISTORY TO 1865	3
or HIST 1120	or AMERICAN HISTORY SINCE 1865	
Social Science Gen Ed		3
Elective		3
<ul style="list-style-type: none"><li>• HIST 2980: Requires ENGL 1160 and permission of department.</li></ul>		
Credits		15

### Spring

Foreign Language Course IV	3
Natural/Physical Science without lab	3

HIST Lower Level Elective	3
Social Science	3
Elective	3
<b>Credits</b>	<b>15</b>

### Junior

#### Fall

Social Science*	3
Humanities/Fine Arts course*	3
HIST 3000-4000 Level in US History	3
Elective	3
Natural/Physical Science Gen Ed with Lab*	4
<ul style="list-style-type: none"><li>• Social Science Gen Ed must be in a 2nd discipline.</li></ul>	
<ul style="list-style-type: none"><li>• Must have at least 2 different disciplines represented in 9 credits of required Humanities/Fine Arts courses.</li></ul>	
<ul style="list-style-type: none"><li>• Natural/Physical Science must be in a 2nd discipline.</li></ul>	

#### Spring

Additional Social Science for A&S or course for Minor/2nd Major*	3
HIST 3000-4000 Level in Wider World History	3
HIST 3000-4000 Level in European History	3
Additional Humanities/Fine Arts for A&S or course for Minor/2nd Major*	3
Elective	3
<ul style="list-style-type: none"><li>• A&amp;S College Requirement Option. Additional Social Science for A&amp;S must be in a 3rd discipline.</li></ul>	
<ul style="list-style-type: none"><li>• A&amp;S College Requirement option. Humanities/Fine Arts course for A&amp;S requirement must be in a 3rd discipline.</li></ul>	

### Senior

#### Fall

Additional Quantitative Literacy course for A&S or Course towards Minor/2nd Major*	3
HIST 3000-4000 Level	3
HIST 3000-4000 Level	3
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major*	4
Elective	3
• A&S College Requirement Option.	

#### Spring

HIST 3000-4000 Level		3
HIST 4990	SENIOR SEMINAR	3
Elective*		3
Elective*		3
Elective		3
120 minimum credits are required, of which 27 credits must be upper level (3000-4000 level) throughout the degree. Electives may need to be selected, keeping these minimums in mind.		
Credits		15
Total Credits		120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## History, Bachelor of Science

To obtain a B.S. with a major in History, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

1. 46 hours of University General Education courses
2. 12 hours college breadth requirement
3. 51 hours of major courses
4. Elective hours as required to total 120 hours.

TOTAL HOURS: 120

### Requirements

Code	Title	Credits
HIST 1000	WORLD CIVILIZATIONS I	3
HIST 1010	WORLD CIVILIZATIONS II	3
HIST 2980	HISTORICAL METHODOLOGY	3
HIST 4990	SENIOR SEMINAR	3
Select 6 hours lower-division history courses (1000-2000) of which at least 3 must be HIST 1110 or HIST 1120.		6
Select an additional 18 hours upper-division history courses (3000-4000). <sup>1</sup>		18
<b>In Lieu of Foreign Language, Cognate Requirements for B.S.</b> <sup>2</sup>		<b>15</b>
For the B.S. degree, students are required to complete at least 15 hours of related cognate coursework that must be approved by a History Department Academic Advisor. Students will choose one course in advanced writing or statistics, in consultation with their advisor. Twelve hours must be courses at the 3000/4000 level. Students may choose any UNO Minor to satisfy their upper-level cognate requirement, however this cannot double-count with Option 1 minor for the College of Arts & Sciences Degree Requirements.		
<b>Total Credits</b>		<b>51</b>

<sup>1</sup> Within the courses taken at the 2000 level or above, the following “geographic distribution” requirements also apply:

- at least 3 hrs. in US History courses
- at least 3 hrs. in European History courses
- at least 3 hrs. in “Wider World” courses (not US or European)

<sup>2</sup> The specific composition of a student’s cognate field will be determined in consultation with the student’s departmental advisor.

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
HIST 1000	WORLD CIVILIZATIONS I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Quantitative Literacy Gen Ed*		3
Elective		3
• ENGL 1150: Requires EPPE or AP score.		
• MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.		

	Credits	15
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
HIST 1010	WORLD CIVILIZATIONS II	3
Social Science Gen Ed		3
Natural/Physical Science Gen Ed with Lab		4
Elective		3
• ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.		
<b>Credits</b>		<b>16</b>

#### Sophomore

Fall		
HIST 2980	HISTORICAL METHODOLOGY (*)	3
HIST 1110 or HIST 1120	AMERICAN HISTORY TO 1865 or AMERICAN HISTORY SINCE 1865	3
Social Science Gen Ed		3
Natural/Physical Science no Lab*		3
Elective		3
• HIST 2980: Requires ENGL 1160 and permission of department.		
• Natural/Physical Science must be in a 2nd discipline.		

	Credits	15
<b>Spring</b>		
HIST Lower Level Elective		3
Humanities/Fine Arts Gen Ed*		3
Social Science Gen Ed*		3
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major^		3-4
B.S. Cognate Advanced Writing or Statistics Course**		3
• Humanities/Fine Arts Gen Ed must be in a field other than HIST.		
• Social Science Gen Ed must be in a 2nd discipline.		

^ A&S College Requirement Option.

\*\* B.S. Cognate Advanced Writing and Statistics options may be discussed with the major advisor.

	Credits	15-16
<b>Junior</b>		
<b>Fall</b>		
HIST 3000-4000 Level in US History		3

Additional Humanities/Fine Arts course for A&S or course for Minor/2nd Major <sup>^</sup>	3
Additional Social Science course for A&S or course for Minor/2nd Major <sup>#</sup>	3
Upper Level Cognate Course	3
Elective	3

<sup>^</sup> A&S College Requirement option. Additional HFA must be in a 3rd discipline.

<sup>#</sup> A&S College Requirement option. Additional SS must be in a 3rd discipline.

**Credits** **15**

#### Spring

HIST 3000-4000 Level in Wider World History	3
HIST 3000-4000 Level in European History	3
Humanities/Fine Arts Gen Ed or course for Minor/2nd Major	3
Upper Level Cognate Course	3
Elective	3

**Credits** **15**

#### Senior

##### Fall

Quantitative Literacy Gen Ed or Course towards Minor/2nd Major <sup>*</sup>	3
HIST 3000-4000 Level	3
HIST 3000-4000 Level	3
Upper Level Cognate Course	3
Elective	3

<sup>\*</sup>If student elects to take Statistics or another Math course within the B.S. Cognate, that will also count for this A&S Quantitative Literacy Requirement.

**Credits** **15**

##### Spring

HIST 3000-4000 Level	3
HIST 4990	3
Upper Level Cognate Course	3
Elective	3
Elective	2

Note: Students need a minimum of 120 credits to graduate. Electives, minors and additional majors may be used to reach that minimum. In A&S, students also need a minimum of 27 credits of 3000-4000 level courses throughout their degree.

**Credits** **14**

**Total Credits** **120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

**GPA Requirements:** 2.0

## History Minor

### Requirements

Students may earn a minor in history by completing 15 hours in history, with at least 9 hours in 3000-4000 level courses.

## Holocaust and Genocide Studies Minor

### Description

The mission of the Holocaust and Genocide Studies Faculty is to promote and facilitate the scholarly study of the Holocaust and other historical genocides throughout history. One of its chief mandates is to provide an interdisciplinary approach in which the topic of HGS is covered in a variety of departments/programs and from a variety of perspectives. The HGS minor is intended to both create a student who is more aware of the importance of genocide in both past and present and to prepare them for potential careers in fields related to the HGS. The following are key objectives of the minor:

- Learn the history of genocide from a global and comparative perspective
- Learn the history of genocide in an interdisciplinary context
- Master core competencies in other disciplines and majors with the Holocaust and Genocide as the subject matter
- Recognize the current relevance of the study of the Holocaust and genocide
- Gain a working knowledge of methods of prevention, intervention, and justice for instances of genocide throughout history
- Develop "moral muscles" that enable students to recognize and react to injustices occurring at home and abroad
- Prepare students for a variety of careers in both public and private sector that focus on the recognition, prevention, intervention, amelioration, and prosecution of genocide and mass atrocity.

### Other Information

All coursework taken for the Holocaust and Genocide Studies minor must be completed with a grade of "C-" or better.

### Contact

Holocaust and Genocide Studies Director, Lana Obradovic, Ph.D.  
275G Arts and Sciences Hall  
402.554.3027  
lobradovic@unomaha.edu

### Requirements

Undergraduate students will be expected to complete at least **18 credit hours** of HGS courses with a grade of C- or higher in at least **three departments**, including Anthropology, Black Studies, History, Philosophy, Political Science, Religious Studies and Sociology. A course in another department may be permissible with review and approval by the HGS director

### Required Courses

Code	Title	Credits
HIST 4720/RELI 4160	THE HOLOCAUST	3
HIST 4740	COMPARATIVE GENOCIDE	3
PSCI 4260	INTERNATIONAL LAW	3

#### Additional Courses

Select 9 hours from the following:

Code	Title	Credits
<b>Anthropology:</b>		
ANTH 3220	PEOPLES AND CULTURES OF NATIVE NORTH AMERICA	
<b>Black Studies:</b>		
BLST 1340	INTRODUCTION TO CONTEMPORARY AFRICA	
<b>History:</b>		
HIST 2920/ BLST 2120	HISTORY OF MODERN AFRICA	
HIST 4170	HISTORY OF THE AMERICAN WEST	
HIST 4400	HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES	
HIST 4720/ RELI 4160	THE HOLOCAUST	
<b>Philosophy:</b>		
PHIL 1020	CONTEMPORARY MORAL PROBLEMS	
PHIL 2030	INTRODUCTION TO ETHICS	
PHIL 3210	SOCIAL PHILOSOPHY	
<b>Political Science:</b>		
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	
PSCI 3220	INTERNATIONAL ORGANIZATIONS	
PSCI 3920	SPECIAL TOPICS IN POLITICAL SCIENCE <sup>1</sup>	
PSCI 4110	POLITICAL PSYCHOLOGY	
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
PSCI 4340	CONTEMPORARY POLITICAL THOUGHT	
<b>Religion:</b>		
RELI 3060	RELIGIONS OF THE WEST	
RELI 3500	SPECIAL TOPICS IN RELIGION <sup>2</sup>	
RELI 4150	JUDAISM IN THE MODERN AGE	
<b>Sociology:</b>		
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> PSCI 3920 when taught as Gender and Global Politics

<sup>2</sup> RELI 3500 when topic pertains to HGS

## Human Rights Studies Minor

### Description

The interdisciplinary human rights studies minor provides students with a fuller understanding of the origins, theories, and contemporary realities of human rights through the exploration of multiple intellectual spaces of human rights discourse. Having an understanding of human rights will help students to address issues such as migration and refugees, ethnic cleansing and genocide, discrimination, terrorism, poverty, children's rights,

surveillance, torture, humanitarian intervention, armed conflict, and capital punishment.

Although the breadth of this program complements majors across the disciplinary spectrum, it is particularly valuable for those majoring in fields related to society, politics, and the law, such as sociology, political science, philosophy, religious studies, history, and anthropology. Not only is it relevant to those students seeking careers in the public, private, and non-profit sectors, it is well-suited for those who have an interest in human rights research and advocacy both locally and globally. The human rights studies minor is ideally suited for students who want to put their knowledge and skills to use through local internships and study abroad programs available to UNO students. It will also serve to enhance research skills and experiences for students who plan to pursue further education in graduate programs.

### Other Information

All coursework taken for the human rights studies minor must be completed with a grade of "C" or better.

### Contact

Rory J. Conces, PhD, Philosophy  
205C ASH  
rconces@unomaha.edu

### Requirements

Undergraduates seeking to minor in human rights studies must complete a total of 18 credit hours with a grade of C or higher. A minimum of 12 credit hours must be from courses at the 3000 and/or 4000 level.

Code	Title	Credits
<b>Core Courses</b>		
Select at least 9 credits from the following:		9
PHIL 3210	SOCIAL PHILOSOPHY	
PSCI 3240	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
RELI 2020	RELIGION AND HUMAN RIGHTS	
RELI 4220	VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION	
SOC 4740	SOCIAL JUSTICE AND SOCIAL CHANGE	
Service Learning Component		

#### Additional Courses

Select the remaining credit hours from the following list of courses (or other courses, including independent studies, approved by the Human Rights Committee) and in at least two areas:

<b>Gender and Sexuality</b>		
ART 3870	GENDER & SEXUALITY IN MODERN ART	
BLST/WGST 1950	BLACK WOMEN IN AMERICA	
BLST 4260	WOMEN OF COLOR WRITERS	
CMST/WGST 3750	GENDER AND COMMUNICATION	
ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	
PSCI/WGST 3130	WOMEN AND POLITICS	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
WGST/PSCI 3100	LGBT POLITICS	
WGST/PSCI 3230	GENDER AND GLOBAL POLITICS	
<b>Race and Ethnicity</b>		
BLST/ENGL 2260	BLACK SHORT STORY	
BLST/ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT	
BLST/PSCI 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS	

BLST 3400	ISSUES IN BLACK COMMUNITIES
BLST 4650	SLAVERY AND RACE RELATIONS IN THE AMERICAS
CMST 4530	INTERCULTURAL COMMUNICATION-US
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE
CMST/BLST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY
ENGL 2230	ETHNIC LITERATURE
HIST 4420	THE SIOUX TRIBE
HIST 4450	NATIVE AMERICAN ENVIRONMENTALISM
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.
SOC 4250	CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS

**Politics and History**

BLST 2410	AFRICAN AMERICAN HISTORY I: TO 1865
BLST 2420	AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN
BLST 2430	AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY
BLST/PSCI 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS
BLST 3980	SPECIAL TOPICS IN BLACK STUDIES <sup>1</sup>
HIST 4650	HISTORY OF MODERN IRELAND
HIST 4720/ RELI 4160	THE HOLOCAUST
HIST 4730	ISRAEL AND PALESTINE
HIST 4740	COMPARATIVE GENOCIDE
HIST 4800	U.S. AND THE MIDDLE EAST
INST 2130	GLOBAL CHALLENGES
JMC 4310	MEDIA & POLITICS
PSCI/WGST 3130	WOMEN AND POLITICS
PSCI/LLS 3140	LATINO/-A POLITICS
PSCI 3220	INTERNATIONAL ORGANIZATIONS
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY <sup>2</sup>
WGST/PSCI 3100	LGBT POLITICS
WGST/PSCI 3230	GENDER AND GLOBAL POLITICS

**Environment, Health, and Economics**

BSAD 2100	PRINCIPLES OF SUSTAINABILITY: IMPACT OF INDIVIDUALS & ORGANIZATIONS ON ECOLOGY, EQUITY & ECONOMICS
ENVN 4320	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH
GEOG 4160	URBAN SUSTAINABILITY
PHHB 4650	GLOBAL HEALTH
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY
SOC 4140	URBAN SOCIOLOGY
SOC 4760	ENVIRONMENTAL SOCIOLOGY

**Law, Justice, and Ethics**

BLST 3410	LAW AND THE BLACK COMMUNITY
CMST 4120	COMMUNICATION AND SOCIAL PROTEST

CRCJ 3010	PHILOSOPHY OF CRIMINAL JUSTICE
CRCJ 4060	CRIMINAL JUSTICE ETHICS
LAWS 3170	ETHICS IN BUSINESS
LAWS 4930	INTERNATIONAL BUSINESS LAW
PHIL 1020	CONTEMPORARY MORAL PROBLEMS
PHIL 2030	INTRODUCTION TO ETHICS
PHIL 3040	PHILOSOPHY OF LAW
PHIL 3050	ETHICAL THEORY
PSCI 4140	CONSTITUTIONAL LAW: CIVIL RIGHTS
PSCI 4190	CONSTITUTIONAL LAW: CIVIL LIBERTIES
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION
PSCI 4260	INTERNATIONAL LAW
RELI 2200	GLOBAL RELIGIOUS ETHICS: THE BASICS
RELI 4200	COMPARATIVE RELIGIOUS ETHICS
THEA 3750	THEATRE AND SOCIAL JUSTICE

**Total Credits****18**

- <sup>1</sup> BLST 3980 Special Topic: History of Genocide in Darfur and Sudan  
<sup>2</sup> SPAN 4960 Human Rights Literature in Latin America

## Interdisciplinary Studies

Solving the challenges of our increasingly complex world requires interdisciplinary thinking, methods, and solutions. Choosing to major in Interdisciplinary Studies offers you an opportunity to customize your bachelor's degree by designing your own program of study. You will select complementary courses or minors from academic disciplines that allow you to focus on the subjects and topics that interest you.

Core coursework in the major explores diverse subjects that share a strong interdisciplinary theme. By emphasizing the importance of studying complex issues from multiple perspectives, these courses equip students with skills in critical thinking, interpretation, problem-solving, and multi-faceted analysis.

You may choose to pursue either a Bachelor of Science with a cognate requirement or a Bachelor of Arts with a foreign language requirement in either the Integrative or Individualized Studies concentrations:

**Integrative Studies Concentration:** This academic plan must include two minors (<https://www.unomaha.edu/college-of-arts-and-sciences/academics/minors-at-uno.php>) (or more, depending on the student's interest) from any academic programs in the university to build content knowledge in specific areas of focus. Students must complete all requirements of each minor program of study, with at least 18 credit hours coming from upper-division courses.

**Individualized Studies Concentration:** This academic plan allows you to create your own major and must include a total of at least 18 credits of upper-division coursework and 36 total credits from any academic programs in the university to build content knowledge in specific areas of focus. Students are required to draft an intentional plan of study, including a rationale and course outline.

**Exploratory Studies Concentration:** If you are a first-year student with fewer than 45 credits who has not declared a major or been admitted to the major of your choice, you will be admitted to Exploratory Studies. In this concentration, you will enjoy an immediate academic home that allows you to explore different disciplines and programs by taking Exploratory Studies 1000, designed to give you knowledge about various majors and minors at UNO, as well as enroll in general education courses that help you explore a best-fit major while satisfying your general education requirements. You will engage in cross-curricular academic advising, career assessment, guided exploration of majors and careers, mentoring, and programming designed to provide you the support you need as you figure out your best-fit major.

You will have the opportunity to interact with advisors, faculty, upper-class students, and professionals from different fields in order to discover your passions and make an informed decision on a major. Exploratory Studies majors are required to declare a major within their first 45 credit hours in any college, which includes the option to switch to either the Integrative Studies or Individualized Studies concentrations in Interdisciplinary Studies (see above).

## Double Majors

Students choosing either the Integrative or Individualized Studies Concentration may not pursue another UNO program that overlaps substantially with those concentrations.

## Residency

Students choosing either the Integrative or Individualized Studies Concentration must complete EXPL 1000 or INDS 1000 and INDS 4950 and at least 12 additional hours of major requirements at UNO. Students choosing the Integrative Studies Concentration must complete at least 6 hours of coursework in each minor that fulfills the concentration requirements.

## Contact Information

Exploratory Studies:

Tammie Kennedy, Director

tmkennedy@unomaha.edu

website (<https://www.unomaha.edu/college-of-arts-and-sciences/interdisciplinary-studies/>)

Integrative and Individualized Concentrations:

Michelle Quick, Advisor

mquick@unomaha.edu

website (<https://www.unomaha.edu/college-of-arts-and-sciences/interdisciplinary-studies/>)

- Interdisciplinary Studies, Bachelor of Arts (p. 197)
- Interdisciplinary Studies, Bachelor of Science (p. 200)

## Writing in the Discipline

Students choosing either the Integrative or Individualized Studies Concentration should take a WID course that is relevant to the focus of their studies. Consult with the Interdisciplinary Studies advisor for approved courses.

Because the Interdisciplinary Studies major is uniquely crafted by each student through either the Individualized or Integrative Concentration, students can apply their skills gained to numerous occupational fields including, but not limited to the following:

- business
- the arts and non-profit sector
- environmental policy
- urban studies
- language and culture studies
- social justice
- helping professions
- information and technology
- education
- law
- medicine and allied health professions
- human resources
- public service sector

### EXPL 1000 EXPLORATORY STUDIES (3 credits)

An introductory study of the concepts and practices of interdisciplinary inquiry, writing, critical thinking and problem solving across disciplines and techniques for solving problems and writing from an interdisciplinary perspective. Each semester the course will focus on a different topic or problem for inquiry.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### INDS 1000 INTRODUCTION TO INTERDISCIPLINARY STUDIES (3 credits)

This course introduces students to the differences between disciplinary and interdisciplinary approaches to learning and research, and how to create/critique interdisciplinary arguments, understand interdisciplinary processes, and assess the quality of their own work. Students gain the opportunity to engage in the study of thinking, reading, writing, and problem-solving through an interdisciplinary lens across the natural and physical sciences, social sciences, and humanities. This course fosters intellectual curiosity by examining personal, social, cultural, and scientific challenges, and asking students to consider interdisciplinary solutions. Open to all majors interested in learning how interdisciplinarity can both contextualize and enrich individual disciplines. For those majoring or considering majoring in Interdisciplinary Studies, this course will also offer the opportunity to craft an intentional plan of study by connecting with faculty and peers across various disciplines.

**Prerequisite(s)/Corequisite(s):** Students majoring in Interdisciplinary Studies should take EXPL 1000 or INDS 1000. Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

## Interdisciplinary Studies, Bachelor of Arts

To obtain a B.A. with a major in Interdisciplinary Studies, a student must fulfill university, college, and program requirements. As an interdisciplinary major of at least 50 hours, this major meets the College breadth requirement. Other hour requirements follow:

- 46 hours of University General Education courses  
*Most majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead they select courses that meet multiple requirements.*
- 16 hours foreign language requirement
- 50 hours of major courses
- At least 8 hours of electives

TOTAL HOURS: 120

### Requirements

Code	Title	Credits
EXPL 1000	EXPLORATORY STUDIES	3
or INDS 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES	
<b>One approved research methods or statistics course.</b>		<b>3-4</b>
Approved courses include but are not limited to the following:		
BSAD 3160	MANAGERIAL STATISTICS FOR BUSINESS (4 credit hours)	
CRCJ 2510	RESEARCH METHODS	
CRCJ/SOWK/PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING	
PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	

PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOC 2130	SOCIAL STATISTICS	
SOC 3510	RESEARCH METHODS	
STAT 1530	ELEMENTARY STATISTICS	
STAT 3000	STATISTICAL METHODS I	
Elective hours to be determined in consultation with the advisor		5-11
INDS 4950	SENIOR CAPSTONE	3
<b>Integrative Studies or Individualized Studies Concentration</b>		<b>30-36</b>
<b>Optional</b>		
This academic plan may include one or more semesters of study abroad, or internships, if appropriate.		
<b>Total Credits</b>		<b>50-51</b>

## Concentration in Exploratory Studies

If you are a first-year student with fewer than 45 credits who has not declared a major or been admitted to the major of your choice, you will be admitted to Exploratory Studies. In this concentration, you will enjoy an immediate academic home that allows you to explore different disciplines and programs by taking Exploratory Studies 1000, designed to give you knowledge about various majors and minors at UNO, as well as enroll in general education courses that help you explore a best-fit major while satisfying your general education requirements. You will engage in cross-curricular academic advising, career assessment, guided exploration of majors and careers, mentoring, and programming designed to provide you the support you need as you figure out your best-fit major. You will have the opportunity to interact with advisors, faculty, upper-class students, and professionals from different fields in order to discover your passions and make an informed decision on a major. Exploratory Studies majors are required to declare a major within their first 45 credit hours in any college, which includes the option to switch to either the Integrative Studies or Individualized Studies concentrations in Interdisciplinary Studies (see below).

### Course Requirement

Code	Title	Credits
EXPL 1000	EXPLORATORY STUDIES	3
or INDS 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES	

## Concentration in Individualized Studies

This academic plan allows you to create your own major and must include a total of at least 18 credits of upper-division coursework and 36 total credits from any academic programs in the university to build content knowledge in specific areas of focus. Students are required to draft an intentional plan of study, including a rationale and course outline.

## Concentration in Integrative Studies

This academic plan must include two minors (<https://www.unomaha.edu/college-of-arts-and-sciences/academics/minors-at-uno.php>) (or more, depending on the student's interest) from any academic program in the university to build content knowledge in specific areas of focus. Students must complete all requirements of each minor program of study, with at least 18 credit hours coming from upper-division courses.

### Bachelor of Arts Interdisciplinary Studies-Individualized Studies concentration

<b>Freshman</b>		
<b>Fall</b>		
EXPL 1000	EXPLORATORY STUDIES	3
or INDS 1000	or INTRODUCTION TO INTERDISCIPLINARY STUDIES	

ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Humanities/Fine Arts**		3
Social Science**		3

- ENGL 1150 requires appropriate English placement.

\*\* Social Science, Humanities/Fine Arts, and Natural/Physical Sciences should be used for focus area exploration. When a student knows what disciplines they will be studying, they should take the introductory class to the discipline, if offered as a Social Science, Humanities/Fine Arts, and/or Natural/Physical Sciences gen ed in order to avoid prerequisite delays.

Credits		15
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
Mathematics/Quantitative Literacy*		3
Humanities/Fine Arts Add U.S. Diversity component		3
Natural/Physical Science		3
Social Science**		3

- It is generally recommended students take MATH 1220. Prerequisites for MATH 1220, within last two years: ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, appropriate Math Placement Exam score, MATH 1210 C- or better or MATH 1220 within last two years. If a student does not qualify for MATH 1220, the student should talk with an advisor before enrolling in an alternative Mathematics/Quantitative Literacy class to ensure the necessary class is taken for their intended focus areas.

\*\* Social Science course must be from 2nd discipline.

Credits		15
<b>Sophomore</b>		
<b>Fall</b>		
Natural/Physical Science with lab*		4
Foreign Language sequence #1**		5
Elective course		3
Major course		3

- NPS with Lab course must come from a 2nd discipline.

** Foreign Language course 1110 will satisfy a Humanity/ Fine Arts course and Global Diversity. If satisfying the BA language requirement differently, please consult with your advisor, as you'll need to add a HFA, global diversity course, and some electives.		
--	--	--

Credits		15
<b>Spring</b>		
Foreign Language sequence class #2		5
Elective course		3
Major course		3
Major course		3
Major course		3

Credits		17
<b>Junior</b>		
<b>Fall</b>		
Foreign Language sequence class #3		3
Major course		3
Major course		3
Upper-division major course		3

**Approved Statistics/Research Course\*** 3

- Students should take a Statistics/Research class that best fits their chosen areas of study. STEM and Social Science Statistic/Research courses have a mathematics/quantitative literacy prerequisite. Humanities Research courses generally have a composition prerequisite. Meet with an advisor for options.

**Credits** 15**Spring**

Foreign Language sequence class #4 3

Major course 3

Upper-division major course 3

Upper-division major course 3

Upper-division major course 3

**Credits** 15**Senior****Fall**

Upper-division major course 3

Upper-division major course 3

Writing in the Discipline course\* 3

Additional major course or Elective 3

Additional major course or Elective 3

- Writing in the Discipline course requires ENGL 1160.

**Credits** 15**Spring**

INDS 4950 Senior Capstone\* 3

Additional major course or Elective 3

Additional major course or Elective 3

Additional major course or Elective 3

Additional major course or Elective 1

- Senior status and permission of instructor is required

Note: If student will have earned fewer than 120 credits by end of semester, they should take additional classes in a focus area or University electives.

**Credits** 13**Total Credits** 120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an Interdisciplinary Studies advisor for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:****University Degree Requirements:**

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:**

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Bachelor of Arts Interdisciplinary Studies – Integrative Studies****Freshman****Fall**

ENGL 1150 ENGLISH COMPOSITION I (\*) 3

EXPL 1000 or INDS 1000 EXPLORATORY STUDIES or INTRODUCTION TO INTERDISCIPLINARY STUDIES 3

CMST 1110 or CMST 2120 PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE 3

Humanities/Fine Arts\*\* 3

Social Science\*\* 3

- ENGL 1150 requires appropriate English placement.

\*\* Social Science, Humanities/Fine Arts, and Natural/Physical Sciences should be used for focus area exploration.

**Credits** 15**Spring**

ENGL 1160 ENGLISH COMPOSITION II 3

Mathematics/Quantitative Literacy\* 3

Humanities/Fine Arts Add U.S. Diversity\*\* 3

Natural/Physical Science 3

Social Science – Add U.S. Diversity\*\* 3

- It is generally recommended students take MATH 1220. Prerequisites for MATH 1220, within last two years: ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, appropriate Math Placement Exam score, MATH 1210 C- or better or MATH 1220 within last two years. If a student does not qualify for MATH 1220, the student should talk with an advisor before enrolling in an alternative Mathematics/Quantitative Literacy class to ensure the necessary class is taken for their intended focus areas.

\*\* Humanities/Fine Arts class #2 and/or Social Science #3 can also complete the U.S. Diversity requirement if not already met.

\*\* Social Science #3 must come from a 2nd discipline.

**Credits** 15**Sophomore****Fall**

Foreign Language sequence class #1\* 5

Natural/Physical Science with lab\*\* 4

Minor One course 3

Elective 3

- Foreign Language Placement Exam prerequisite (Prerequisite placement exam applies only if a student has prior coursework in the foreign language they wish to study.) FLNG level 1110 counts as a Humanity/Fine Arts course with global diversity. If satisfying language differently, please consult with your advisor, as you may need to add a HFA, global diversity, and possibly electives to your plan of study.

\*\* NPS with Lab must come from a 2nd discipline.

**Credits** 15**Spring**

Foreign Language sequence class #2 5

Elective	3
Minor One course	3
Minor Two course	3
Minor Two course	3
<b>Credits</b>	<b>17</b>

### Junior Fall

Foreign Language sequence class #3	3
Minor One upper-division course*	3
Minor One upper-division course*	3
Minor Two upper-division course*	3
Approved Statistics/Research Course^	3

- Most minors require 9 credit hours of upper-division work, though some may require more. Students should be aware of their minor requirements.

^ Students should take a Statistics/Research class that best fits their chosen areas of study. STEM and Social Science Statistic/Research courses have a mathematics/quantitative literacy prerequisite. Humanities Research courses generally have a composition prerequisite. Meet with an advisor for options.

<b>Credits</b>	<b>15</b>
<b>Spring</b>	
Foreign Language sequence class #4	3
Minor One upper-division course	3
Minor One upper-division course	3
Minor Two upper-division course	3
Minor Two upper-division course	3
<b>Credits</b>	<b>15</b>

### Senior Fall

Minor Two upper-division course	3
Writing in the Discipline course*	3
Additional minor courses, Minor Three course, or Elective	3
Additional minor courses, Minor Three course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3

Note: Students may pursue a third minor instead of taking additional courses in their first two minors or electives. If a student plans to select a third minor, they should begin taking courses for the third minor sophomore year to ensure courses will be offered and requirements can be completed.

- Writing in the Discipline course requires ENGL 1160.

<b>Credits</b>	<b>15</b>
<b>Spring</b>	
INDS 4950 Senior Capstone*	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	1
• Senior status and permission of instructor is required	

Note: If student will have earned fewer than 120 credits by end of semester, they should take additional classes in a focus area or University electives.

<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an Interdisciplinary Studies advisor for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

#### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

#### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Interdisciplinary Studies, Bachelor of Science

To obtain a B.S. with a major in Interdisciplinary Studies, a student must fulfill university, college, and program requirements. As an interdisciplinary major of at least 50 hours, this major meets the College breadth requirement. Other hour requirements follow:

- 46 hours of University General Education courses  
*Most majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead they select courses that meet multiple requirements.*
- 15 hours cognate coursework
- 50 hours of major courses
- At least 9 hours of electives

TOTAL HOURS: 120

### Requirements

Code	Title	Credits
EXPL 1000	EXPLORATORY STUDIES	3
or INDS 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES	
<b>One approved research methods or statistics course.</b>		<b>3-4</b>
Approved courses include but are not limited to the following:		
BSAD 3160	MANAGERIAL STATISTICS FOR BUSINESS (4 credit hours)	
CRCJ 2510	RESEARCH METHODS	
CRCJ/SOWK/PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING	
PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	

PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOC 2130	SOCIAL STATISTICS	
SOC 3510	RESEARCH METHODS	
STAT 1530	ELEMENTARY STATISTICS	
STAT 3000	STATISTICAL METHODS I	
Elective hours to be determined in consultation with the advisor		5-11
INDS 4950: Senior Capstone		3
<b>Integrative or Individualized Studies Concentration</b>		<b>30-36</b>
<b>Optional</b>		
This academic plan may include one or more semesters of study abroad, or internships, if appropriate.		
<b>Total Hours</b>		<b>50-51</b>

## Concentration in Exploratory Studies

If you are a first-year student with fewer than 45 credits who has not declared a major or been admitted to the major of your choice, you will be admitted to Exploratory Studies. In this concentration, you will enjoy an immediate academic home that allows you to explore different disciplines and programs by taking Exploratory Studies 1000, designed to give you knowledge about various majors and minors at UNO, as well as enroll in general education courses that help you explore a best-fit major while satisfying your general education requirements. You will engage in cross-curricular academic advising, career assessment, guided exploration of majors and careers, mentoring, and programming designed to provide you the support you need as you figure out your best-fit major. You will have the opportunity to interact with advisors, faculty, upper-class students, and professionals from different fields in order to discover your passions and make an informed decision on a major. Exploratory Studies majors are required to declare a major within their first 45 credit hours in any college, which includes the option to switch to either the Integrative Studies or Individualized Studies concentrations in Interdisciplinary Studies (see below).

### Course Requirement

Code	Title	Credits
EXPL 1000	EXPLORATORY STUDIES	3
or INDS 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES	

## Concentration in Individualized Studies

This academic plan allows you to create your own major and must include a total of at least 18 credits of upper-division coursework and 36 total credits from any academic programs in the university to build content knowledge in specific areas of focus. Students are required to draft an intentional plan of study, including a rationale and course outline.

## Concentration in Integrative Studies

This academic plan must include two minors (<https://www.unomaha.edu/college-of-arts-and-sciences/academics/minors-at-uno.php>) (or more, depending on the student's interest) from any academic program in the university to build content knowledge in specific areas of focus. Students must complete all requirements of each minor program of study, with at least 18 credit hours coming from upper-division courses.

## Bachelor of Science Interdisciplinary Studies – Individualized Studies concentration

### Freshman

Fall		Credits
INDS 1000 or EXPL 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES or EXPLORATORY STUDIES	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3

CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Humanities/Fine Arts – Add Global Diversity*		3
Social Science *		3
ENGL 1150: Appropriate English placement required.		
Note: Social Science, Humanities/Fine Arts, and Natural/Physical Sciences should be used for focus area exploration. When a student knows what disciplines they will be studying, they should take the introductory class to the discipline, if offered as a Social Science, Humanities/Fine Arts, and/or Natural/Physical Sciences gen ed in order to avoid prerequisite delays.		

**Credits 15**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Mathematics/Quantitative Literacy*		3
Humanities/Fine Arts – Add U.S. Diversity**		3
Natural/Physical Science without lab		3
Social Science – Add U.S. Diversity**		3

- It is generally recommended students take MATH 1220. Prerequisites for MATH 1220, within last two years: ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, appropriate Math Placement Exam score, MATH 1210 C- or better or MATH 1220 within last two years. If a student does not qualify for MATH 1220, the student should talk with an advisor before enrolling in an alternative Mathematics/Quantitative Literacy class to ensure the necessary class is taken for their intended focus areas.

\*\* Humanities/Fine Arts class #2 and/or Social Science #3 can also complete U.S. Diversity requirement

\*\* Social Science #3 must be from 2nd discipline.

**Credits 15**

### Sophomore

#### Fall

Humanities/Fine Arts #3 *		3
Major course		3
Major course		3
Major course		3
Natural/Physical Science with lab**		4

- Humanities/Fine Arts class #3 must come from 2nd discipline.

\*\* NPS with Lab course must come from 2nd discipline.

**Credits 16**

### Spring

Major course		3
Cognate course		3
Upper-division major course		3
Upper-division major course		3
Elective		3

**Credits 15**

### Junior

#### Fall

Cognate course*		3
Major course		3
Major course		3
Approved Statistics/Research Course**		3
Elective		3

\*\* Students should take a Statistics/Research class that best fits their chosen areas of study. STEM and Social Science Statistic/Research courses have a mathematics/quantitative literacy prerequisite. Humanities Research courses generally have a composition prerequisite. Meet with an advisor for options.

- Fifteen hours of Cognate courses are required for the Bachelor of Science degree and should be taken in one discipline that the student is not already studying. Cognates should be approved by the major advisor.

Credits		15
<b>Spring</b>		
Upper-division major course	3	
Upper-division major course	3	
Major course	3	
Cognate course	3	
Cognate course	3	
Credits		15
<b>Senior</b>		
<b>Fall</b>		
Upper-division major course	3	
Upper-division major course	3	
Major course	3	
Additional Major course or Elective	3	
Writing in the Discipline Course*	3	
<ul style="list-style-type: none"> <li>Requires ENGL 1160.</li> </ul>		
Credits		15
<b>Spring</b>		
INDS 4950: Senior Capstone*	3	
Cognate course	3	
Diversity requirement class or Elective	3	
Additional major course or Elective	3	
Additional major course or Elective	3	
<ul style="list-style-type: none"> <li>INDS 4950: Senior status and permission of instructor is required</li> </ul>		
If U.S. Diversity or Global Diversity University requirements have not been met, the student should take a class that fulfills the missing requirement(s).		
If below 120 earned credits, the student should take additional classes in a focus area, cognate area, or University elective.		
Credits		15
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an Interdisciplinary Studies advisor for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

#### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Bachelor of Science Interdisciplinary Studies – Integrative Studies Concentration

Freshman		Credits
<b>Fall</b>		
INDS 1000 or EXPL 1000	INTRODUCTION TO INTERDISCIPLINARY STUDIES or EXPLORATORY STUDIES	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Humanities/Fine Arts #1**		3
Social Science #2**		3
<ul style="list-style-type: none"> <li>ENGL 1150 requires appropriate English placement.</li> </ul>		
<p>** Social Science, Humanities/Fine Arts, and Natural/Physical Sciences should be used for focus area exploration. When a student knows what disciplines they will be studying, they should take the introductory class to the discipline, if offered as a Social Science, Humanities/Fine Arts, and/or Natural/Physical Sciences gen ed in order to avoid prerequisite delays.</p>		
Credits		15
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
Mathematics/Quantitative Literacy*		3
Humanities/Fine Arts #2**		3
Natural/Physical Science without lab		3
Social Science #3**		3
<ul style="list-style-type: none"> <li>It is generally recommended students take MATH 1220. Prerequisites for MATH 1220, within last two years: ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, appropriate Math Placement Exam score, MATH 1210 C- or better or MATH 1220 within last two years. If a student does not qualify for MATH 1220, the student should talk with an advisor before enrolling in an alternative Mathematics/Quantitative Literacy class to ensure the necessary class is taken for their intended focus areas.</li> </ul>		
<p>** Humanities/Fine Arts class #2 and/or Social Science #2 can also complete Diversity requirements if Diversity requirements are not already met.</p>		
** Social Science course #3 must come from 2nd discipline.		
Credits		15

#### Sophomore

<b>Fall</b>		
Humanities/Fine Arts #3*		3
Minor One course #1		3
Minor One course #2		3
Minor Two course #1		3
Elective		2-3

\*Humanities/Fine Arts class #3 or Social Science #3 can also complete a Diversity requirement if Diversity requirements are not already met. HFA course #3 must come from 2nd discipline.

Credits	14-15
<b>Spring</b>	
Minor Two course #2	3
Natural/Physical Science with lab**	4
Minor One upper-division course #1*	3
Minor Two upper-division course #1*	3
Cognate course	3
<ul style="list-style-type: none"> <li>Most minors require 9 credit hours of upper-division work, though some may require more. Students should be aware of their minor requirements.</li> </ul>	
** NPS Course with Lab must be from 2nd discipline.	

Credits	16
<b>Junior</b>	
<b>Fall</b>	
Writing in the Discipline Course*	3
Minor One upper-division course #2	3
Minor Two upper-division course #2	3
Approved Statistics/Research Course^	3
Cognate course**	3
<ul style="list-style-type: none"> <li>Writing in the Discipline course requires ENGL 1160.</li> </ul>	

^ Students should take a Statistics/Research class that best fits their chosen areas of study. STEM and Social Science Statistic/Research courses have a mathematics/quantitative literacy prerequisite. Humanities Research courses generally have a composition prerequisite. Meet with an advisor for options.

\*\* Fifteen hours of Cognate courses are required for the Bachelor of Science degree and should be taken in one discipline that the student is not already studying. Cognates should be approved by the major advisor.

Credits	15
<b>Spring</b>	
Minor One upper-division course #3	3
Minor Two upper-division course #3	3
Minor One upper-division course #4	3
Cognate course	3
Cognate course	3
<b>Credits</b>	<b>15</b>

<b>Senior</b>	
<b>Fall</b>	
Minor Two upper-division course #4	3
Diversity requirement class, Additional minor courses, Minor Three course, or Elective	3
Diversity requirement class, Additional minor courses, Minor Three course, or Elective	3
Cognate course	3
Additional minor courses, Minor Three course/ upper-division course, or Elective	3

Note: If U.S. Diversity or Global Diversity University requirements have not been met, the student should take a class that fulfills the missing requirement(s).

Note: Students may pursue a third minor instead of taking additional courses in their first two minors or electives. If a student plans to select a third minor, they should begin taking courses for the third minor sophomore year to ensure courses will be offered and requirements can be completed.

Credits	15
<b>Spring</b>	
INDS 4950: Senior Capstone*	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3
Additional minor courses, Minor Three upper-division course, or Elective	3
<ul style="list-style-type: none"> <li>Senior status and permission of instructor is required.</li> </ul>	

Note: If student will have earned fewer than 120 credits by end of semester, they should take additional classes in a focus area or University electives.

Credits	15
<b>Total Credits</b>	<b>120-121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an Interdisciplinary Studies advisor for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

#### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

#### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## International Studies

The International Studies (INST) Major at UNO is an interdisciplinary program that provides an international focus and foundation for professional careers in the private, nonprofit, and public sectors, as well as graduate studies. Among these careers and further studies are international management and business, diplomacy and foreign service, national security and intelligence, international law and policy, conflict mediation, humanitarian aid, international development, non-profit organizations, international education, and public affairs. The members of the International Studies Faculty encourage students majoring in International Studies to place significant emphasis on *the study of foreign language* and other cultures. Many INST majors have a double major or a minor in a foreign language.

At a minimum, in order to satisfy the INST foreign language requirement, majors who are completing an Area Studies Concentration must complete the equivalent of three years of one university-level foreign language study

(completion of a minor is recommended) or two years each of two foreign languages. At least one foreign language studied by those completing an Area Studies Concentration must be associated with the area chosen.

For students who are completing the general curriculum option, the Global Strategic Studies concentration and/or the International Management and Business Leadership concentration, the foreign language requirement will be two years of one foreign language (16 hours) or one year of foreign language (10 hours) supplemented with 6 hours of language credits in the same language from studying abroad.

If a student is a native speaker of another language, formal foreign language study may not be required.

## Student Groups

Sigma Iota Rho (International Studies Honorary Society)

## Option for Degree Completion

The Department of Political Science has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing BA/BS in Political Science or BA in International Studies desiring to pursue a MS in Political Science.
- Students must have completed no less than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Contact

241 ASH  
402.554.2966  
Vickie Stone vicstone@unomaha.edu

Website (<https://www.unomaha.edu/college-of-arts-and-sciences/international-studies/>)

## Degrees Offered

- International Studies, Bachelor of Arts (p. 205)

## Writing in the Discipline

All students are required to take a writing course within their major. For the INST major, the following are some of the recommended courses: ENGL 2420 Critical Approaches to Language Studies, ENGL 3050 Writing

for the Workplace, ENGL 3980 Technical Writing, or JMC 2100 + JMC 2104 Media Writing Lecture + Lab.

Check with the INST advisor for additional approved advanced writing courses.

## Minors Offered

- International Studies Minor (p. 210)

As an International Studies major, a world of opportunities open up that span the globe. The International Studies major cultivates skills that are translatable across continents and cultures. Even within the United States, there are a wealth of possibilities for International Studies Majors.

College graduates need to be prepared for a new world - one digitally linked, partnered in trade, and demanding transnational solutions. UNO's International Studies Major (INST), an interdisciplinary Bachelor of Arts degree program, provides undergraduate students with the necessary background in global affairs and intercultural communications. The degree is individualized, flexible and marketable.

## Career Opportunities

By nature, International Studies majors make exceptional employees in virtually any field because of their ability to communicate effectively, think critically and solve complex problems. These timeless skills make them attractive to employers in all walks of society. Specifically, International Studies majors tend to pursue careers in the following fields:

- Airlines
- Analyst
- Civil Service Worker
- Conflict Mediation
- Congressional Aide
- Consultant
- Cross Cultural Communications
- Cultural Diversity Training
- Diplomacy and Foreign Service
- Economist
- English as a Second Language (ESL) Teacher
- Environmental Specialist
- Executive
- Human Resources Specialist
- Humanitarian Relief Worker
- Human Rights
- Immigration Agent
- International Art Connoisseur
- International Commerce/Global Business
- International Development Consultant
- International Educator
- International Law and Policy
- International Non-profit Organization
- International Spy
- International Student Advisor
- Lobbyist
- Military
- National Security and Intelligence Specialist
- Peace Corps
- Public Service Officer
- Think Tank/Consultant
- Travel Coordinator

**INST 2130 GLOBAL CHALLENGES (3 credits)**

An interdisciplinary, team-taught course which examines the seven global challenges - population, resources, technology, information, economies, conflict, governance - facing the world in the 21st century. The class introduces students to a range of interdependent factors and forces that influence international affairs.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**INST 3000 PERSPECTIVES IN INTERNATIONAL STUDIES (1-6 credits)**

Topical and or general analysis of selected countries and regions offered in conjunction with possible study tours in those areas under investigation. Internships and/or study abroad experiences usually form the basis for the course. Can be repeated up to 12 hours. This course may be taken for honors credit.

**INST 4140 TOPICS IN INTERNATIONAL STUDIES (3 credits)**

This course examines a topic involving a wide range of international studies theories, methods, and fields to provide international studies majors a sense of how the elements of international studies fit together to form a coherent interdisciplinary. A student may take the course more than once as topics will change each semester.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, junior or above

**INST 4990 SENIOR E-PORTFOLIO (0 credits)**

This E-Portfolio course is part of International Studies' Student Outcomes effort. It is designed to help monitor the success of the program through monitoring students' performance in the program. Graduating seniors must register for and complete INST 4990 - Senior E-Portfolio in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for INST 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## International Studies, Bachelor of Arts

A major in international studies must meet or exceed the requirements for a major as specified by the College of Arts and Sciences. Beyond the core courses and foreign language classes, the curriculum for INST majors is constructed of those courses that have an international focus in disciplines such as history, political science, information technology, geography/geology, sociology, management, marketing, economics, philosophy and religion, English, and related courses in the fine arts and humanities.

INST majors can choose either a general curriculum INST degree or choose a concentration in global strategic studies, area studies or international management and business leadership.

### Degree Requirements

To obtain a B.A. with a major in International Studies, a student must fulfill university, college, and departmental requirements. Other hour requirements follow:

- 46 hours of University General Education courses
- 12-19 hours college breadth requirement
- 49-55 hours of major courses
- 0-13 hours of electives

TOTAL HOURS: 120

All coursework taken for the international studies major must be completed with a grade of "C-" or better. There is a minimum of 30 credits of required coursework to be taken in residence here at UNO, plus the foreign language requirement which is described in more detail below.

#### Foreign Language Requirements:

At a minimum, in order to satisfy the INST foreign language requirement, majors who are completing an area studies concentration must complete the equivalent of three years of one university-level foreign language study (completion of a minor is recommended) or two years each of two foreign languages. At least one foreign language studied by those completing an area studies concentration must be associated with the area chosen.

For students who are completing the general curriculum INST major, the Global Strategic Studies concentration and/or the International Management and Business Leadership concentration, the foreign language requirement will be two years of one foreign language (16 hours) or one year of foreign language (10 hours) supplemented with 6 hours of language credits of the same language from studying abroad.

If a student is a native speaker of another language, formal foreign language study may not be required.

Code	Title	Credits
<b>Core Curriculum</b>		
INST 2130	GLOBAL CHALLENGES	3
INST 4140	TOPICS IN INTERNATNL STUDIES	3
INST 4990	SENIOR E-PORTFOLIO	0
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3

There are options for majors to choose general curriculum or from one of three concentrations:

- Area Studies (p. 205)
- Global Strategic Studies (p. 205)
- International Management and Business Leadership (p. 205)

### General Curriculum Option

This option is meant to provide the possibility of majoring in INST but not having to declare a specific concentration. The INST core courses listed above are required then at least 15 hours of 3000-4000 level international studies coursework that is designed in coordination with the academic advisors must be completed. Students must complete the e-portfolio requirements during their last semester.

### Area Studies

This Concentration offers the opportunity to focus on one or more areas of regional interest. Examples include Latin America, Europe and the Middle East. Please discuss with an academic advisor the possibility of other areas of concentration, including Africa, Central Asia-South Asia (CASA), and East Asia which will depend on the availability of relevant courses at a given time. In addition to the INST core courses, at least **15 hours** of 3000-4000 level coursework that focuses on the region selected must be completed.

At a minimum, majors who choose this concentration must complete the equivalent of three years of one university-level foreign language study (completion of a minor is recommended) or two years each of two foreign languages. At least one foreign language studied by those choosing this concentration must be associated with the area chosen. Study abroad in your area of interest is strongly recommended. Course lists for Area Studies will differ according to the area and availability of courses offered.

### Global Strategic Studies

This concentration is designed for individuals interested in careers in government, national security and intelligence, in teaching in secondary and higher education, and in graduate school studies in any of these areas. The foreign language requirement for this concentration will be two

years of one foreign language (16 hours) or one year of foreign language (10 hours) supplemented with 6 hours of language credits in the same language from studying abroad.

Code	Title	Credits
In addition to the INST core courses, students will complete at least 15 hours of 3000-4000 level coursework from the following choices and/or other courses deemed appropriate:		
ECON/GEOG 3130	ECONOMIC GEOGRAPHY	3
ECON 4610	INTERNATIONAL TRADE	3
ECON 4620	INTERNATIONAL MONETARY THEORY	3
ECON 4660	INTERNATIONAL ECONOMIC DEVELOPMENT	3
GEOG 3930	POLITICAL GEOGRAPHY	3
HIST 4740	COMPARATIVE GENOCIDE	3
PSCI 3220	INTERNATIONAL ORGANIZATIONS	3
PSCI 3260	UNITED STATES FOREIGN POLICY	3
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION	3
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	3

## International Management and Business Leadership

This concentration is recommended for individuals interested in careers in the global business sector, in government, with international organizations and foundations, and international hotel management. Students choosing this concentration may take courses from the areas of International Finance, International Marketing, International Management, and International Economics, as well as related courses in Political Science, Geography, History, and Sociology. The foreign language requirement for this concentration is two years of one foreign language (16 hours) or one year of foreign language (10 hours) supplemented with 6 hours of language credits of the same language from studying abroad.

Students must add the following to their core courses:

Code	Title	Credits
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
and must complete at least 15 hours of 3000-4000 level business courses		15
<b>Total Credits</b>		<b>21</b>

## Bachelor of Arts International Studies - No Concentration

### Bachelor of Arts International Studies – No concentration

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
INST 2130	GLOBAL CHALLENGES	3
MATH 1220	COLLEGE ALGEBRA (*)	3
Foreign Language 1110		5
• ENGL 1150: Requires appropriate placement.		
• MATH 1220: Requires appropriate placement within last 2 years.		
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3

GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language 1120		5
• ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.		
<b>Credits</b>		<b>14</b>

#### Sophomore

##### Fall

PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) (*)	3
Foreign Language 2110		3
Natural/Physical Science w/lab		4
Humanities and Fine Arts with US Diversity		3
• ECON 2200: Requires MATH 1220 and ENGL 1150, both with grades of C- or better.		
<b>Credits</b>		<b>16</b>

##### Spring

ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) (*)	3
HIST 1000 or Minor/2nd Major Course#		3
Foreign Language 2120		3
Humanities and Fine Arts*		3
Natural/Physical Science^		3
• ECON 2220: Requires Math 1220 and ENGL 1150, each with a C- or better.		
# A&S College Requirement Option.		
*HFA course must come from 2nd discipline		
^ NPS must come from 2nd discipline		
<b>Credits</b>		<b>15</b>

#### Junior

##### Fall

INST 4140	TOPICS IN INTERNATNL STUDIES	3
International Studies 3000-4000 Elective*		3
HIST 1010 or Minor/2nd Major Course#		3
Additional Humanities/Fine Arts or Minor/2nd Major Course**		3
Elective		3
• International Studies electives are selected in coordination with an academic advisor.		
# A&S College Requirement Option.		
** A&S College Requirement Option. Additional Humanity/ Fine Arts must be from 3rd discipline.		
<b>Credits</b>		<b>15</b>

##### Spring

International Studies 3000-4000 Elective*		3
International Studies 3000-4000 Elective*		3
Additional Quantitative Literacy Course for A&S or Minor/2nd Major Course#		3
Additional Natural/Physical Science with Lab for A&S or Minor/2nd Major Course#		3-4
Elective		3
• International Studies electives are selected in coordination with an academic advisor.		

## # A&amp;S College Requirement Option.

<b>Credits</b>		<b>15-16</b>
<b>Senior</b>		
<b>Fall</b>		
International Studies 3000-4000 Elective*		3
ENGL 3050	WRITING FOR THE WORKPLACE	3
or ENGL 3980	or TECHNICAL WRITING ACROSS THE DISCIPLINES	
Elective**		3
Elective**		3
Elective**		3
<ul style="list-style-type: none"> <li>International Studies electives are selected in coordination with an academic advisor.</li> </ul>		

\*\* Students must have 27 upper level credits throughout the degree. Electives may need to be 3000/4000 level in order to reach this minimum.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
International Studies 3000-4000 Elective*		3
INST 4990	SENIOR E-PORTFOLIO	0
Elective		3
Elective		3
Elective		3
Elective		3
Elective		1
<ul style="list-style-type: none"> <li>International Studies electives are selected in coordination with an academic advisor.</li> </ul>		

<b>Credits</b>		<b>16</b>
<b>Total Credits</b>		<b>120-121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, or Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study.

**Area Studies****Freshman**

<b>Credits</b>		
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
INST 2130	GLOBAL CHALLENGES	3
MATH 1220	COLLEGE ALGEBRA (*)	3
Foreign Language 1110		5

- ENGL 1150: Requires appropriate placement

- MATH 1220: Requires appropriate placement within the last 2 years.

<b>Credits</b>		<b>14</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Foreign Language 1120		5
<ul style="list-style-type: none"> <li>ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.</li> </ul>		

<b>Credits</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) (*)	3
Foreign Language 2110		3
Natural/Physical Science w/lab		4
Humanities and Fine Arts with US Diversity		3
<ul style="list-style-type: none"> <li>ECON 2200: Requires MATH 1220 and ENGL 1150, both with grades of C- or better</li> </ul>		

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
Foreign Language 2120		3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) (*)	3
Humanities and Fine Arts*		3
HIST 1000 or Minor/2nd Major Course#		3
Natural/Physical Science**		3
<ul style="list-style-type: none"> <li>ECON 2220: Requires Math 1220 and ENGL 1150, both with grades of C- or better</li> <li>HFA course must come from 2nd discipline</li> </ul>		

## # A&amp;S College Requirement Option.

\*\* NPS must come from 2nd discipline

<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
INST 4140	TOPICS IN INTERNATNL STUDIES	3
International Studies 3000-4000 Elective*		3
HIST 1010 or Minor/2nd Major Course^		3
Additional Humanities/Fine Arts or Minor/2nd Major Course**		3
Foreign Language 3030***		3
<ul style="list-style-type: none"> <li>International Studies electives are selected in coordination with an academic advisor.</li> </ul>		

## ^ A&amp;S College Requirement Option.

\*\* A&S College Requirement Option. Additional Humanity/ Fine Arts must be from 3rd discipline.

\*\*\* Students may choose to complete 4 semesters of two foreign languages or 6 semesters of one foreign language

<b>Credits</b>		<b>15</b>
----------------	--	-----------

**Spring**

International Studies 3000-4000 Elective*	3
International Studies 3000-4000 Elective*	3
Foreign Language 3040**	3
Additional Quantitative Literacy Course for A&S or Minor/2nd Major Course***	3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course***	3-4

\*International Studies electives are selected in coordination with an academic advisor.

\*\*Students may choose to complete 4 semesters of two foreign languages or 6 semesters of one foreign language

\*\*\* A&S College Requirement Option.

**Credits 15-16**

**Senior****Fall**

ENGL 3050 or ENGL 3980	WRITING FOR THE WORKPLACE (#) or TECHNICAL WRITING ACROSS THE DISCIPLINES	3
International Studies 3000-4000 Elective*		3
Elective**		3
Elective**		3
Elective**		3

\*International Studies electives are selected in coordination with an academic advisor.

\*\* Students must have a minimum of 120 credits with at least 27 upper level credits throughout the degree. Electives may need to be 3000/4000 level in order to reach this minimum.

# ENGL 3050: Requires ENGL 1160 with grade of C- or better

# ENGL 3980: Requires ENGL 1160 with grade of C- or better

**Credits 15**

**Spring**

INST 4990	SENIOR E-PORTFOLIO	0
International Studies 3000-4000 Elective*		3
Elective		3
Elective		3
Elective		3
Elective		3
Elective		1

• International Studies electives are selected in coordination with an academic advisor.

**Credits 16**

**Total Credits 120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, or Foreign Language, a placement exam may be required. More information on these exams can be found

at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study.

**Global Strategic Studies****Freshman**

		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
INST 2130	GLOBAL CHALLENGES	3
MATH 1220	COLLEGE ALGEBRA (*)	3
Foreign Language 1110		5

• ENGL 1150: Requires appropriate placement.

• MATH 1220: Requires appropriate placement within last 2 years.

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II (*)	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language 1120		5

• ENGL 1160: Requires ENGL 1150 with grade of C- or better or placement.

**Credits 14**

**Sophomore****Fall**

PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) (*)	3
Foreign Language 2110		3
Natural/Physical Science with Lab		4
Humanities and Fine Arts with US Diversity		3

• ECON 2200: Requires MATH 1220 and ENGL 1150, both with grades of C- or better

**Credits 16**

**Spring**

Foreign Language 2120		3
Humanities and Fine Arts course*		3
Natural/Physical Science**		3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) (^)	3
HIST 1000 or Minor/2nd Major Course#		3

• HFA course must come from 2nd discipline

\*\* NPS must come from 2nd discipline

^ ECON 2220: Requires Math 1220 and ENGL 1150, each with a grade of C- or better.

# A&S College Requirement Option.

**Credits 15**

**Junior****Fall**

INST 4140	TOPICS IN INTERNATNL STUDIES	3
Global Strategic Studies 3000-4000 Elective*		3

Additional Humanities/Fine Arts course for A&S or Minor/2nd Major Course**	3
HIST 1010 or Minor/2nd Major Course#	3
Elective	3

- Global Strategic Studies electives are selected in coordination with an academic advisor.

\*\* A&S College Requirement Option. Additional Humanity/  
Fine Arts must be from 3rd discipline.

# A&S College Requirement Option.

**Credits 15**

### Spring

Global Strategic Studies 3000-4000 Elective*	3
Global Strategic Studies 3000-4000 Elective*	3
Additional Quantitative Literacy Course for A&S or Minor/2nd Major Course**	3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course**	3-4
Elective	3

- Global Strategic Studies electives are selected in coordination with an academic advisor.

\*\* A&S College Requirement Option

**Credits 15-16**

### Senior

<b>Fall</b>	
Global Strategic Studies 3000-4000 Elective*	3
ENGL 3050 WRITING FOR THE WORKPLACE (^) or ENGL 3980 or TECHNICAL WRITING ACROSS THE DISCIPLINES	3
Elective**	3
Elective**	3
Elective	3

- Global Strategic Studies electives are selected in coordination with an academic advisor.

\*\* Students must have 120 total credits with a minimum of 27 upper level credits throughout the degree. Electives may need to be 3000/4000 level in order to reach this minimum.

^ ENGL 3050: Requires ENGL 1160 with grade of C- or better

^ ENGL 3980: Requires ENGL 1160 with grade of C- or better

**Credits 15**

### Spring

Global Strategic Studies 3000-4000 Elective*	3
INST 4990 SENIOR E-PORTFOLIO	0
Elective	3
Elective	3
Elective	3
Elective	3
Elective	1

\*Global Strategic Studies electives are selected in coordination with an academic advisor.

**Credits 16**

**Total Credits 120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, or Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study.

**GPA Requirements: 2.0**

## International Management and Business Leadership

### Freshman

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I (^)	3
INST 2130	GLOBAL CHALLENGES	3
MATH 1220	COLLEGE ALGEBRA (**)	3
Foreign Language 1110		5
*ENGL 1150: Requires appropriate placement		
**MATH 1220: Requires appropriate placement within the last 2 years.		

**Credits 14**

### Spring

ENGL 1160	ENGLISH COMPOSITION II (^)	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS (^)	4
Foreign Language 1120		5
^ENGL 1160: Requires ENGL 1150 with grade of C- or better or appropriate placement.		

\*Students need either MATH 1370 or 1930 as one of the pre-reqs for ACCT 2010. MATH 1370 requires MATH 1220 with a grade of C- or better within the last 2 years while MATH 1930 requires Math 1320 with a grade of C- or better within the last 2 years. In both cases, placement via the ACT, SAT or Math Placement Exam within the last 2 years is also acceptable.

**Credits 15**

### Sophomore

<b>Fall</b>		
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) (^)	3
CMST 1110 PUBLIC SPEAKING FUNDS or CMST 2120 or ARGUMENTATION AND DEBATE		3
Foreign Language 2110		3
Natural/Physical Science w/lab		4
*ECON 2200: Requires MATH 1220 and ENGL 1150, both with a grade of C- or better		

**Credits 16**

### Spring

Foreign Language 2120		3
Humanities and Fine Arts with US Diversity**		3

Natural/Physical Science*	3
ECON 2220 PRINCIPLES OF ECONOMICS (MACRO) (^)	3
Humanities & Fine Arts Course**	3
*NPS must come from 2nd discipline	
**HFA course must come from 2nd discipline	
^ECON 2220: Requires Math 1220 and ENGL 1150, both with grades of C- or better	

**Credits 15**

#### Junior

<b>Fall</b>	
INST 4140 TOPICS IN INTERNATNL STUDIES	3
International Studies IMBL 3000-4000 Elective*	3
ACCT 2010 PRINCIPLES OF ACCOUNTING I (^)	3
HIST 1000 or Minor/2nd Major Course#	3
Additional Humanities & Fine Arts course for A&S or Minor/2nd Major Course**	3

\*International Studies IMBL electives are selected in coordination with an academic advisor.

^ACCT 2010: Requires ENGL 1150 with a C or better, a GPA of 2.5 or higher, and MATH 1370 or MATH 1930 with a C or better or concurrent enrollment in MATH 1370 or MATH 1930

#A&S College Requirement Option

\*\*A&S College Requirement Option. Additional Humanity/ Fine Arts must be from 3rd discipline.

**Credits 15**

#### Spring

International Studies IMBL 3000-4000 Elective*	3
International Studies IMBL 3000-4000 Elective*	3
HIST 1010 or Minor/2nd Major Course**	3
ACCT 2020 PRINCIPLES OF ACCOUNTING II (^)	3
Elective	3

\*International Studies IMBL electives are selected in coordination with an academic advisor.

\*\*A&S College Requirement Option

^ACCT 2020: Requires ACCT 2010, ENGL 1150, and MATH 1370 or MATH 1930, each with a C or better, and a GPA of 2.5 or higher.

**Credits 15**

#### Senior

<b>Fall</b>	
International Studies IMBL 3000-4000 Elective*	3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course^	3-4
ENGL 3050 WRITING FOR THE WORKPLACE (#)	3
or ENGL 3980 or TECHNICAL WRITING ACROSS THE DISCIPLINES	
Elective**	3
Elective**	3

\*International Studies electives are selected in coordination with an academic advisor.

^A&S College Requirement Option

#ENGL 3050: Requires ENGL 1160 with grade of C- or better

#ENGL 3980: Requires ENGL 1160 with grade of C- or better

\*\*Students must have a minimum of 120 total credits, of which 27 must be upper level credits throughout the degree. Electives may need to be 3000/4000 level in order to reach this minimum.

**Credits 15-16**

#### Spring

International Studies IMBL 3000-4000 Elective*	3
INST 4990 SENIOR E-PORTFOLIO	0
Elective	3
Elective	3
Elective	3
Elective	3

\*International Studies IMBL electives are selected in coordination with an academic advisor.

**Credits 15**

**Total Credits 120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, or Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study.

**GPA Requirements: 2.0**

## International Studies Minor

The international studies minor will open up a world of opportunities. Research confirms that employers today look for people who understand diversity, can connect multidisciplinary perspectives, and think critically to create transnational solutions to complex problems. The international studies minor demonstrates that you are ready for work at a 21st century organization.

### Requirements

Code	Title	Credits
<b>Required Course</b>		
INST 2130	GLOBAL CHALLENGES	3

#### Additional Courses

Select an additional 15 credits of approved coursework—12 credits of which must be at the 3000-4000 level from at least two different disciplines. Several approved courses are listed below, and students may speak with an International Studies advisor to inquire about additional courses that may apply to the minor:

CMST 2010	INTERPERSONAL COMMUNICATION
CMST 4510	PERSUASION AND SOCIAL INFLUENCE

CMST 4530	INTERCULTURAL COMMUNICATION-US	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
ECON/GEOG 3130	ECONOMIC GEOGRAPHY	
ECON 4610	INTERNATIONAL TRADE	
ECON 4660	INTERNATIONAL ECONOMIC DEVELOPMENT	
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	
GEOG 3930	POLITICAL GEOGRAPHY	
HIST 4740	COMPARATIVE GENOCIDE	
ISQA 3420	MANAGING IN A DIGITAL WORLD	
MKT 3380	INTERNATIONAL MARKETING	
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	
PSCI 3220	INTERNATIONAL ORGANIZATIONS	
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
<b>Total Credits</b>		<b>18</b>

## Islamic Studies Minor

The Islamic Studies Program is an interdisciplinary program that is focused on Islam and Muslim societies across the globe.

The Islamic Studies Program has the following three objectives:

1. Equip undergraduate students with knowledge on Muslim states and societies through its minor program. To this end, the program continuously increases the number of courses at UNO about Islam and Muslims.
2. Develop research projects to better understand historical, cultural and political factors that explain the challenging issues in the Muslim world.
3. Organize events to disseminate knowledge regarding the Muslim world to the broader metropolitan community of Omaha and beyond.

Given the importance of Islam in world politics and the global economy, our minor program is beneficial for those students who plan to pursue a career in business, education, history, anthropology, international studies, religious studies, communication, political science, social work, public administration, art and art history, medicine, criminal justice, sociology and other fields.

### Other Information

All coursework taken for the Islamic Studies minor must be completed with a grade of "C" or better.

### Contact

Ramazan Kilinc, Director of Islamic Studies Program  
275 ASH  
rkilinc@unomaha.edu  
402.554.2683

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/islamic-studies/>)

### Requirements

A minor in Islamic Studies requires a total of eighteen (18) hours with a minimum of 12 hours at 3000 level or above.

The Islamic Studies minor requires:

Code	Title	Credits
<b>Required Courses</b>		
HIST/RELI/SOC 2190	THE MODERN MIDDLE EAST	3
RELI 3200	ISLAM AND MUSLIMS	3
Select one of the following:		3
PSCI 3700	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	
PSCI 4210	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 4620	ISLAM AND POLITICS	
<b>Electives</b>		
Select nine credits from the following list of approved Islamic Studies electives:		9
RELI 3500	SPECIAL TOPICS IN RELIGION <sup>1</sup>	
RELI 4400	WOMEN IN ISLAM	
RELI 4420	MUSLIMS IN AMERICA	
HIST 4730	ISRAEL AND PALESTINE	
HIST 4800	U.S. AND THE MIDDLE EAST	
PSCI 3700	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	
PSCI 4210	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 4620	ISLAM AND POLITICS	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> Note: RELI 3500 when taught as an Islamic Studies topic.

Other courses may be acceptable toward the Islamic Studies minor, as approved by the Islamic Studies director.

## Latino/Latin American Studies (LLS)

### Mission

LLS is an interdisciplinary program that seeks to combine academic excellence with real-world engagement in order to enhance our understanding of Latino and Latin American peoples and critical issues.

### Organization's Primary Goals, Major Programs or Services

LLS' main goals are to: 1) develop policy-oriented and community-relevant research, 2) create learning opportunities for students and communities beyond the classroom and across borders and 3) establish strategic and egalitarian community partnerships to strengthen our capacity to address local and global concerns. In accomplishing these goals, we seek to assist Nebraska and the Great Plains region, as well as the growing Latino population, in reaching a shared prosperous present and future in a context of cultural understanding, respect of differences, and promotion of human rights.

### The Latino/Latin American Studies Program

Prepares undergraduate students for a wide variety of career options. A major in Latino/Latin American Studies (LLS) or a minor in Chicano/Latino Studies (CLS) may be particularly useful to those students planning a career in public service, non-profits, education, law, health, counseling, and business. LLS offers student research, study abroad and internship opportunities which help prepare them for their chosen careers and graduate school. In sum, the program offers what we like to call "the LLS Job Credential":

LLS offers what 21st century employers want and what the world needs:

- Individuals who are knowledgeable about local Latino cultures and issues while understanding the global contexts which influence them today.
- Professionals with increased proficiency in languages as well as excellent writing and critical thinking skills.
- Problem-solvers, team players and ethical professionals ready to meet the challenges of the dynamic changes taking place in the 21st century here and abroad.
- Individuals ready to continue their learning process beyond a bachelor's degree

## Other Information

All coursework taken for the LLS major or CLS minor must be completed with a grade of "C-" or better.

## The Senior Capstone

In the spring of their senior year, students must complete the Senior Capstone. This capstone has two components. On the one hand, students need to complete an e-Portfolio. In this e-Portfolio, students will gather documents and "artifacts" that are representative of their learning process as LLS majors. Students must also write prompted reflections regarding these documents and "artifacts." On the other hand, students need to complete an internship in a relevant community organization, as research assistant for an OLLAS faculty member, or in any of the areas of the OLLAS office; research, community engagement, or communications.

## Contact

Office of Latino/Latin American Studies (OLLAS)  
102 ASH  
402.554.3835

## Email

unoollas@unomaha.edu

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/ollas/>)

## Degrees Offered

- Latino/Latin American Studies, Bachelor of Arts (p. 214)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the LLS major, this is LLS 4990. Three hours are earned through the completion of a senior capstone project that also fulfills the departmental writing course requirement (three hours).

## Minors Offered

- Chicano/Latino Studies Minor (p. 217)

LLS is an interdisciplinary program that seeks to combine academic excellence with real-world engagement in order to enhance our understanding of Latino and Latin American peoples and critical issues. Our major uses an interdisciplinary approach to prepare our students for multiple careers that require a cultural, historical, social, and political grounded knowledge of Latinos in the United States and the Latin American region. In an ever-changing world, our program prepares critical thinkers, researchers, and practitioners, ready to engage with the fastest growing minority in the United States and with a world region of historical relevance to the nation.

Our majors are well prepared to continue graduate and professional programs in the social sciences and the humanities, including sociology, political sciences, history, public health, social work, and law among others. In addition, when chosen as a complementary major, we provide an excellent set of tools to those pursuing careers in education, the arts, local and international business, diplomacy, medical sciences, technology

design, and government to name a few. Some of our graduates are currently working in

- community-based non-profit organizations
- large private foundations
- schools
- law offices
- local government
- and hospitals.

### LLS 1000 LATIN AMERICA: AN INTRODUCTION (3 credits)

The course introduces the students to the study of Latin America. Its main focus is on contemporary Latin American societies and regional dynamics, but historical forces and the impact of globalization are continuously evaluated. Students will learn about the region's dominant forces and trends associated with development policies, political regimes, population changes, urbanization, and a whole host of social problems, challenges and perspectives. Topics for readings, discussions and assignments include social inequality, gender, race, violence, the environment, food, health, education, social media, religion, emigration and international relations. Students will have opportunities to explore in more depth specific topics as well.

**Distribution:** Social Science General Education course and Global Diversity General Education course

### LLS 1010 INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES (3 credits)

The course introduces the students to key social, political, economic, and cultural issues related to the Latino experience in the U.S., and it utilizes conceptual, analytical, and methodological tools from the social sciences in order to promote their understanding.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

### LLS 1020 INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES (3 credits)

The course introduces students to intellectual, artistic, literary, musical, and other cultural traditions and contributions of Chicanos Latinos in the U.S. and in their historical crossing of real and imaginary borders. The unique contributions of different racial, ethnic, gender, and other social groups within the Latino population are discussed.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

### LLS 2800 SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES (3 credits)

An interdisciplinary topical approach that explores various aspects of Latino/Latin American Studies. Selected topics will be suitable for examination from an inter- and multidisciplinary humanities perspective (literature, visual and performance arts, music, religion, history, philosophy). Topics and disciplines will vary from term to term. Course description will be announced in advance. Repeatable up to six credits if content differs.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

### LLS 2900 SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES (3 credits)

The course introduces students to in-depth examinations of novel topics related to Latin American societies, U.S. Latinos and migrants. The courses draw from varying combinations of social sciences (sociology, anthropology, political science, psychology, law, economics and international studies). Topics vary from term to term and examples include: Immigration Laws and Latinos across the Americas, Violence and human security in Central America. Repeatable up to nine credits if content differs

**Distribution:** Global Diversity General Education course and Social Science General Education course

**LLS 3050 LATIN AMERICA IN CONTEXT: HEALTH, BUSINESS, ENVIRONMENT, AND SOCIETY THROUGH ORAL PRACTICE (3 credits)**

This course focuses on the development and intensive practice of oral expression in Spanish, and is intended for students interested in the fields of business, health, education, environmental sciences, social work, and cultural studies, who are either heritage speakers of Spanish or who are completing a major/minor in Spanish. The class provides a broad context of current relevant issues in Latin America, including politics and society; the state of the economy after decades of neoliberalism; racism; indigenous and Afro-descendent identities; domestic and gender violence; health and disabilities; adult, youth, & child immigration; and ecology and the environment. (Cross-listed with SPAN 3050).

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or SPAN 3030 & SPAN 3040

**LLS 3140 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 8145, PSCI 3140, LLS 8145)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**LLS 3420 LATIN AMERICAN CIVILIZATION (3 credits)**

What do we know about Latin American culture, geography, politics and languages? How has Latin America been imagined from the United States? Does it make sense to think of Latin America as one space brought together by a similar history or is it better to imagine it as twenty particular countries with intersecting pasts and futures? This course will attempt to answer these questions by introducing you to a number of key topics and debates common to contemporary Latin American culture, including issues such as democracy, class, race/ethnicity, gender/sexuality, religion, family and globalization. (Cross-listed with SPAN 3420).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060.

**LLS 3680 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with LLS 8685, PSCI 3680, PSCI 8685)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**LLS 3800 TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES (3 credits)**

An interdisciplinary topical approach that explores various aspects of Latino/Latin American humanistic expressions. Selected topics will be suitable for examination from an inter and multidisciplinary humanities perspective (literature, visual and performing arts, history, music, religion, and philosophy). Topics and disciplines will vary from term to term. Repeatable up to six credits if content differs.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor

**LLS 3900 TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES (3 credits)**

A discussion-led course on current and evolving issues and questions related to Latin American societies, U.S. Latinos, and migrants. The courses draw from varying combinations of social sciences (sociology, anthropology, political science, psychology, law, economics, and international studies). Topics fall within the social sciences and vary from term to term and examples include Immigration Laws and Latinos across the Americas, Violence and human security in Central America, among others. The course may also include service-learning assignments when appropriate.

**Prerequisite(s)/Corequisite(s):** A social science course.

**LLS 4140 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 8146, SPAN 4140).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060

**LLS 4170 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 8176, SPAN 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040; or SPAN 3010, SPAN 3020; SPAN 3060.

**LLS 4240 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 8246, SOC 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4250 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 4250, SOC 8256, LLS 8256).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4280 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with LLS 8286, PSCI 4280, PSCI 8286)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4780 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 4780, SOC 8786, LLS 8786).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor

**Distribution:** Global Diversity General Education course

**LLS 4900 INDEPENDENT STUDY (3 credits)**

This course is designed for those students who are capable of pursuing, independently, an area of Latino/Latin American Studies that is not covered under the existing curriculum. The student will be supervised by a member of the faculty of the LLS department. All course assignments, requirements, and expectations will be clearly indicated in advance. May be repeated for credit, up to six hours, under a different topic.

**Prerequisite(s)/Corequisite(s):** Permission of LLS faculty member required.

**LLS 4910 CONTEMPORARY TOPICS IN LLS: SOCIAL SCIENCES (3 credits)**

This is a discussion-led course on current and evolving issues and questions pertaining to the Latino and Latin American immigrant population in the United States and its transnational ties to Latin America and the Caribbean. Topics fall within the social sciences. The course may also include service-learning assignments when appropriate. (Cross-listed with LLS 8916.)

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above and/or permission of the instructor.

**LLS 4920 CONTEMPORARY TOPICS IN LLS:HUMANITIES (3 credits)**

This course is an interdisciplinary topical approach that explores various aspects of Latino/Latin American Studies. Selected topics will be suitable for examination from the perspective of the humanities (literature, art, dance, music, theatre, and philosophy topics). Topics and disciplines will vary from term to term. Course description will be announced in advance. Repeatable up to nine credits if content differs. (Cross-listed with LLS 8926.)

**Prerequisite(s)/Corequisite(s):** One humanities and one LLS course and junior standing or permission of the instructor.

**LLS 4950 LATIN AMERICAN STUDY ABROAD (1-3 credits)**

This course is designed as an international study abroad course that will introduce undergraduate and graduate students to the dynamism of socio-cultural, economic and political changes taking place across Latin America. Note: International travel and special fees required. (Cross-listed with LLS 8956)

**Prerequisite(s)/Corequisite(s):** Senior standing or Junior standing with permission of the department. LLS 1000 or LLS 1010 or equivalent and departmental permission.

**LLS 4990 LATINO/LATIN AMERICAN STUDIES CAPSTONE (3 credits)**

This is the final course in the LLS major. As such it is a writing-intensive course for students majoring in Latino/Latin American Studies. The purpose of this course is to allow students to integrate their course experiences into an activity that reflects the cumulative knowledge gained from their class instruction. Students will have to complete three activities: 1. Develop an e-portfolio. 2. Participate in an internship 3. Write a report and prepare a poster presentation in direct relation to the internship.

**Prerequisite(s)/Corequisite(s):** Senior standing (or students in junior standing with permission of the instructor) and LLS 1000, LLS 1010 or 1020, and a research methods course approved for LLS credit, and ENGL 1160 or equivalent. Not open to non-degree graduate students.

## Latino/Latin American Studies, Bachelor of Arts

### Requirements

The major in Latino/Latin American Studies (LLS) prepares students with a comprehensive understanding of Latino and Latin American critical issues, peoples, societies and cultures. Students learn about critical issues such as: urban segregation; education; health and socioeconomic disparities; environmental justice; political mobilization; human rights; migration; language shifts; and cultural creations. Employers and post-graduate programs today seek to recruit students with the kind of integral knowledge an LLS degree provides. Students can easily double major in Spanish, social sciences, humanities, natural sciences and more.

Although the Office of Latino/Latin American Studies (OLLAS) does not yet offer a graduate degree, it does offer a number of graduate courses. Students pursuing graduate programs in other colleges and departments are encouraged to concentrate on Latinos or Latin America and take advantage of Latino/Latin American Studies course offerings.

To obtain a B.A. with a major in LLS, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

*(Testing out of academic skills requirements and enrolling in major courses that satisfy distribution requirements are likely to reduce the total number of General Education hours to 40 or fewer.)*

46 hours of University General Education courses

16 hours of foreign languages

12 hours college breadth requirement

48 hours of major courses

Elective hours as required to total 120 hours

**TOTAL HOURS: 120**

The major requires a total of 30 credit hours. Not included in the 30 credit hours: at least 16 credit hours of Spanish or Portuguese (also fulfill Arts & Sciences language requirement). Students whose primary major is in a college other than Arts & Sciences must complete at least two semesters in Spanish or Portuguese. \*\*Native/heritage speakers of Spanish may be exempt from this requirement. Such students should contact the Foreign Languages & Literature Department for correct placement to determine if additional coursework is necessary.

Residency requirement: No student may transfer into the major more than 9 credits. Students must complete at least 21 of the 30 credit hours at UNO.

Code	Title	Credits
<b>Courses Required for Major (Core Curriculum)</b>		
LLS 1000	LATIN AMERICA: AN INTRODUCTION	3

LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
or LLS 1020	INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES	
Select one research methods or statistics course approved by the OLLAS director/academic advisor. Approved courses include, but are not limited to:		3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
CRCJ 2510	RESEARCH METHODS	
CRCJ/SOWK/PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	
ECON 3300	INTRODUCTION TO ECONOMETRICS	
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	
PHHB 4050	INTRODUCTION TO RESEARCH IN PUBLIC HEALTH	
HIST 2980	HISTORICAL METHODOLOGY	
SOC 2130	SOCIAL STATISTICS	
SOC 3510	RESEARCH METHODS	
PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOWK 4400	RESEARCH METHODS IN SOCIAL WORK PRACTICE	
<b>Senior Project</b>		
LLS 4990	LATINO/LATIN AMERICAN STUDIES CAPSTONE	3
<b>Electives</b>		
Select 18 hours of LLS-approved elective courses (see below).		18
<b>Total Credits</b>		<b>30</b>

### Electives

An additional 18 hours of LLS-approved elective courses, from the list below. A maximum of 9 of the 18 elective hours may be taken from a single department. At least 18 of the 30 credit hours must be taken at the 3000 or 4000 level.

See approved courses for Latin/Latin American Studies below. For Special Topics courses, since the topics may change often, not all titles may be listed below. In general, a Special Topics course relating to Latinos or Latin America may be accepted toward LLS electives if approved by the OLLAS Director.

Code	Title	Credits
<b>Latino/Latin American Studies Electives</b>		
LLS 2800	SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES	3
LLS 2900	SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES	3
LLS/PSCI 3140	LATINO/-A POLITICS	3
LLS/PSCI 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	3
LLS 3800	TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES	3
LLS 3900	TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES	3
LLS/SPAN 4140	INTRODUCTION TO LATIN AMERICAN FILM	3
LLS/SPAN 4170	INTRODUCTION TO LATIN AMERICAN LITERATURES	3
LLS/SPAN 4230	SPECIAL EXPLORATIONS IN LATIN AMERICAN LITERATURE	3

LLS/PSCI 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	3
LLS/SOC 4780	URBAN LATIN AMERICA	3
LLS 4900	INDEPENDENT STUDY	3
LLS 4910	CONTEMPORARY TOPICS IN LLS: SOCIAL SCIENCES	3
LLS 4920	CONTEMPORARY TOPICS IN LLS:HUMANITIES	3
LLS 4950	LATIN AMERICAN STUDY ABROAD	1-3
<b>Art &amp; Art History</b>		
ART 1040	CROSS-CULTURAL SURVEY OF ART	3
<b>English</b>		
ENGL 2000	TOPICS IN LANGUAGE AND LITERATURE	3
ENGL 2230	ETHNIC LITERATURE	3
ENGL 2490	LATINO/A LITERATURE	3
ENGL 3300	JUNIOR TOPICS IN AMERICAN LITERATURE (Chicano/a Short Fiction)	3
ENGL 4160	TOPICS IN AMERICAN REGIONALISM (Southwest Literature)	3
ENGL 4240	TEACHING LATINO LITERATURE	3
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE (New World Conquest Literature, Contact and Conquest Narratives of the Americas 1400s-1650s)	3
<b>Geography</b>		
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	3
<b>Goodrich</b>		
GDRH 3010	SPECIAL TOPICS SEMINAR (Study Abroad to Costa Rica or when topic is related to Latinos or Latin America and under approval of the OLLAS Director)	1-3
<b>Health Education</b>		
PHHB 3000	SPECIAL PROJECTS (When topic is related to Latinos or Latin America and under approval of the OLLAS Director)	
<b>History</b>		
HIST 2480	HISTORY OF LATIN AMERICA: PRECONQUEST TO THE PRESENT	3
HIST 4460	AMERICAN IMMIGRATION HISTORY	3
HIST 4910	TOPICS IN HISTORY <sup>1</sup>	3
<b>Political Science</b>		
PSCI/LLS 3140	LATINO/-A POLITICS	3
PSCI/LLS 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	3
PSCI/LLS 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	3
<b>Religion</b>		
RELI 3500	SPECIAL TOPICS IN RELIGION (Roots of Cuban Spirituality)	3
<b>Sociology</b>		
SOC 2800	MAJOR SOCIAL ISSUES (When taught by OLLAS approved faculty member.) <sup>2</sup>	3
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	3
SOC 4250	CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS	3
SOC 4240	SOCIAL TRANSFORMATIONS IN LATIN AMERICA	3
SOC/LLS 4780	URBAN LATIN AMERICA	3

SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY <sup>3</sup>	3
<b>Social Work</b>		
SOWK 4890	SPECIAL STUDIES IN SOCIAL WORK (Nicaragua or when topics relate to Latinos or Latin America and are approved by OLLAS Director)	1-4
<b>Spanish</b>		
SPAN 3420	LATIN AMERICAN CIVILIZATION	3
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS	3
SPAN/LLS 4140	INTRODUCTION TO LATIN AMERICAN FILM	3
SPAN/LLS 4170	INTRODUCTION TO LATIN AMERICAN LITERATURES	3
SPAN/LLS 4230	SPECIAL EXPLORATIONS IN LATIN AMERICAN LITERATURE	3
SPAN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM <sup>4</sup>	3
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY <sup>5</sup>	3
SPAN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (Public Health + Spanish in Nicaragua; Spanish Sociolinguistics)	3
<b>Teacher Education</b>		
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY (When taught by OLLAS approved faculty member.)	3
<b>Women's &amp; Gender Studies</b>		
WGST 4050	SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (Latinos & Gender or when topic relates to Latinos or Latin America and under approval from OLLAS Director)	3

- <sup>1</sup> HIST 4910 - Topics to include:
- Argentina, Brazil, Chile
  - History of Brazil
  - Latina/Latin American Women
  - Modern History of Chile
  - Modern Mexico
  - Spanish Speaking Caribbean
  - Democratization in Latin America

- <sup>2</sup> SOC 2800 - Topics to include:
- Women of Color
  - Cultural Groups and Equality
  - Immigration, Gender & Employment

- <sup>3</sup> SOC 4800 - Topics to include:
- Immigration, Race & Globalization
  - Latino Migration and Integration
  - Urban Latin America
  - Migration, Development, Citizenship
  - Latinos & Gender

- <sup>4</sup> SPAN 4950 - Topics to include:
- Latin American Children and Youth Literature
  - Afro-Hispanic Literature in Reading and Conversation
  - Viva nos queremos: Gender, domestic and Social Violence in Contemporary Latin American Film & Literature

- <sup>5</sup> SPAN 4960 - Topics to include:
- Central American & Caribbean Lit. & Culture
  - Latin American Indigenous Contemporary Lit.
  - Human Rights Literature in Latin America
  - El Bilingüismo
  - Introduction to Sociolinguistics
  - Latin American Theater through Performance
  - Latin American Film & Society
  - 20th Century Mexican Society
  - Hispanic Bilingualism

**Freshman**

Fall		Credits
Quantitative Literacy Gen Ed*		3
SPAN 1110	ELEMENTARY SPANISH I <sup>1</sup>	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
LLS 1000	LATIN AMERICA: AN INTRODUCTION	3

\*ENGL 1150: Appropriate English placement required.

**Various Quantitative Literacy options exist.** MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores. A research methods or statistics course will be needed later on, and a common pre-req to statistics courses is Math 1120, 1130 or 1220.

Credits		14
<b>Spring</b>		
Foreign Language Course II <sup>1</sup>		5
Natural/Physical Science Gen Ed with Lab		4
ENGL 1160	ENGLISH COMPOSITION II	3
LLS 1010 or LLS 1020	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES or INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES	3
Credits		15

**Sophomore**

Fall		
Foreign Language Course III <sup>1</sup>		3
Social Science Gen Ed or Humanities/Fine Arts Gen Ed*		3
Humanities & Fine Arts*		3
Natural and Physical Science*		3
HIST 1000 or Minor/2nd Major Course**		3
*If you chose LLS 1010, take a Humanities Gen Ed. If you chose LLS 1020, take a Social Sciences Gen Ed.		
**A&S College Requirement Options.		
*HFA must come from 2nd discipline.		
*NPS course must come from 2nd discipline.		
Credits		15

**Spring**

Foreign Language Course IV <sup>1</sup>		3
Additional HFA for A&S or Minor/2nd Major Course*		3
HIST 1010 or Minor/2nd Major Course**		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Elective		3
• A&S College Requirement Options. HFA course must come from 3rd discipline.		

\*\*A&S College Requirement Options.

Credits	15
---------	----

**Junior****Fall**

Approved Research Methods or Statistics Course*	3
Additional Social Science for A&S or Minor/2nd Major Course**	3
Additional Quantitative Literacy for A&S or Course towards Minor/2nd Major***	3
LLS Approved Elective at 3000-4000 Level#	3
Elective	3

- Pre-reqs vary for approved research methods or statistics courses.

- A&S College Requirement Options. SS must come from 3rd discipline

\*\*\* The A&S QL Requirement can be fulfilled with various options, one of which is any statistics course. If the major requires a research methods or statistics course, by taking statistics, the A&S QL requirement will also be satisfied.

- No more than 9 credit hours of LLS Approved Electives may come from a single department.

**Credits** **15**

**Spring**

Elective	3
LLS Approved Elective at 3000-4000 Level*	3
LLS Approved Elective at 3000-4000 Level*	3
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major**	3-4
Elective	3

\*\*A&S College Requirement Options

- No more than 9 credit hours of LLS Approved Electives may come from a single department.

**Credits** **15-16**

**Senior****Fall**

LLS Approved Elective at 3000-4000 Level*	3
LLS Approved Elective at 3000-4000 Level*	3
Elective or Minor/2nd Major Course	3
Elective or Minor/2nd Major Course	3
Elective	3

- No more than 9 credit hours of LLS Approved Electives may come from a single department.

**Credits** **15**

**Spring**

LLS Approved Elective at 3000-4000 Level*	3
LLS 4990 LATINO/LATIN AMERICAN STUDIES CAPSTONE	3
Elective** or Minor/2nd Major Course	3
Elective**	3
Elective**	3
Elective	0-1

- No more than 9 credit hours of LLS Approved Electives may come from a single department.

- LLS 4990: Requires Senior standing, LLS 100, LLS 1010 or 1020, approved Research Methods or Statistics course, and ENGL 1160.

\*Students need 27 upper level credits throughout the degree. Electives may need to be selected at the 3000-4000 level to reach this minimum.

120 credits minimally needed for a degree. Take as many electives as is needed to reach this minimum.

**Credits** **15-16**

**Total Credits** **119-121**

<sup>1</sup> LLS requires 16 hours of Spanish or Portuguese language coursework. UNO does not offer Portuguese, but does offer Spanish. A student beginning with level 1 would take SPAN 1110 (which also counts as a Humanity/Fine Arts course), SPAN 1120, SPAN 2110 and 2120. A student who has taken up through Level IV Spanish in high school would be exempt from taking Spanish at UNO but would not earn any credit. The student could take the Foreign Language Placement Exam and try to test into level SPAN 2120 or even 3000. By taking one 3-credit 3000 level Spanish course or SPAN 2120, and passing it with a C- or better, the non-native Spanish speaker would be able to request 13-16 free retroactive credits for the Spanish courses they passed over. Those credits and courses would fill the gap of credits and earn them a Humanity/Fine Arts course. On a similar note, a native Spanish or Portuguese speaking student would be exempt from this requirement completely but would not earn any college credit toward their degree. The native Spanish speaker could gain permission to take SPAN 3010-Spanish for Heritage Speakers for 3 credits and after passing it, receive 16 free retroactive credits toward their degree. A student who fulfills the language requirement by virtue of native Spanish or Portuguese language speaking abilities, or Spanish/Portuguese through high school up through level IV and who chooses not to attempt SPAN 2120, a 3000-level Spanish or SPAN 3010 (for native Spanish speakers) at UNO will need to fill the 16 credit gap in their degree plan which will be as a result of not taking the FLNG courses planned in this 4-year plan. The student will need to include an additional Humanities/Fine Arts Gen Ed course within those 16 credits. Please consult with your advisor to discuss your options.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Chicano/Latino Studies Minor Requirements

The OLLAS minor is the “perfect” complement to a wide variety of majors across campus where the work of the discipline intersects with the growing presence and importance of Latinos (Mexicanos, Chicanos, Central Americans, and South Americans) here in the U.S. and our local communities. These include Business and Finance, Social Work, Criminal

Justice, Journalism, Education, Fine Arts, Spanish, Sociology, History and Political Science to name a few. CLS focuses primarily on U.S. Mexican and Latino communities.

Residency requirement: No student may transfer into the minor more than 6 credits. Students must complete at least 12 of the 18 credit hours at UNO.

A total of 18 credit hours to include:

Code	Title	Credits
<b>Required Course</b>		
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
or LLS 1020	INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES	
<b>Electives</b>		
Select 15 hours of LLS approved elective courses <sup>1</sup>		15
<b>Total Credits</b>		<b>18</b>

### Electives

An additional 15 hours of LLS approved elective courses<sup>1</sup>. Unless approved by the OLLAS director/academic advisor, a maximum of nine hours of elective courses may be taken from a single department. At least 12 of the 15 credit hours must be taken at the 3000 or 4000 level.

<sup>1</sup> See approved courses for Latin/Latin American Studies below.

<sup>2</sup> For Special Topics courses, since the topics may change often, not all titles may be listed below. In general, a Special Topics course relating to Latinos or Latin America may be accepted toward LLS electives if approved by the OLLAS Director.

Code	Title	Credits
<b>Latino/Latin American Studies</b>		
LLS 1000	LATIN AMERICA: AN INTRODUCTION	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
LLS 1020	INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES	3
LLS 2800	SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES	3
LLS 2900	SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES	3
LLS/PSCI 3140	LATINO/-A POLITICS	3
LLS/PSCI 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	3
LLS 3800	TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES	3
LLS 3900	TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES	3
LLS/SPAN 4140	INTRODUCTION TO LATIN AMERICAN FILM	3
LLS/SPAN 4170	INTRODUCTION TO LATIN AMERICAN LITERATURES	3
LLS/SPAN 4230	SPECIAL EXPLORATIONS IN LATIN AMERICAN LITERATURE	3
LLS/PSCI 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	3
LLS/SOC 4780	URBAN LATIN AMERICA	3
LLS 4900	INDEPENDENT STUDY	1-3
LLS 4910	CONTEMPORARY TOPICS IN LLS: SOCIAL SCIENCES	3
LLS 4920	CONTEMPORARY TOPICS IN LLS:HUMANITIES	3

LLS 4950	LATIN AMERICAN STUDY ABROAD	1-3
<b>Art &amp; Art History</b>		
ART 1040	CROSS-CULTURAL SURVEY OF ART	3
<b>English</b>		
ENGL 2000	TOPICS IN LANGUAGE AND LITERATURE (Language in the Minority or when topic relates to Latinos or Latin America and under approval of the OLLAS Director)	3
ENGL 2230	ETHNIC LITERATURE	3
ENGL 2490	LATINO/A LITERATURE	3
ENGL 3300	JUNIOR TOPICS IN AMERICAN LITERATURE (Chicano/a Short Fiction)	3
ENGL 4160	TOPICS IN AMERICAN REGIONALISM (Southwest Literature)	3
ENGL 4240	TEACHING LATINO LITERATURE	3
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE (New World Conquest Literature, Contact and Conquest Narratives of the Americas 1400s-1650s)	3
<b>Geography</b>		
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	3
<b>Goodrich</b>		
GDRH 3010	SPECIAL TOPICS SEMINAR (Study Abroad to Costa Rica or when topic relates to Latinos or Latin America and under approval of the OLLAS Director)	1-3
<b>Health Education</b>		
PHHB 3000	SPECIAL PROJECTS (When topic relates to Latinos or Latin America and under approval of the OLLAS Director)	1-3
<b>History</b>		
HIST 2480	HISTORY OF LATIN AMERICA: PRECONQUEST TO THE PRESENT	3
HIST 4460	AMERICAN IMMIGRATION HISTORY	3
HIST 4910	TOPICS IN HISTORY <sup>1</sup>	3
<b>Political Science</b>		
PSCI/LLS 3140	LATINO/-A POLITICS	3
PSCI/LLS 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	3
PSCI/LLS 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	3
<b>Religion</b>		
RELI 3500	SPECIAL TOPICS IN RELIGION (Roots of Cuban Spirituality)	3
<b>Sociology</b>		
SOC 2800	MAJOR SOCIAL ISSUES (When taught by OLLAS approved faculty member) <sup>2</sup>	3
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	3
SOC 4240	SOCIAL TRANSFORMATIONS IN LATIN AMERICA	3
SOC 4250	CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS	3
SOC/LLS 4780	URBAN LATIN AMERICA	3
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY <sup>3</sup>	3
<b>Social Work</b>		
SOWK 4890	SPECIAL STUDIES IN SOCIAL WORK (Nicaragua or when topic relates to Latinos or Latin America and under approval from the OLLAS Director)	1-4

**Spanish**

SPAN 3420	LATIN AMERICAN CIVILIZATION	3
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS	3
SPAN/LLS 4140	INTRODUCTION TO LATIN AMERICAN FILM	3
SPAN/LLS 4170	INTRODUCTION TO LATIN AMERICAN LITERATURES	3
SPAN/LLS 4230	SPECIAL EXPLORATIONS IN LATIN AMERICAN LITERATURE	3
SPAN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM <sup>4</sup>	3
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY <sup>5</sup>	3
SPAN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (Public Health + Spanish in Nicaragua, Spanish Sociolinguistics)	3

**Teacher Education**

TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY (When taught by OLLAS approved faculty member.)	3
----------	---	---

**Women's & Gender Studies**

WGST 4050	SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (Latinos & Gender or when topic relates to Latinos or Latin America and under approval of the OLLAS Director)	3
-----------	--	---

- <sup>1</sup> HIST 4910 - Topics to include:
- Argentina, Brazil, Chile
  - History of Brazil
  - Latina/Latin American Women
  - Modern History of Chile
  - Modern Mexico
  - Spanish Speaking Caribbean
  - Democratization in Latin America

- <sup>2</sup> SOC 2800 - Topics to include:
- Women of Color
  - Cultural Groups and Equality
  - Immigration, Gender & Employment

- <sup>3</sup> SOC 4800 - Topics to include:
- Immigration, Race & Globalization
  - Latino Migration and Integration
  - Urban Latin America
  - Migration, Development, Citizenship
  - Latinos & Gender

- <sup>4</sup> SPAN 4950 - Topics to include:
- Latin American Children and Youth Literature
  - Afro-Hispanic Literature in Reading and Conversation
  - Viva nos queremos: Gender, Domestic and social Violence in Contemporary Latin American Film & Literature

- <sup>5</sup> SPAN 4960 - Topics to include:
- Central American & Caribbean Lit. & Culture
  - Latin American Indigenous Contemporary Lit.
  - Human Rights Literature in Latin America
  - El Bilingüismo
  - Introduction to Sociolinguistics
  - Latin American Theater through Performance
  - Latin American Film & Society
  - 20th Century Mexican Society
  - Hispanic Bilingualism

# Mathematics

Students interested in specializing in mathematics and intending to do either graduate work in Mathematics or work in business or industry will be interested in this degree. The Mathematics Department Degree Program prepares students for employment in the private or public sector, graduate school, and scientific research. Studying mathematics naturally develops quantitative thinking and analytic problem solving, talents with universal application. Demand will always be high for individuals with these universal talents to solve society's diverse and complex problems.

Eight concentrations and a No Concentration Option are available for a Bachelor of Arts and a Bachelor of Science.

## Other Information

All coursework taken for the mathematics major or minor must be completed with a grade of C- or better.

## Double Majors

If planned correctly, some disciplines, such as computer science and math 6-12 teaching endorsement, require few, if any, additional math courses beyond what is required for the major. Talk to your advisor about double majoring with Mathematics to expand your educational opportunities!

## Student Groups

Math Club  
Pi Mu Epsilon National Mathematics Honorary Society  
Putnam Competition

## Contact

Advisor/Academic Coordinator, Emily Cook  
204 DSC  
402.554.3841

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/mathematics/>)

## Bachelor of Arts and Bachelor of Science in Mathematics

The B.A. and B.S. Degrees with a major in Mathematical Sciences consists of 47 credits of required courses in Mathematics. Approved Statistics courses may also be included. Either degree option has eight possible concentrations and a No Concentration Option. The concentrations are defined by the required upper division courses.

## Degrees Offered

- Mathematics, Bachelor of Arts (p. 225)
- Mathematics, Bachelor of Science (p. 238)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the math major, select one of the following:

Code	Title	Credits
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	3
ENGL 3050	WRITING FOR THE WORKPLACE	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3

**The Bachelor of Arts Degree** requires foreign language through the intermediate level (16 credits).

**The Bachelor of Science Degree** requires at least 15 hours of related Cognate coursework that must be approved by the Math Academic Advisor/Coordinator. Students can also choose any UNO Minor to satisfy their Cognate requirement; however, this Cognate minor cannot double-

count as the Option 1 minor for the College of Arts & Sciences College Breadth Requirement. A Computer Science Minor cannot satisfy the Cognate requirement for Mathematics. No more than 6 credits of Cognate coursework may double-count within the general education requirements.

## Minors Offered

- Math Minor (p. 252)

The Mathematics Department Degree Program prepares students for employment in the private or public sector, graduate school, and scientific research. Studying Mathematics naturally develops quantitative thinking and analytic problem solving, skills with universal application. Mathematics majors learn to make critical observations, organize, analyze, and interpret data, and extract information and patterns. Demand will always be high for individuals with these universal skills to solve society's diverse and complex problems.

Mathematics majors often pursue careers as a:

- Cryptanalyst – developing encryption for cyber security for the Defense Department.
- Data scientist – analyzing data to make predictive decisions for a retailer.
- Operations Research Analyst – optimally determining which aircraft an airline should purchase.
- Teacher – teaching Math at the 7-12 level.
- Actuary – evaluate risk and help companies make decisions.

When the Mathematics major is matched with complementary minors and thoughtful internships, new possibilities arise. A few examples are:

- Math + Biology = Biomathematician: modeling biological processes for a Biotech company.
- Math + Graphic Design = Animator: making realistic graphics for a movie.
- Math + Forensics = Forensics Analyst: solve crimes for the FBI.
- Math + Geology = Hydrologist: solving problems related to water quantity, quality, and availability for the U.S. Geological Survey.
- Math + English = Technical writer: writing documents for industries that need writers fluent with numbers and calculations.

### MATH 1120 INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (3 credits)

This course embraces the visual arts to introduce students to the foundational elements of mathematical and computational thinking. Visual patterns form the basis for explorations in arithmetic and geometric sequences, from which algebraic functions and corresponding functions in computer programs are reasoned.

**Distribution:** Math

### MATH 1130 QUANTITATIVE LITERACY (3 credits)

Designed to equip students with the mathematical, statistical, and computational skills necessary to explore real-life situations. Students will learn and practice critical-thinking and problem-solving skills needed to use quantitative information to make responsible decisions in a variety of areas such as finance, health, and the environment.

**Distribution:** Math

### MATH 1210 INTERMEDIATE ALGEBRA (3 credits)

This course is designed to prepare students to be successful in MATH 1220.

Topics include simplifying mathematical expressions, the properties of equality, solving linear equations in one variable, using linear equations to solve problems, fractions, ratios and proportions, graphing and the rectangular coordinate system, relations and functions, systems of linear equations and inequalities in two variables, polynomial expressions and functions, factoring and solving polynomial equations. Credit earned in MATH 1210 will not count toward degree requirements.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of 1 or 2, ACT Math sub score of 18 or less, Math SAT sub score at least 220, Math SAT2016 sub score at least 230, Accuplacer score of 1 or 2, or MATH 1210.

### MATH 1220 COLLEGE ALGEBRA (3 credits)

This course presents properties of real numbers, linear equations and graphing, systems of equations, linear inequalities, polynomials, algebraic fractions, exponents, logarithms, and an Introduction to Statistics. This course is designed to prepare students to be successful in MATH 1320 or MATH 1370. Students who have passed MATH 1310 with a C- or better should not take this course.

**Prerequisite(s)/Corequisite(s):** Within the last two years: ALEKS score at least 3, ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, Accuplacer at least 3, MATH 1210 C- or better or MATH 1220. Students who passed MATH 1310 (C- or better) should not take MATH 1220.

**Distribution:** Math

### MATH 1320 PRE-CALCULUS ALGEBRA (3 credits)

An advanced algebra course that teaches the following topics: algebraic operations, functions, graphs, linear and quadratic equations and inequalities, polynomial and rational functions, systems of equations, binomial theorem, complex numbers, exponentials, logarithms, sequences, series, and combinatorics.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math at least 23, Math SAT at least 540, Math SAT2016 at least 570, Accuplacer score at least 4, MATH 1220 or MATH 1310 each with C- or better, or MATH 1320

### MATH 1330 TRIGONOMETRY (3 credits)

This course introduces elements of plane trigonometry, including trigonometric and circular functions, inverse trigonometric functions, solutions of triangles, identities and conditional equations, vectors, and conic sections.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math at least 25, Math SAT at least 570, Math SAT2016 at least 590, Accuplacer at least 5, MATH 1320 with C- or better, or MATH 1330

### MATH 1340 ALGEBRA AND TRIGONOMETRY FOR CALCULUS (5 credits)

A combined algebra and trigonometry course for science and engineering students planning to enroll in MATH 1950. Topics include: systems of equations, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions and their inverses, trigonometric identities and applications, conic sections, and complex numbers. Credit for both MATH 1320/MATH 1324 and MATH 1340, or both MATH 1330 and MATH 1340 will not be given.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math at least 23, Math SAT at least 540, Math SAT2016 at least 570, Accuplacer at least 5, MATH 1310 or MATH 1220 C- or better, or MATH 1340

**MATH 1370 APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS (4 credits)**

This is an applied algebra course with optimization, teaching the following topics with an emphasis on data analysis and application: algebraic, exponential, and logarithmic functions; derivatives and applications thereof; and statistics. The course will emphasize data analysis and applications of covered topics in order to demonstrate the relevance of mathematics to solving real-world problems.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math sub score at least 23, SAT Math at least 540, SAT2016 Math at least 570, Accuplacer at least 4, MATH 1310 or MATH 1220 with C- or better, or MATH 1370

**MATH 1930 CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (3 credits)**

Topics covered include functions, limits, derivatives, integrals, and applications. Trigonometry is not required. May not be used as a prerequisite for MATH 1960. Credit will not be granted for both MATH 1930 and 1950.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math sub score at least 25, Math SAT at least 570, or Math SAT2016 at least 590, Accuplacer score at least 6, MATH 1320 with C- or better, or MATH 1930

**MATH 1940 CALCULUS FOR BIOMEDICINE (5 credits)**

Introductory calculus with an emphasis on dynamical systems analysis applied to biological systems. Topics include differential and integral calculus, elementary chaos theory, discrete modeling, neural networks, and elementary differential equations, population dynamics, and biochemical signal transduction.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math sub score at least 25, Math SAT at least 570, Math SAT2016 at least 590, Accuplacer score at least 6, MATH 1320 with C- or better; or permission of instructor

**MATH 1950 CALCULUS I (5 credits)**

This is a course in plane analytic geometry emphasizing the study of functions, limits, derivatives and applications, and an introduction to integration.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 6, ACT Math at least 26, Math SAT at least 590, Math SAT2016 at least 610, Accuplacer score of 7, MATH 1320 and MATH 1330 or MATH 1340 with C- or better; or permission of instructor

**MATH 1960 CALCULUS II (5 credits)**

This course introduces applications of integration, techniques of integration, infinite sequences and series, vectors in the plane, and polar functions. A mathematical software package is introduced, with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1950 with a grade of C- or better or permission of instructor.

**MATH 1970 CALCULUS III (4 credits)**

This course presents vector functions, parametric equations, solid analytic geometry, partial differentiation, multiple integration, and an introduction to vector calculus. A mathematical software package is introduced with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a grade of C- or better, or MATH 1970 with a grade of F or better, or permission of instructor.

**MATH 2030 DISCRETE MATHEMATICS (3 credits)**

A foundations course in discrete mathematics for applied disciplines, including computer science and computer engineering. Topics include: logic, sets, relations, functions, complexity functions and big congruences, induction and recursive definitions, elementary combinatorics, discrete probability, graphs and trees.

**Prerequisite(s)/Corequisite(s):** MATH 1950 or MATH 1930.

**MATH 2050 APPLIED LINEAR ALGEBRA (3 credits)**

This course presents Matrix algebra, simultaneous equations, vector spaces, with applications of linear algebra and computational considerations. Mathematical software is utilized, with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1940 or MATH 1950 with a grade of C- or better

**MATH 2200 MATHEMATICAL COMPUTING I (3 credits)**

This is a first course in mathematical computing. It covers the basic elements of scientific programming in both a computer algebra system and a high-level programming language. Explored are implementation issues, problem description, model building, method development, and solution assessment.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**MATH 2230 INTRODUCTION TO ABSTRACT MATH (3 credits)**

This course provides a transition from the calculus to more abstract mathematics. Topics include logic, sets and functions, an introduction to mathematical proof, mathematical induction, relations. Important prerequisite material for a number of more advanced mathematics courses is studied. Credit will not be given for both MATH 2030 (or MATH 2040) and MATH 2230.

**Prerequisite(s)/Corequisite(s):** MATH 1960 or permission

**MATH 2350 DIFFERENTIAL EQUATIONS (3 credits)**

Topics include solutions of linear and first-order nonlinear differential equations with applications, higher-order linear differential equations with applications, power series solutions, and Laplace transform methods.

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a grade of C- or better or permission of instructor.

**MATH 3100 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, CSCI 3100, CSCI 8105).

**Prerequisite(s)/Corequisite(s):** MATH 2030, MATH 2040, MATH 2230, or CSCI 2030 all with a C- or better. Mathematical logic; Set theory; Relations; Functions; Congruences; Inductive and recursive definitions; Discrete probability; sets, graphs, trees, & matrices

**MATH 3200 MATHEMATICAL COMPUTING II (3 credits)**

This course is a second course in mathematical computing. It covers the design and development of algorithms and more advanced elements of programming in a mathematical context. The programming language Python will be used. The programming assignments are primarily based on data science and calculus concepts and are designed to reinforce and deepen the understanding of these concepts.

**Prerequisite(s)/Corequisite(s):** CIST 1400 or MATH 2200, and MATH 1970 (the latter may be taken concurrently)

**MATH 3230 INTRODUCTION TO ANALYSIS (3 credits)**

This course provides a theoretical foundation for the concepts of elementary calculus. Topics include real number system, topology of the real line, limits, functions of one variable, continuity, differentiation. (Cross-listed with MATH 8235).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2230 each with a grade of C- or better.

**MATH 3300 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with MATH 8305, CSCI 3300, CSCI 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**MATH 3400 THEORY OF INTEREST (3 credits)**

A study of the measurement of interest, annuities, amortization schedules and other financial mathematics topics.

**Prerequisite(s)/Corequisite(s):** MATH 1970

**MATH 3640 MODERN GEOMETRY (3 credits)**

This course will study the modern foundations of Euclidean and Non-Euclidean Geometry. Included will be a study of the principles of axiomatic systems. Euclidean Geometry will be investigated using Hilbert's axioms for Euclidean geometry (or another equivalent Euclidean geometry axiom set). Hyperbolic geometry will be encountered through the models of Klein and Poincare. Neutral geometry with Lambert and Saccheri quadrilaterals will be studied. Finite geometries and projective geometries will also be explored. (Cross-listed with MATH 8645).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a grade of C- or better.

**MATH 3850 HISTORY OF MATHEMATICS (3 credits)**

An overview of the history of mathematics and famous mathematicians via studying and solving famous mathematical problems, exploring famous mathematical theorems, and studying the biographies of famous mathematicians. (Cross-listed with MATH 8855).

**Prerequisite(s)/Corequisite(s):** Students who enroll in this course should have completed MATH 1970 and MATH 2230 in order to have the minimum amount of mathematical background needed to appreciate the mathematical content of the course.

**MATH 4010 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with CSCI 4010, CSCI 8016, MATH 8016).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**MATH 4030 MODERN ALGEBRA (3 credits)**

Algebra is the study of mathematical manipulations that preserve something (like equality - when solving equations). The areas in which Algebra finds application are quite diverse, from Ancient Greek Geometry through to Modern Information Protection and Security (error correcting codes, data compression, and cryptography). This course begins with topics that should be familiar (such as ruler-and-compass constructions, and modular arithmetic) and builds upon this foundation through polynomial rings up to finite fields and basic group theory. (Cross-listed with MATH 8036).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better

**MATH 4050 LINEAR ALGEBRA (3 credits)**

Linear algebra is extensively utilized in the mathematical modeling of many natural phenomena. Many scientific and engineering disciplines, such as data science, chemical engineering and biology, make extensive use of the theory and techniques commonly present in basic to advanced linear algebra courses. The goal of this course is to help students to grasp a solid theoretical understanding of vectors, vector spaces, inner product spaces, linear transformations, eigenvalues, canonical forms, complex vectors, matrices, and orthogonality. By going through the materials in a mathematically rigorous way, students will develop deeper and more accurate intuitions of the basic concepts in linear algebra. Consequently, the applications of linear algebra will become much more transparent. (Cross-listed with MATH 8056).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a grade of C- or better; MATH 2030 or MATH 2230 or equivalent with a grade of C- or better; or permission

**MATH 4110 ABSTRACT ALGEBRA I (3 credits)**

An introduction to group theory. Various classes of group are studied: symmetric groups, abelian, cyclic, and permutation groups. Basic tools are developed and used: subgroups, normal subgroups, cosets, the Lagrange theorem, group homomorphisms, quotient groups, direct products, and group actions on a set. The course culminates with the Sylow theorems in finite group theory. The theory is illustrated with examples from geometry, linear algebra, number theory, crystallography, and combinatorics. (Cross-listed with MATH 8116).

**Prerequisite(s)/Corequisite(s):** MATH 4050/MATH 8056 with a C- or better or MATH 4560/MATH 8566 with a C- or better or permission of instructor

**MATH 4120 ABSTRACT ALGEBRA II (3 credits)**

An introduction to ring and field theory. Various classes of commutative rings are considered including polynomial rings, and the Gaussian integers. Examples of fields include finite fields and various extensions of the rational numbers. Concepts such as that of an ideal, integral domain, characteristic and extension field are studied. The course culminates with an introduction to Galois theory. Applications include the resolution of two classical problems: the impossibility of angle-trisection and the general unsolvability of polynomial equations of degree 5 or higher. (Cross-listed with MATH 8126).

**Prerequisite(s)/Corequisite(s):** MATH 4110/MATH 8116 with a C- or better or permission of instructor

**MATH 4150 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with MATH 8156, CSCI 4150, CSCI 8156).

**Prerequisite(s)/Corequisite(s):** CSCI 2030 with a C- or better, or MATH 2030 with a C- or better, or MATH 2230 with a C- or better, or permission of instructor.

**MATH 4230 MATHEMATICAL ANALYSIS I (3 credits)**

Provides a theoretical foundation for the concepts of elementary calculus. Topics include ordered fields and the real number system, basic properties of complex numbers, metric space topology, sequences and series in  $\mathbb{R}^k$ , limits and continuity in a metric space, monotonic functions. (Cross-listed with MATH 8236).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235

**MATH 4240 MATHEMATICAL ANALYSIS II (3 credits)**

Provides a theoretical foundation for the concepts of classical Calculus (vector calculus included). Topics include sequences and series of functions, uniform convergence, power series, Fourier series, multivariable real differential and integral calculus, the Implicit Function Theorem, integration of different forms, and the important formulas, connecting those integrals, due to: Green, Gauss, Riemann, and Ostrogradski. (Cross-listed with MATH 8246).

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236

**MATH 4270 COMPLEX ANALYSIS (3 credits)**

This course is an introduction to the theory of functions of a complex variable, a fundamental area of mathematics with multiple applications to science and engineering. Topics include the field of complex numbers, complex differentiation, the complex contour integral and Cauchy's integral formula, Taylor expansions and analytic functions, conformal mapping and Riemann's conformal equivalence theorem, residue theory and Laurent series, harmonic functions, and applications. (Cross-listed with MATH 8276).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or permission of the instructor.

**MATH 4300 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, CSCI 8306, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**MATH 4310 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, CSCI 8316, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**MATH 4320 COMPUTATIONAL OPERATIONS RESEARCH (3 credits)**

Survey of computational methods used in the solution of operations research problems. Topics include scripting to guide optimization software, metaheuristics for optimization, and basic machine learning algorithms. (Cross-listed with MATH 8326).

**Prerequisite(s)/Corequisite(s):** MATH 3200 and MATH 4300 each with a grade of C- or better or permission of instructor.

**MATH 4330 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

This course introduces the basic methods of PDEs guided by applications in physics and engineering. The main topics to be covered include The Linear First order PDEs, Transport equations, Characteristics, Classification of PDEs, Separation of variables, Heat conduction, vibrating membranes, boundary value problems, Maximum principle, Sturm-Liouville problems, Fourier series, Fourier integrals, Harmonic functions, Legendre polynomials, Distributions, Green's functions. (Cross-listed with MATH 8336).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better and MATH 2350 with a C- or better, or permission of instructor; MATH 2050 recommended, not required.

**MATH 4350 ORDINARY DIFFERENTIAL EQUATIONS (3 credits)**

This course covers the theory of initial-, boundary-, and eigenvalue problems, existence theorems, real and complex linear systems of differential equations, and stability theory. There will be a strong emphasis on methods for finding solutions of initial and boundary value problems and analyzing properties of these solutions for various ordinary differential equations. (Cross-listed with MATH 8356).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better, MATH 2050 with a C- or better, and MATH 2350 with a C-, or better or instructor's permission.

**MATH 4400 THE FINITE ELEMENT METHOD (3 credits)**

Introduction to finite elements methods for solving ordinary and partial differential equations. Theoretical foundations of finite element methods for boundary value problems, approximation by piecewise polynomial functions, variation formulation of partial differential equations, basic error estimates. The Rayleigh-Ritz-Galerkin method, convergence of approximations, time-dependent problems, error analysis, discretization and computer implementation, applications to problems in elasticity, heat transfer, and fluid mechanics. (Cross-listed with MATH 8406).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2050 and MATH 2350 all with a C- or better or instructor permission. MATH 3300/ MATH 8305 and MATH 4330/ MATH 8336 recommended. Students should be able to use a programming language (ie MATLAB) to complete computational assignments

**MATH 4450 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 8456, STAT 4450, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**MATH 4560 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with MATH 8566, CSCI 4560, CSCI 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**MATH 4610 INTRODUCTION TO TOPOLOGY (3 credits)**

This is a proof-oriented course presenting the foundations of topology. Metric spaces and general topological spaces are introduced. The course explores the properties of connectedness, compactness and completeness, and operations of Tychonoff product and hyperspace. (Cross-listed with MATH 8616).

**Prerequisite(s)/Corequisite(s):** MATH 3230 with a C- or better or permission of instructor.

**MATH 4620 ITERATED FUNCTION SYSTEMS AND FRACTALS (3 credits)**

This is a proof-oriented course presenting the foundations of fractal geometry. It introduces students to the beauty, magic, and applications of fractals and iterated function systems, with emphasis on the mathematics behind it all. Topics range from contractions on hyperspaces and their fixed points to fractal dimensions to Julia and Mandelbrot sets. (Cross-listed with MATH 8626).

**Prerequisite(s)/Corequisite(s):** MATH 4610 with a C- or better or permission of instructor.

**MATH 4660 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, CSCI 8666, MATH 8666)

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**MATH 4740 INTRODUCTION TO PROBABILITY AND STATISTICS I (3 credits)**

A mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments; specific discrete and continuous distributions; and transformations of random variables. (Cross-listed with MATH 8746).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and either MATH 2230 or MATH 2030 or permission of instructor.

**MATH 4750 INTRODUCTION TO PROBABILITY AND STATISTICS II (3 credits)**

Theory and methods of statistical inference including sampling distributions, estimators, estimation, and statistical hypotheses. (Cross-listed with MATH 8756).

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746

**MATH 4760 TOPICS IN APPLIED MATHEMATICS (3 credits)**

Selection of such topics such as dynamical systems and chaos, Boolean networks, modeling of discrete or continuous systems, matrix theory, difference equations, information theory, discrete events simulation and other approved by Upper Curriculum Committee. (Cross-listed with MATH 8766).

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 4900 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research-type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the MATH/STAT Undergraduate Curriculum Committee at least one week prior to registration.

**Prerequisite(s)/Corequisite(s):** Junior and permission of the chair

**MATH 4970 SEMINAR IN APPLIED MATHEMATICS (3 credits)**

A seminar in Applied Mathematics, where the students would read and present research in applied math and write their exposition of those topics.

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 4980 SEMINAR (1-3 credits)**

A seminar in mathematics. This course introduces students to an important form of mathematical activity and culture, where a specialized mathematical subject matter (not covered in typical courses) is studied and discussed in a collaborative setting. The course may be repeated for different topics up to a maximum of six credit hours. The specific topics will vary, depending upon when the course is offered. One example of a seminar topic is Current Trends in Set Theory of the Reals.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**STAT 1100 DATA LITERACY AND VISUALIZATION (3 credits)**

Designed to help students become familiar with different types of data that are available in business, non-profit and governmental organizations. Students will learn basic data organization and manipulation as well as appropriate visualization techniques including charts, maps, and dashboards using cutting edge software tools. Students will apply this knowledge and skills to real-world data and develop skills in presentation of research results, strategic decision making and forecasting analysis.

**Distribution:** Math

**STAT 1530 ELEMENTARY STATISTICS (3 credits)**

An elementary introduction to the basic concepts of probability, descriptive statistics, and statistical inference, including point estimation, confidence intervals, and hypotheses testing.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 3, ACT Math sub score at least 19, Math SAT at least 460, Math SAT2016 at least 500, Accuplacer score at least 3, or MATH 1000 or MATH 1210 (each with a C- or better)

**Distribution:** Math

**STAT 3000 STATISTICAL METHODS I (3 credits)**

An introduction to descriptive statistics, measures of central value and dispersion, probability and distributions, population and sample, simple linear regression, statistical inference: point estimation, confidence intervals, hypotheses testing, two population comparison, goodness-of-fit tests, analysis of variance. Statistical software like Minitab or Excel will be utilized in the course. (Cross-listed with STAT 8005).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent with a grade of C- or better.

**STAT 3800 APPLIED ENGINEERING PROBABILITY AND STATISTICS (3 credits)**

An introduction to the application of probability and statistics to engineering problems. Topics include: probability and probability distributions, mathematical expectation, distribution of random variables, binomial, Poisson, hypergeometric, gamma, normal, and t-distributions, Central Limit Theorem, confidence intervals, hypothesis testing. If time allows, some linear regression and contingency tables. Credit for both MATH 4740 and STAT 3800 will not be given. (Cross-listed with STAT 8805)

**Prerequisite(s)/Corequisite(s):** MATH 1970

**STAT 4410 INTRODUCTION TO DATA SCIENCE (3 credits)**

Topics covered in this course include Data Technology, Methods of gathering and cleaning structured or unstructured data, Exploratory data analysis & Dynamic and interactive data visualization, Modeling data for prediction, forecasting or classification. (Cross-listed with STAT 8416)

**Prerequisite(s)/Corequisite(s):** MATH 4740 with at least C- or concurrent or STAT 3800 with at least C- or permission of instructor. Students enrolling in this course should be comfortable with computer programming & have knowledge of data structures & preliminary statistical methods.

**STAT 4420 EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (3 credits)**

Topics covered in this course include Exploratory Data Visualization for categorical/qualitative single/multivariate data, Grammar of Graphics, Organizing Data for Visualization, Methods of Displaying Data that include dynamic and interactive visualization, Visual Diagnostics of Statistical Models and Visual Statistical Inference. Students planning to enroll in this course should be comfortable with computer programming and have knowledge of data structures and preliminary statistical methods. (Cross-listed with STAT 8426)

**Prerequisite(s)/Corequisite(s):** STAT 3800 or STAT 8805 or MATH 4740 or MATH 8746 with a grade of C- or better or another introductory probability/statistics course with a grade of C- or better, and MATH 3200 or CSCI 1620 with a grade of C- or better, or permission of instructor.

**STAT 4430 LINEAR MODELS (3 credits)**

This is an introduction to linear statistical models which will include: simple linear regression models, multiple linear regression models, ANOVA models including one way ANOVA, randomized block design, and other designs. Also, logistic regression models, Poisson regression models, bootstrapping/resampling models, survival analysis. Some necessary linear algebra and mathematical statistics ideas will be covered in the course also. If time allows, some mixed models and/or survival models. Much use of computer software will be made. (Cross-listed with STAT 8436)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a C- or better or STAT 3800 or STAT 8805 w/ a C- or better or instructor permission based on students' having taken a basic statistics course w/ a grade of C- or better & having at least a basic knowledge of calculus.

**STAT 4440 TIME SERIES ANALYSIS (3 credits)**

The objective of this course is to learn and apply statistical methods for the analysis of data that have been observed over time. Topics covered include: Models for Stationary and Non-Stationary Time Series, Model Specification, Parameter Estimation, Model Diagnostics, Forecasting, Seasonal Models, Time Series Regression, and Spectral Analysis. Statistical software will be used. (Cross-listed with STAT 8446)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or another introductory probability/statistics course w/ a C- or better, or permission of instructor.

**STAT 4450 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, MATH 8456, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

## Mathematics, Bachelor of Arts

To obtain a B.A. with a major in Mathematics, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in General Education courses that meet both distribution and diversity requirements are likely to reduce the total number of General Education hours to 40 or fewer.*)
- 16 hours foreign language requirement
- 12 hours college breadth requirement
- 47 hours of major courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

### Requirements

Code	Title	Credits
<b>Courses Required (Core Curriculum)</b>		
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH 3230	INTRODUCTION TO ANALYSIS	3
Select two of the following: <sup>1</sup>		6
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	
MATH 2200	MATHEMATICAL COMPUTING I	
MATH 3200	MATHEMATICAL COMPUTING II	
<b>Additional Coursework: Concentration or No Concentration Option</b>		
An additional 15 credits of approved upper-level MATH/STAT courses which must include at least 9 credits at the 4000 level		15
<b>Optional Concentrations Include:</b>		
Applied Mathematics		
Pre-Actuarial Mathematics		
Computational Mathematics		
Data Science		
Mathematics Education		
Operations Research		
Pure Mathematics		
Statistics		
<b>B.A. Degree Additional Requirements</b>		

Foreign language through the intermediate level.

### Total Credits

**47**

<sup>1</sup> May not include both CIST 1400 and MATH 2200.

### Applied Mathematics Concentration

This concentration is recommended for students interested in inherently interdisciplinary subjects which apply to many problems that arise in the physical, biological, economic, social, and network sciences as well as in engineering. Applied Mathematics provides a set of qualitative and quantitative skills and knowledge for use in these fields.

Applied Mathematics has a profound impact on our daily lives. Whether it is weather forecasts, genetic or neural networks, search engines, climate research, evolution of species, stock market and finance, ground or air transportation, architecture, or movie recommendations, none of these would work the way they do without algorithms and tools from the mathematical sciences. The concentration in Applied Mathematics allows students to investigate the mathematics of problems arising in the physical, biological, economic, social, and network sciences as well as in engineering.

Applied Mathematics appeals to people with a variety of different interests, ranging from those with a desire to obtain a good quantitative background for use in some future career, to those who are interested in the basic techniques and approaches in themselves.

Code	Title	Credits
<b>The 15 credits of upper-level courses must include:</b>		
MATH 3100	APPLIED COMBINATORICS	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4760	TOPICS IN APPLIED MATHEMATICS	3
MATH 4970	SEMINAR IN APPLIED MATHEMATICS	3
<b>Along with one 3 credit elective from the following:</b>		<b>3</b>
MATH 3300	NUMERICAL METHODS	
MATH 3400	THEORY OF INTEREST	
MATH 4150	GRAPH THEORY & APPLICATIONS	
MATH 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH 4320	COMPUTATIONAL OPERATIONS RESEARCH	
MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 4350	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 4400	THE FINITE ELEMENT METHOD	
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 4760	TOPICS IN APPLIED MATHEMATICS	
MATH 4900	INDEPENDENT STUDIES (Must be in a chosen Applied Mathematics Topic)	
MATH 4970	SEMINAR IN APPLIED MATHEMATICS	
<b>Total Credits</b>		<b>15</b>

### Data Science Concentration

This concentration is recommended for students interested in a career as a Data Science professional or pursuing graduate study in disciplines with a strong data analysis component. Data Science is the art and science of transforming raw data into deliverable data products in order to help businesses or government agencies make more informed decisions.

Code	Title	Credits
<b>Upper Level Courses</b>		
The 15 credits of upper-level courses must include:		
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3
STAT 4410	INTRODUCTION TO DATA SCIENCE	3
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	3
Select one of the following elective courses:		3
MATH/CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	
STAT 4430	LINEAR MODELS	
STAT 4440	TIME SERIES ANALYSIS	
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
<b>Total Credits</b>		<b>15</b>

### Mathematics Education Concentration

This concentration is recommended for students interested in pursuing a career in Secondary Education. In some cases it is possible to simultaneously earn a B.S. or a B.A. in Math and a B.S. in Secondary Education.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 3640	MODERN GEOMETRY	3
MATH 3850	HISTORY OF MATHEMATICS	3
MATH 4030	MODERN ALGEBRA	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
Select one of the following elective courses:		3
MATH 3100	APPLIED COMBINATORICS	
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
<b>Total Credits</b>		<b>15</b>

### Second Computing Course

This concentration also requires the following course, which counts as the Math major's second computing course.

Code	Title	Credits
STAT 4410	INTRODUCTION TO DATA SCIENCE	3

### Additional Requirement

Students must include the following Educator Preparation Program Requirements:

Code	Title	Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3

TED 3690	LITERACY AND LEARNING	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
<b>Total Credits</b>		<b>27</b>

Code	Title	Credits
<b>For those who want a Nebraska Math 6-12 Teaching Certificate:</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL <sup>1</sup>	12

<sup>1</sup> These requirements also fulfill the College of Arts & Sciences breadth requirement.

### Pre-Actuarial Math Concentration

This concentration is recommended for students interested in a career as an Actuary and who plan on taking the Actuarial exams.

An actuary evaluates the financial impact of risk by evaluating the likelihood of future events, designing creative ways to reduce the likelihood of undesirable events, and decreasing the impact of undesirable events that do occur.

Actuaries work for insurance companies, government, and consulting firms. In the Actuarial profession you can earn while you learn. Many students receive on-the-job training while enrolled in the examination process. Employers are generally supportive and may give students study time during working hours, pay exam fees, and award raises for each exam passed. However, most employers prefer to hire people who have started the series of examinations on their own and have already passed at least two or three.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 3400	THEORY OF INTEREST	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3
STAT 4440	TIME SERIES ANALYSIS	3
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
or STAT 4430	LINEAR MODELS	
<b>Total Credits</b>		<b>15</b>

### Operations Research Concentration

This concentration is recommended for students interested in a career as an Operations Research Analyst or in pursuing a graduate degree in Operations Research or a related field.

The broad real-world applicability of Operations Research makes it an attractive choice for Math majors. In Operations Research courses students get a solid background in mathematical modeling of decision-making problems, algorithms for solving different types of these problems, as well as experience using appropriate software tools.

Operations Research is the application of advanced analytical methods to enable better decision making. A plethora of problems may be solved using Operations Research; among these are (1) determining the route a delivery truck should take in order to make all deliveries while traveling the fewest number of miles; (2) determining the best location for a new facility such as a fire station; (3) scheduling airline flights and crew; and (4) determining the optimal distribution of bicycles in a bike sharing system. Operations Research includes problem-solving methods such as deterministic and stochastic optimization, machine learning, and simulation.

Code	Title	Credits
The 15 hours of upper-level courses must include:		
MATH/CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	3
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
MATH 4320	COMPUTATIONAL OPERATIONS RESEARCH	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
or STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	
Select one of the following:		3
MATH/CSCI 4150	GRAPH THEORY & APPLICATIONS	
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 4900	INDEPENDENT STUDIES	
STAT 4410	INTRODUCTION TO DATA SCIENCE	
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	
STAT 4430	LINEAR MODELS	
STAT 4440	TIME SERIES ANALYSIS	
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
<b>Total Credits</b>		<b>15</b>

### Statistics Concentration

This concentration is recommended for students interested in the theoretical and practical aspects of Statistics, particularly those students who are interested in pursuing graduate study in Statistics or Biostatistics.

Statistics, the study of data, is of growing importance. Students who have the skills to properly collect, analyze, interpret, and present data are in high demand around the country.

The objectives of this concentration are: (1) to gain an understanding of the mathematical underpinnings of statistics; (2) to use appropriate statistical modeling to solve practical problems; (3) to develop an understanding of how to use statistical software; (4) to communicate statistical results to non-statisticians.

Statistics is used in many fields, including biology, sociology, psychology, medicine, economics, quality control, and sports. This diversity, along with the growing need for people with statistical knowledge makes it an attractive choice for mathematics students.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3
Select three of the following, with at least two from group A:		9
Group A:		
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	
STAT 4430	LINEAR MODELS	
STAT 4440	TIME SERIES ANALYSIS	
Group B:		
MATH/CSCI 3100	APPLIED COMBINATORICS	
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	

MATH 4900	INDEPENDENT STUDIES	
STAT 4410	INTRODUCTION TO DATA SCIENCE	
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
<b>Total Credits</b>		<b>15</b>

### Computational Mathematics Concentration

This concentration is recommended for students interested in Computational Science, particularly those students who are interested in pursuing graduate study in Applied and Computational Mathematics at the graduate level.

A Concentration in Computational Mathematics may be useful in a wide range of areas including Science, Engineering, Government, Health Care, Business, and Information Technology. The specialization in Computational Mathematics is designed for students with a strong interest in Mathematics and in mathematical applications to areas of Science and Engineering. By choosing elective courses carefully, students completing this specialization will be prepared for a career in a variety of Computing and/or Engineering areas. Students will also be prepared to continue on to a graduate program in Applied Mathematics.

Computational Mathematics involves the use of math and computers to solve problems and predict outcomes. The concentration in Computational Mathematics is intended for any student who is interested in applications to solving practical and physical problems in Engineering, Science, and Business. This concentration is also recommended for students who wish to work in the research and development area of industry. The concentration is especially intended for students seeking a career as Quantitative Analysts, Computational Scientists, and Applied Mathematicians, and for those thinking of continuing the study of Applied and Computational Mathematics at the graduate level.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH/CSCI 3300	NUMERICAL METHODS	3
MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	3
MATH 4400	THE FINITE ELEMENT METHOD	3
MATH 4900	INDEPENDENT STUDIES <sup>1</sup>	3
Select one of the following:		3
MATH 4050	LINEAR ALGEBRA	
MATH 4230	MATHEMATICAL ANALYSIS I	
MATH 4240	MATHEMATICAL ANALYSIS II	
MATH 4350	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 4900	INDEPENDENT STUDIES <sup>2</sup>	
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> Independent Study must be related to Computational Mathematics, developed and supervised by the advisor.

<sup>2</sup> Optional second Independent Study must be a continuation of the first required Independent Study and adhere to the same requirements as in (1).

### Pure Mathematics Concentration

What do UNO Alumni Chief Operating Officer Matt Culek of Citadel Securities, Senior Industrial Logistician Andrew Gacek of Rockwell Collins, Microsoft Data Scientist Daniel Miller and University of Toronto Post-doc Melissa Emory have in common? They sought out the strongest foundation in mathematics available here at UNO, taking the courses required for the Pure Mathematics Concentration.

This concentration is strongly recommended for students interested in pursuing a graduate degree in mathematics, but as indicated above, is

highly recommended for any student interested in getting the most out of their mathematics major.

Students pursuing a graduate degree are expected to have a strong foundation based in analysis, topology, and abstract algebra. This is what this concentration provides.

Challenging yourself has other advantages. Matt Culek credits his ability to trouble-shoot proposals brought to him by quantitative analysts at Citadel Securities to the habits of thought developed in his undergraduate course in number theory here at UNO.

Code	Title	Credits
<b>15 credits of upper-level courses in this concentration must include the following 3 courses:</b>		<b>9</b>
MATH 4050	LINEAR ALGEBRA (3 credits)	
MATH 4110	ABSTRACT ALGEBRA I (3 credits)	
MATH 4230	MATHEMATICAL ANALYSIS I (3 credits)	
<b>Choose 2 of the following 5 courses:</b>		<b>6</b>
MATH 4120	ABSTRACT ALGEBRA II (3 credits)	
MATH 4240	MATHEMATICAL ANALYSIS II (3 credits)	
MATH 4270	COMPLEX ANALYSIS (3 credits)	
MATH/CSCI 4560	NUMBER THEORY & CRYPTOGRAPHY (3 credits)	
MATH 4610	INTRODUCTION TO TOPOLOGY (3 credits)	
<b>Total Credits</b>		<b>15</b>

## Applied Mathematics Concentration

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (*)	5
Foreign Language Course 1110^		5

\*ENGL 1150 Required EPPE

\*MATH 1950 Required Math Placement Exam or ACT or SAT scores

^^Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Foreign Language Course 1120		5
Humanities/Fine Arts Course		3

### Sophomore

Fall		Credits
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Natural/Physical Science with Lab		4
Foreign Language Course 2110		3
*MATH 2050 Requires MATH 1960		
<b>Credits</b>		<b>14</b>

### Spring

MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS (*)	3
Social Science with U.S. Diversity		3
Humanity/Fine Arts Course		3
Foreign Language Course 2120		3
*MATH 2350 It is recommended you take MATH 2050 first, but not required		

<b>Credits</b>		<b>15</b>
----------------	--	-----------

### Junior

Fall		Credits
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (*) or MATHEMATICAL COMPUTING I	3
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
Social Science		3
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course **)	3

\*MATH 4740 Requires MATH 1970 and MATH 2230

\*CIST 1400 Requires prior coding experiences, or a prereq in CSCI 1200, CSCI 1280, or CIST 1300

\*MATH 3230 Requires MATH 2230

\*\*A&S College Requirement Options

<b>Credits</b>		<b>15</b>
----------------	--	-----------

### Spring

MATH 3100	APPLIED COMBINATORICS (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Advanced Writing Requirement*		3
Social Science**		3
HIST 1000	WORLD CIVILIZATIONS I (or Course for Minor/2nd Major**)	3

\*MATH 3100 Requires MATH 2230

\*Advanced Writing Requirement can be CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline

\*\*SS Must be in a 2nd discipline

<b>Credits</b>		<b>15</b>
----------------	--	-----------

### Senior

Fall		Credits
Applied Math Elective+		3
Elective		3
Natural/Physical Science#		3
Additional Social Science for A&S or Course towards Minor/2nd Major**		3
Additional Humanities and Fine Arts for A&S or Course towards Minor/2nd Major^		3

+See Applied Catalog for list of Applied Math Electives.

#N&PS Course must be in a 2nd discipline

\*\*A&S College Requirement Options. SS Must be in a 3rd discipline

^A&S College Requirement Options. Additional HFA for A&S must be in 3rd discipline.

<b>Credits</b>		<b>15</b>
----------------	--	-----------

### Spring

MATH 4760	TOPICS IN APPLIED MATHEMATICS (*)	3
-----------	-----------------------------------	---

MATH 4970	SEMINAR IN APPLIED MATHEMATICS (*)	3
Elective or Minor/Double Major Course**		3
Elective at 3000-4000 Level or Minor/2nd Major Course**		3
Elective at 3000-4000 Level or Minor/2nd Major Course**		3
*MATH 4760: Requires MATH 3100		
*MATH 4970: Requires MATH 3100		
**Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Data Science Concentration

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (*)	5
Foreign Language Course 1110^		5
*ENGL 1150: Requires EPPE.		
*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.		
^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.		
<b>Credits</b>		<b>16</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Foreign Language Course 1120		5
Humanities/Fine Arts Course		3
<b>Credits</b>		<b>16</b>

#### Sophomore

Fall		
MATH 1970	CALCULUS III	4

MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Natural/Physical Science with Lab		4
Foreign Language Course 2110		3
*MATH 2050: Requires MATH 1960.		

**Credits 14**

#### Spring

MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
Social Science with U.S. Diversity		3
Humanity/Fine Arts Course		3
Foreign Language Course 2120		3

\*MATH 2350: It is recommended you take MATH 2050 first, but not required.

**Credits 15**

#### Junior

##### Fall

MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (*) or MATHEMATICAL COMPUTING I	3
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
Social Science		3
HIST 1010 or Minor/2nd Major Course**		3

\*MATH 4740: Requires MATH 1970 and MATH 2230

\*CIST 1400: Requires prior coding experience, or a prereq in CSCI 1200, CSCI 1280, or CIST 1300

\*MATH 3230: Requires MATH 2230

\*\*A&S College Requirement Options

**Credits 15**

##### Spring

MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Advanced Writing Requirement*		3
Social Science**		3
HIST 1000 or Course for Minor/2nd Major***		3

\*MATH 4750: Requires MATH 4740

\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

\*\*SS Must be in a 2nd discipline

\*\*\*A&S College Requirement Options

**Credits 15**

#### Senior

##### Fall

STAT 4410	INTRODUCTION TO DATA SCIENCE (*)	3
Data Science Elective/Elective+		3
Natural/Physical Science#		3
Additional Social Science for A&S or Course towards Minor/2nd Major**		3
Additional Humanities and Fine Arts for A&S or Course towards Minor/2nd Major^		3

\*STAT 4410: Requires MATH 4740

+ Students only need one Data Science Elective. Some are offered only in Fall, others only in Spring. Fall: MATH/CSCI 4300 Deterministic Operations Research Models (prereq: MATH 2050), or STAT 4430 Linear Models (prereq: MATH 4750)

#N&PS Course must be in a 2nd discipline

\*\*A&S College Requirement Options. SS Must be in a 3rd discipline

^A&S College Requirement Options. Additional HFA for A&S must be in 3rd discipline.

Credits		15
<b>Spring</b>		
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (*)	3
Data Science Elective/Elective+		3
Elective or Minor/Double Major Course**		3
Elective at 3000-4000 Level or Minor/2nd Major Course**		3
Elective at 3000-4000 Level or Minor/2nd Major Course**		3
*STAT 4420: Requires MATH 4750, and CSCI 1620 or MATH 3200		
+Students only need one Data Science Elective. Some are offered only in Fall, others only in Spring. Spring: MATH/CSCI 4310 Probabilistic Operations Research Models (prereq: MATH 2050 and MATH 4740), STAT 4440 Time Series Analysis (prereq: MATH 4750 and CSCI 1620 or MATH 3200), or MATH/STAT 4450 Intro to Machine Learning & Data Mining (prereq: MATH 4740)		
**Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.		
Credits		15
Total Credits		121

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Mathematics Education Concentration

#### Freshman

Fall		Credits
MATH 1950	CALCULUS I (*)	5
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3

ENGL 1150	ENGLISH COMPOSITION I (**)	3
Foreign Language Course 1110^		5
MATH 1950: Requires placement exam or ACT or SAT scores.		
ENGL 1150: Requires placement exam.		
^Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.		

Credits		16
<b>Spring</b>		
MATH 1960	CALCULUS II	5
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Foreign Language Course 1120		5
Recommended: Begin studying for Praxis CORE Academic Skills.		
*MATH 2050: Requires MATH 1950.		

Credits		16
<b>Summer</b>		
MATH 1970	CALCULUS III	4

Credits		4
<b>Sophomore</b>		
<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS (*)	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (**)	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH (#)	3
MATH 2200	MATHEMATICAL COMPUTING I (^)	3
Foreign Language Course 2110		3
*TED 2100: Requires 2.50 GPA. Fulfills Advanced Writing Requirement.		
**TED 2200: Requires 2.50 GPA.		
#MATH 2230: Requires MATH 1960.		
^MATH 2200: Requires MATH 1950.		

Credits		15
<b>Spring</b>		
TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE (*)	3
MATH 3230	INTRODUCTION TO ANALYSIS (#)	3
Foreign Language Course 2120		3
#MATH 3230: Requires MATH 2230.		
*TED 2400 and 2380 must be taken back-to-back, in either a Morning or Afternoon block.		
Required: Pass Praxis CORE Academic Skills by the end of this semester.		
Required: Acceptance into Educator Preparation Program. Must have 2.75 GPA.		

Credits		15
<b>Summer</b>		
MATH 2350	DIFFERENTIAL EQUATIONS (*)	3
Humanities & Fine Arts Course + U.S. Diversity		3
*MATH 2350: Requires MATH 1960. MATH 2050 recommended but not required.		
Credits		6

**Junior****Fall**

Humanities & Fine Arts	3
MATH 4740 INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
MATH 3640 MODERN GEOMETRY (**)	3
MATH 4030 MODERN ALGEBRA (***)	3
Social Science	3
*MATH 4740: Requires MATH 1970 and MATH 2230	
**MATH 3640: Requires MATH 2230	
***MATH 4030 Requires: MATH 2230	

**Credits 15**

**Spring**

TED 3550 SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690 LITERACY AND LEARNING (*)	3
Social Science	3
MATH 3850 HISTORY OF MATHEMATICS (#)	3
MATH 3100 APPLIED COMBINATORICS (^) or MATH 4560 or NUMBER THEORY & CRYPTOGRAPHY	3
*TED 3550 and TED 3690 must be taken back-to-back, in either a Morning or Afternoon block.	
#MATH 3850 Requires: MATH 2230.	
^MATH 3100 or MATH 4560 Requires: MATH 2230.	

**Credits 15**

**Summer**

Natural/Physical Science Course, with lab*	4
Natural/Physical Science Course	3
*Natural/Physical Science Courses must be in 2 different disciplines	

**Credits 7**

**Senior****Fall**

TED 4000 SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800 DIFFERENTIATION AND INCLUSIVE PRACTICES (*)	3
STAT 4410 INTRODUCTION TO DATA SCIENCE (**)	3
Social Science***	3
*SPED 3800: Must be taken concurrently with TED 4000 or TED 3550	
**STAT 4410 Requires: MATH 4740	
***Social Sciences course must be in a 2nd discipline	
Recommended but not required: Pass Praxis II.	

**Credits 12**

**Spring**

TED 4600 CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>133</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** TED 2100 and TED 2200 require a 2.50 GPA. TED 2380 and TED 2400 as well as Admission into the Teacher Prep Program require a 2.75 GPA.

**Graduation Requirements:** 2.75 GPA.

**Pre-Actuarial Math Concentration****Freshman**

<b>Fall</b>	<b>Credits</b>
MATH 1950 CALCULUS I (*)	5
ENGL 1150 ENGLISH COMPOSITION I (**)	3
CMST 1110 PUBLIC SPEAKING FUNDS or CMST 2120 or ARGUMENTATION AND DEBATE	3
Foreign Language Course 1110^	5

\*MATH 1950: Requires placement exam

\*\*ENGL 1150: Requires placement exam

^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits 16**

**Spring**

MATH 1960 CALCULUS II	5
ENGL 1160 ENGLISH COMPOSITION II	3
Foreign Language Course 1120	5
Social Science	3

**Credits 16**

**Sophomore****Fall**

MATH 1970 CALCULUS III	4
MATH 2230 INTRODUCTION TO ABSTRACT MATH	3
Humanities & Fine Arts Course/U.S. Diversity	3
Foreign Language Course 2110	3
Optional VEE Elective	3

**Credits 16**

**Spring**

MATH 2050 APPLIED LINEAR ALGEBRA	3
MATH 3230 INTRODUCTION TO ANALYSIS (*)	3
Social Science	3
Foreign Language Course 2120	3
Optional VEE Elective	3

\*MATH 2230 feeds right into MATH 3230, do your best to keep them in back-to-back semesters.

NOTE: Student should consider taking the Exam FM through the Society of Actuaries the summer following this semester.

**Credits 15**

**Junior**

**Fall**

MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH 3400	THEORY OF INTEREST (^)	3
Social Science#		3

\*MATH 4740: Requires MATH 2230

\*\*CIST 1400: Requires CSCI 1200, CSCI 1280, CIST 1300, or coding experience

^MATH 3400: Requires MATH 1970

#Social Sciences Course must be in a 2nd discipline.

**Credits 15**

**Spring**

MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
MATH 4310 or CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS (**) or PROBABILISTIC OPERATIONS RESEARCH MODELS	3
Natural & Physical Science		3
Optional VEE Elective		3

\*MATH 4750: Requires MATH 4740

\*\*MATH 4310: Requires MATH 4740 and MATH 2050.

\*\*MATH 4310: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.

^A&S College Requirement Options

NOTE: Student should consider taking Exam P through the Society of Actuaries the summer following this semester.

**Credits 15**

**Senior**

**Fall**

STAT 4430	LINEAR MODELS (*)	3
Humanities/Fine Arts Course#		3
HIST 1010 or Course toward Minor/2nd Major^		3
Additional HFA Course for A&S or Course toward Minor/2nd Major**		3
Natural & Physical Science, with lab***		4

\*STAT 4430: Requires MATH 4750

\*STAT 4430: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.

#HFA must be in a 2nd discipline

^A&S College Requirement Options

\*\*A&S College Requirement Options. Additional HFA must be in a 3rd discipline.

\*\*\*N&PS Course must be in a 2nd discipline.

**Credits 16**

**Spring**

STAT 4440	TIME SERIES ANALYSIS (*)	3
-----------	--------------------------	---

Additional Social Science Course for A&S or Course for Minor/2nd Major\*\* 3

HIST 1000 or Course for Minor/2nd Major\*\*\* 3

Advanced Writing Requirement^ 3

\*STAT 4440: Requires MATH 4750

\*\*A&S College Requirement Options. Additional Social Sciences Course must be in a 3rd discipline

\*\*\*A&S College Requirement Options.

^Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits 12**

**Total Credits 121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Operation Research Concentration**

**Freshman**

**Fall Credits**

ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Foreign Language Course 1110^		5

\*ENGL 1150: Requires placement exam.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits 16**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Foreign Language Course 1120		5

Social Science	3
<b>Credits</b>	<b>16</b>
<b>Sophomore</b>	
<b>Fall</b>	
MATH 1970	CALCULUS III 4
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*) 3
Natural/Physical Science with Lab	4
Foreign Language Course 2110	3
*MATH 2230: Requires MATH 1960	
<b>Credits</b>	<b>14</b>
<b>Spring</b>	
MATH 2050	APPLIED LINEAR ALGEBRA (*) 3
MATH 3230	INTRODUCTION TO ANALYSIS (**) 3
Social Science	3
Foreign Language Course 2110	3
Humanities/Fine Arts Course with US Diversity	3
*MATH 2050: Requires MATH 1960	
**MATH 3230: Requires MATH 2230	
<b>Credits</b>	<b>15</b>
<b>Junior</b>	
<b>Fall</b>	
Humanities & Fine Arts Course	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**) 3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (*) or MATHEMATICAL COMPUTING I 3
MATH 4300 or CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS (***) or DETERMINISTIC OPERATIONS RESEARCH MODELS 3
Social Science#	3
*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300	
**MATH 4740: Requires MATH 2230	
***MATH/CSCI 4300: Requires MATH 2050	
#Social Science must be from 2nd discipline	
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
MATH 4310 or CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS (*) or PROBABILISTIC OPERATIONS RESEARCH MODELS 3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II 3
Natural/Physical Science**	3
Social Science***	3
HIST 1000 or Minor/2nd Major Course^	3
*MATH/CSCI 4310: Requires MATH 2050 and MATH 4740	
**NPS Must be in a 2nd discipline	
***SS Must be in a 2nd discipline	
^A&S College Requirement Options	
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
Operations Research Elective^ or Elective at 3000-4000 Level	3
MATH 2350	DIFFERENTIAL EQUATIONS (*) 3

Additional Humanities & Fine Arts Course for A&S or Minor/2nd Major Course\*\* 3

Additional Social Science Course for A&S or Minor/2nd Major Course\*\*\* 3

Elective 3

^Must take one Operations Research Elective. Fall options: MATH 4750 Probability & Statistics II, MATH 4900 Independent Studies, STAT 4410 Intro to Data Science, STAT 4430 Linear Models

\*MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.

\*\*A&S College Requirement Options. Additional HFA must be in a 3rd discipline.

\*\*\*A&S College Requirement Options. Additional SS must be in a 3rd discipline

**Credits** **15**

**Spring**

MATH 4320 COMPUTATIONAL OPERATIONS RESEARCH (\*) 3

HIST 1010 or Minor/2nd Major Course\*\* 3

Advanced Writing Requirement\*\*\* 3

Operations Research Elective^ or Elective at 3000-4000 Level 3

Elective at 3000-4000 Level# 3

\*MATH 4320: Requires MATH 3200 (or instructor permission) and MATH 4300.

\*\*A&S College Requirement Options

\*\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

^Must take one Operations Research Elective. Fall options: MATH 4750 Probability & Statistics II, MATH 4900 Independent Studies, STAT 4420 Data Visualization, STAT 4440 Time Series Analysis, STAT 4450 Machine Learning & Data Mining.

#Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits** **15**

**Total Credits** **121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Statistics Concentration

### Freshman

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Foreign Language Course 1110^		5

\*ENGL 1150: Requires placement.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

		Credits
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Social Science		3
Foreign Language Course 1120		5

		Credits
<b>Sophomore</b>		
<b>Fall</b>		
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Natural/Physical Science with Lab		4
Foreign Language Course 2110		3
*MATH 2050: Requires MATH 1960		

		Credits
<b>Spring</b>		
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (**)	3
Social Science		3
Humanities/Fine Arts Course		3
Foreign Language Course 2120		3
*MATH 2230: Requires MATH 1960		
**MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.		

		Credits
<b>Junior</b>		
<b>Fall</b>		
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (***) or MATHEMATICAL COMPUTING I	3
Natural/Physical Science#		3
Social Science^		3

^Social Science must be in a 2nd discipline

\*MATH 3230: Requires MATH 2230

\*\*MATH 4740: Requires MATH 2230

\*\*\*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300

#N&PS Course must be in a 2nd discipline

		Credits
<b>Spring</b>		
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Humanities/Fine Arts Course with US Diversity		3
HIST 1000 or Minor/2nd Major Course**		3
Advanced Writing Requirement***		3

\*MATH 4750: Requires MATH 4740

\*\*A&S College Requirement Options

\*\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

		Credits
<b>Senior</b>		
<b>Fall</b>		
Group A Elective or Elective at 3000-4000 Level^		3
Group B Elective or Elective at 3000-4000 Level#		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course*		3
HIST 1010 or Minor/2nd Major Course**		3
Additional Social Science for A&S or Minor/2nd Major Course***		3

^Must take 3 Stat Electives with at least 2 from Group A. This semester Group A options: STAT 4430 (F) requires MATH 4750.

#Must take 3 Stat Electives with at least 2 from Group A. This semester Group B options: STAT 4410 (F) requires MATH 4740; MATH/CSCI 3100 (F, S) requires MATH 2230; MATH 4900 Independent Study.

\*A&S College Requirement Options. Additional HFA must be in a 3rd discipline.

\*\*A&S College Requirement Options

\*\*\*A&S College Requirement Options. Additional SS Must be in a 3rd discipline.

		Credits
<b>Spring</b>		
Group A Elective or Elective at 3000-4000 Level^		3
Group B Elective or Elective at 3000-4000 Level#		3
Elective/Minor/2nd Major Course*		3
Elective/Minor/2nd Major Course*		3
Elective/Minor/2nd Major Course*		3

^Must take 3 Stat Electives with at least 2 from Group A. This semester Group A options: STAT 4420 (S) requires MATH 4750 & CSCI 1620 or MATH 3200; STAT 4440 (S) requires MATH 4750 & CSCI 1620 or MATH 3200.

#Must take 3 Stat Electives with at least 2 from Group A. This semester Group B options: MATH/CSCI 3100 (F, S) requires MATH 2230; MATH/CSCI 4310 (S) requires MATH 3050 and 4750; MATH/STAT 4450 (S) requires MATH 4740; MATH 4900 Independent Study.

\*NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits 15**

**Total Credits 121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Computational Mathematics Concentration

#### Freshman

		Credits
<b>Fall</b>		
MATH 1950	CALCULUS I (*)	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Foreign Language Course 1		5
*MATH 1950 - Requires appropriate placement		
*ENGL 1150 - Requires appropriate placement		
<b>Credits</b>		<b>16</b>

#### Spring

MATH 1960	CALCULUS II	5
ENGL 1160	ENGLISH COMPOSITION II	3
HIST 1000	WORLD CIVILIZATIONS I	3
Foreign Language Course 2		5
<b>Credits</b>		<b>16</b>

#### Sophomore

<b>Fall</b>		
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
MATH 2050	APPLIED LINEAR ALGEBRA	3
HIST 1010	WORLD CIVILIZATIONS II	3
Foreign Language Course 3		3
*MATH 2230: Requires MATH 1960		
<b>Credits</b>		<b>16</b>

#### Spring

MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (*)	3
Natural/Physical Science		3
Foreign Language Course 4		3

Advanced Writing Requirement\* 3

\*MATH 3230: Requires MATH 2230

\*MATH 2350: Requires MATH 1960. Recommended but not required: MATH 2050

\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

**Credits 15**

#### Junior

##### Fall

MATH 4330 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (

- or Elective

CIST 1400 or MATH 2200 INTRODUCTION TO COMPUTER SCIENCE I (\*) or MATHEMATICAL COMPUTING I

Social Science 3

MATH 4400 THE FINITE ELEMENT METHOD (

- or Computational Math Elective ^

Humanities and Fine Arts\* with US Diversity 3

• MATH 4330 Requires: MATH 1970 and 2350. + Offered only in Fall of odd-numbered years.

\*CIST 1400: Requires prior coding experience or CSCI 1200, CSCI 1280 or CIST 1300.

• MATH 4400: : Requires MATH 1970, MATH 2050, and MATH 2350. MATH 3300 and MATH 4330 recommended. Offered only in Fall of odd-numbered years.

\*HFA must be in something other than History

^ Must take 1 Computational Math Elective. Fall offerings: MATH 4230 odd-numbered years, MATH 4350, MATH 4900

**Credits 15**

#### Spring

MATH/CSCI 3300 NUMERICAL METHODS 3

CSCI 1620 or MATH 3200 INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II

Elective at 3000-4000 Level 3

Social Science 3

Humanities and Fine Arts or course towards Minor/2nd Major\* 3

\*MATH/CSCI 3300: Requires MATH 1960

\*HFA must be in a 3rd discipline

**Credits 15**

#### Senior

##### Fall

MATH 4330 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (

- or Elective

Humanities/Fine Arts or Course towards Minor/2nd Major 3

Humanities/Fine Arts or Course towards Minor/2nd Major 3

MATH 4400 THE FINITE ELEMENT METHOD (

- or Computational Math Elective ^

MATH 4900 INDEPENDENT STUDIES (\*) 3

- MATH 4330: Requires MATH 1970 and 2350. + Offered only in Fall of odd-numbered years.

\*Independent Studies must be related to Computational Mathematics

^ Must take 1 Computational Math Elective. Fall offerings: MATH 4230 odd-numbered years, MATH 4350, MATH 4900

- MATH 4400: Requires MATH 1970, MATH 2050, and MATH 2350. MATH 3300 and MATH 4330 recommended. Offered only in Fall of odd-numbered years.

**Credits** **15**

### Spring

Elective	3
Social Science	3
Social Science	3
Natural/Physical Science with Lab	4
*SS must be in a 3rd discipline	

**Credits** **13**

**Total Credits** **121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Pure Mathematics Concentration

### Pure Math Concentration, Even Year Admit

#### Freshman

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Foreign Language Course 1110^		5

\*ENGL 1150: Requires placement.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits** **16**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Foreign Language Course 1120		5
Social Science		3

**Credits** **16**

### Sophomore

#### Fall

MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH (**)	3
Foreign Language Course 2110		3
Humanities/Fine Arts Course with US Diversity		3

\*MATH 2050: Requires MATH 1960

\*\*MATH 2230: Requires MATH 1960

**Credits** **16**

### Spring

MATH 4050	LINEAR ALGEBRA (*)	3
MATH 3230	INTRODUCTION TO ANALYSIS (**)	3
MATH 2350	DIFFERENTIAL EQUATIONS (***)	3
Foreign Language Course 2120		3

\*MATH 4050: Requires MATH 2050 and MATH 2230. Offered only Spring of even-numbered years.

\*\*MATH 3230: Requires MATH 2230

\*\*\*MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.

**Credits** **12**

### Junior

#### Fall

MATH 4110	ABSTRACT ALGEBRA I (*)	3
Pure Math Elective or Elective^		3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
Natural/Physical Science		3
Social Science		3

\*MATH 4110: Requires MATH 4050. Offered only in fall of even-numbered years.

^Must take 2 Pure Math Electives. This semester options: MATH 4270 Complex Variables (requires MATH 3230); MATH 4610 Intro to Topology (requires MATH 3230)

\*\*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300

**Credits** **15**

### Spring

Pure Math Elective or Elective^		3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Social Science*		3
Humanities/Fine Arts Course		3
HIST 1000 or Minor/2nd Major Course**		3

\*SS Must be in a 2nd discipline

^Must take 2 Pure Math Electives. This semester options: MATH 4120 Abstract Algebra II (requires MATH 4110); MATH 4560 Number Theory & Cryptography (requires MATH 3230)

**A&S College Requirement Options		
Credits		15
<b>Senior</b>		
<b>Fall</b>		
MATH 4230	MATHEMATICAL ANALYSIS I (*)	3
Natural/Physical Science with Lab**		4
HIST 1010 or Minor/2nd Major Course***		3
Additional Humanities/Fine Arts for A&S or Minor/2nd Major Course^		3
Additional Social Science for A&S or Minor/2nd Major Course#		3
*MATH 4230: Requires MATH 3230. Offered only in fall of odd-numbered years.		
**N&PS Course must be in a 2nd discipline		
***A&S College Requirement Options		
^A&S College Requirement Options. Additional HFA must be in a 3rd discipline		
#A&S College Requirement Options. Additional SS must be in a 3rd discipline		
Credits		16
<b>Spring</b>		
Pure Math Elective or Elective^		3
Advanced Writing Requirement#		3
Elective or Minor/Double Major Course*		3
Elective or Minor/Double Major Course*		3
Elective or Minor/Double Major Course*		3
^Must take 2 Pure Math Electives. This semester options: MATH 4560 Number Theory & Cryptography (requires MATH 2230), MATH 4240 Mathematical Analysis II (requires MATH 4230)		
#Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.		
*NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.		
Credits		15
Total Credits		121

**Pure Math Concentration, Odd Year Admit**

<b>Freshman</b>		
<b>Fall</b>		
		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Foreign Language Course 1110^		5
*ENGL 1150: Requires placement.		
**MATH 1950: Requires Math Placement Exam or ACT or SAT scores.		
^Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.		
Credits		16

<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Foreign Language Course 1120		5
Social Science		3
Credits		16
<b>Sophomore</b>		
<b>Fall</b>		
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
Natural/Physical Science with Lab		4
Foreign Language Course 2110		3
*MATH 2230: Requires MATH 1960		
Credits		14
<b>Spring</b>		
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 2050	APPLIED LINEAR ALGEBRA (**)	3
Social Science		3
Humanities/Fine Arts Course		3
Foreign Language Course 2120		3
*MATH 3230: Requires MATH 2230		
**MATH 2050: Requires MATH 1960		
Credits		15
<b>Junior</b>		
<b>Fall</b>		
MATH 4230	MATHEMATICAL ANALYSIS I (*)	3
Humanities/Fine Arts & US Diversity Course**		3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (***) or MATHEMATICAL COMPUTING I	3
MATH 2350	DIFFERENTIAL EQUATIONS (#)	3
Social Science^		3
*MATH 4230: Requires MATH 3230. Offered only in fall of odd-numbered years.		
**HFA Course should be in a 2nd discipline.		
***CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300		
#MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.		
^Social Science must be in a 2nd discipline		
Credits		15
<b>Spring</b>		
Pure Math Elective or Elective^		3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Advanced Writing Requirement*		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course**		3
MATH 4050	LINEAR ALGEBRA (#)	3
^Must take 2 Pure Math Electives. This semester options: MATH 4560 Number Theory & Cryptography (requires MATH 2230), MATH 4240 Mathematical Analysis II (requires MATH 4230)		
*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.		
**A&S College Requirement Options. Additional HFA must be in a 3rd discipline		

#MATH 4050: Requires MATH 2050 and MATH 2230. Offered only Spring of even-numbered years.		
Credits		15
Senior		
Fall		
MATH 4110	ABSTRACT ALGEBRA I (*)	3
Pure Math Elective or Elective^		3
Additional Social Science for A&S or Minor/2nd Major Course**		3
HIST 1000 or Minor/2nd Major Course***		3
Natural/Physical Science#		3
*MATH 4110: Requires MATH 4050. Offered only in fall of even-numbered years.		
^Must take 2 Pure Math Electives. This semester options: MATH 4270 Complex Variables (requires MATH 3230); MATH 4610 Intro to Topology (requires MATH 3230)		
**A&S College Requirement Options. Additional SS must be in a 3rd discipline.		
***A&S College Requirement Options		
#N&PS Course must be in a 2nd discipline		
Credits		15
Spring		
Pure Math Elective or Elective^		3
HIST 1010 or Minor/2nd Major Course*		3
Elective or Minor/Double Major Course**		3
Elective or Minor/Double Major Course**		3
Elective or Minor/Double Major Course**		3
^Must take 2 Pure Math Electives. This semester options: MATH 4120 Abstract Algebra II (requires MATH 4110); MATH 4560 Number Theory & Cryptography (requires MATH 3230)		
*A&S College Requirement Options		
**NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.		
Credits		15
Total Credits		121

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**  
**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

# Mathematics, Bachelor of Science

To obtain a B.S. with a major in Mathematics, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in General Education courses that satisfy both distribution and diversity requirements are likely to reduce the total number of General Education hours to 40 or fewer.*)

12 hours college breadth requirement

65 hours of major courses

Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
Courses Required (Core Curriculum)		
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH 3230	INTRODUCTION TO ANALYSIS	3
Select two of the following: <sup>1</sup>		6
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	
MATH 2200	MATHEMATICAL COMPUTING I	
MATH 3200	MATHEMATICAL COMPUTING II	
Additional Coursework: Concentration or No Concentration Option		
An additional 15 credits of approved upper-level MATH/STAT courses which must include at least 9 credits at the 4000 level		15
Optional Concentrations Include:		
Applied Mathematics		
Pre-Actuarial Mathematics		
Computational Mathematics		
Data Science		
Mathematics Education		
Operations Research		
Statistics		
Pure Mathematics		
B.S. Degree Additional Requirement		15

The Bachelor of Science Degree requires at least 15 hours of related cognate coursework that must be approved by the Math Academic Advisor/Coordinator. Students can also choose a UNO Minor to satisfy their cognate requirement; however, this cognate minor cannot double-count as the Option 1 minor for the College of Arts & Sciences College Breadth Requirement. A Computer Science Minor cannot satisfy the Cognate requirement for Mathematics. No more than 6 credits of cognate coursework may double-count within the general education requirements.

**Total Credits** 62

<sup>1</sup> May not include both CIST 1400 and MATH 2200.

### Applied Mathematics Concentration

This concentration is recommended for students interested in inherently interdisciplinary subjects which apply to many problems that arise in the physical, biological, economic, social, and network sciences as well as in engineering. Applied Mathematics provides a set of qualitative and quantitative skills and knowledge for use in these fields.

Applied Mathematics has a profound impact on our daily lives. Whether it is weather forecasts, genetic or neural networks, search engines, climate research, evolution of species, stock market and finance, ground or air transportation, architecture, or movie recommendations, none of these would work the way they do without algorithms and tools from the mathematical sciences. The concentration in Applied Mathematics allows students to investigate the mathematics of problems arising in the physical, biological, economic, social, and network sciences as well as in engineering.

Applied Mathematics appeals to people with a variety of different interests, ranging from those with a desire to obtain a good quantitative background for use in some future career, to those who are interested in the basic techniques and approaches in themselves.

Code	Title	Credits
<b>The 15 credits of upper-level courses must include:</b>		
MATH 3100	APPLIED COMBINATORICS	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4760	TOPICS IN APPLIED MATHEMATICS	3
MATH 4970	SEMINAR IN APPLIED MATHEMATICS	3
<b>Along with one 3 credit elective from the following:</b>		<b>3</b>
MATH 3300	NUMERICAL METHODS	
MATH 3400	THEORY OF INTEREST	
MATH 4150	GRAPH THEORY & APPLICATIONS	
MATH 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH 4320	COMPUTATIONAL OPERATIONS RESEARCH	
MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 4350	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 4400	THE FINITE ELEMENT METHOD	
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 4760	TOPICS IN APPLIED MATHEMATICS	
MATH 4900	INDEPENDENT STUDIES (Must be in a chosen Applied Mathematics Topic)	

MATH 4970	SEMINAR IN APPLIED MATHEMATICS	
<b>Total Credits</b>		<b>15</b>

### Data Science Concentration

This concentration is recommended for students interested in a career as a data science professional or pursuing graduate study in disciplines with a strong data analysis component. Data science is the art and science of transforming raw data into deliverable data products in order to help businesses or government agencies make more informed decisions.

Code	Title	Credits
<b>Upper level Courses</b>		
The 15 credits of upper-level courses must include:		
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3
STAT 4410	INTRODUCTION TO DATA SCIENCE	3
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	3
Select one of the following elective courses:		3
MATH/CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	
STAT 4430	LINEAR MODELS	
STAT 4440	TIME SERIES ANALYSIS	
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
<b>Total Credits</b>		<b>15</b>

### Mathematics Education Concentration

This concentration is recommended for students interested in pursuing a career in Secondary Education. In some cases it is possible to simultaneously earn a B.S. or a B.A. in Math and a B.S. in Secondary Education.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 3640	MODERN GEOMETRY	3
MATH 3850	HISTORY OF MATHEMATICS	3
MATH 4030	MODERN ALGEBRA	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
Select one of the following elective courses:		
MATH/CSCI 3100	APPLIED COMBINATORICS	
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
<b>Total Credits</b>		<b>12</b>

### Second Computing Course

This concentration also requires the following course, which counts as the Math major's second computing course.

Code	Title	Credits
STAT 4410	INTRODUCTION TO DATA SCIENCE	3

### Additional Requirement

Students must include the following Educator Preparation Program Requirements:

Code	Title	Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
<b>Total Credits</b>		<b>27</b>

Code	Title	Credits
<b>For those who want a Nebraska Math 6-12 Teaching Certificate:</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL <sup>1</sup>	12

<sup>1</sup> These requirements also fulfill the College of Arts & Sciences breadth requirement.

### Pre-Actuarial Math Concentration

This concentration is recommended for students interested in a career as an actuary and who plan on taking the actuarial exams.

An actuary evaluates the financial impact of risk by evaluating the likelihood of future events, designing creative ways to reduce the likelihood of undesirable events, and decreasing the impact of undesirable events that do occur.

Actuaries work for insurance companies, government, and consulting firms. In the actuarial profession you can earn while you learn. Many students receive on-the-job training while enrolled in the examination process. Employers are generally supportive and may give students study time during working hours, pay exam fees, and award raises for each exam passed. However, most employers prefer to hire people who have started the series of examinations on their own and have already passed at least two or three.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 3400	THEORY OF INTEREST	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3
STAT 4440	TIME SERIES ANALYSIS	3
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
or STAT 4430	LINEAR MODELS	
<b>Total Credits</b>		<b>15</b>

### Operations Research Concentration

This concentration is recommended for students interested in a career as an operations research analyst or in pursuing a graduate degree in operations research or a related field.

The broad real-world applicability of operations research makes it an attractive choice for math majors. In operations research courses students get a solid background in mathematical modeling of decision-making

problems, algorithms for solving different types of these problems, as well as experience using appropriate software tools.

Operations research is the application of advanced analytical methods to enable better decision making. A plethora of problems may be solved using operations research; among these are (1) determining the route a delivery truck should take in order to make all deliveries while traveling the fewest number of miles; (2) determining the best location for a new facility such as a fire station; (3) scheduling airline flights and crew; and (4) determining the optimal distribution of bicycles in a bike sharing system. Operations research includes problem-solving methods such as deterministic and stochastic optimization, machine learning, and simulation.

Code	Title	Credits
The 15 hours of upper-level courses must include:		
MATH/CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	3
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
MATH 4320	COMPUTATIONAL OPERATIONS RESEARCH	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
or STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	
Select one of the following:		3
MATH/CSCI 4150	GRAPH THEORY & APPLICATIONS	
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 4900	INDEPENDENT STUDIES	
STAT 4410	INTRODUCTION TO DATA SCIENCE	
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	
STAT 4430	LINEAR MODELS	
STAT 4440	TIME SERIES ANALYSIS	
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	

**Total Credits** **15**

### Statistics Concentration

This concentration is recommended for students interested in the theoretical and practical aspects of statistics, particularly those students who are interested in pursuing graduate study in statistics or biostatistics.

Statistics, the study of data, is of growing importance. Students who have the skills to properly collect, analyze, interpret, and present data are in high demand around the country.

The objectives of this concentration are: (1) to gain an understanding of the mathematical underpinnings of statistics; (2) to use appropriate statistical modeling to solve practical problems; (3) to develop an understanding of how to use statistical software; (4) to communicate statistical results to non-statisticians.

Statistics is used in a many fields, including biology, sociology, psychology, medicine, economics, quality control, and sports. This diversity, along with the growing need for people with statistical knowledge makes it an attractive choice for mathematics students.

Code	Title	Credits
The 15 credits of upper-level courses must include:		
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II	3

Select three of the following, with at least two from group A: 9

Group A:	
STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION
STAT 4430	LINEAR MODELS
STAT 4440	TIME SERIES ANALYSIS
Group B:	
MATH/CSCI 3100	APPLIED COMBINATORICS
MATH/CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS
MATH 4900	INDEPENDENT STUDIES
STAT 4410	INTRODUCTION TO DATA SCIENCE
MATH/STAT 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING

**Total Credits** 15

### Computational Mathematics Concentration

This concentration is recommended for students interested in computational science, particularly those students who are interested in pursuing graduate study in applied and computational mathematics at the graduate level.

A concentration in computational mathematics may be useful in a wide range of areas including science, engineering, government, health care, business, and information technology. The specialization in computational mathematics is designed for students with a strong interest in mathematics and in mathematical applications to areas of science and engineering. By choosing elective courses carefully, students completing this specialization will be prepared for a career in a variety of computing and/or engineering areas. Students will also be prepared to continue on to a graduate program in applied mathematics.

Computational mathematics involves the use of math and computers to solve problems and predict outcomes. The concentration in computational mathematics is intended for any student who is interested in applications to solving practical and physical problems in engineering, science, and business. This concentration is also recommended for students who wish to work in the research and development area of industry. The concentration is especially intended for students seeking a career as quantitative analysts, computational scientists, and applied mathematicians, and for those thinking of continuing the study of applied and computational mathematics at the graduate level.

#### The 15 credits of upper-level courses must include:

Code	Title	Credits
MATH/CSCI 3300	NUMERICAL METHODS	3
MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	3
MATH 4400	THE FINITE ELEMENT METHOD	3
MATH 4900	INDEPENDENT STUDIES <sup>1</sup>	3
Select one of the following:		3
MATH 4050	LINEAR ALGEBRA	
MATH 4230	MATHEMATICAL ANALYSIS I	
MATH 4240	MATHEMATICAL ANALYSIS II	
MATH 4350	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 4900	INDEPENDENT STUDIES <sup>2</sup>	

**Total Credits** 15

<sup>1</sup> Independent Study must be related to computational mathematics, developed and supervised by the advisor.

<sup>2</sup> Optional second Independent Study must be a continuation of the first required Independent Study and adhere to the same requirements as in (1).

### Pure Mathematics Concentration

What do UNO Alumni Chief Operating Officer Matt Culek of Citadel Securities, Senior Industrial Logician Andrew Gacek of Rockwell Collins, Microsoft Data Scientist Daniel Miller and McGill University Post-doc Melissa Emory have in common? They sought out the strongest foundation in mathematics available here at UNO, taking the courses required for the Pure Mathematics Concentration.

This concentration is strongly recommended for students interested in a pursuing a graduate degree in mathematics, but as indicated above, is highly recommended for any student interested in getting the most out of their mathematics major.

Students pursuing a graduate degree are expected to have a strong foundation based in analysis, topology, and abstract algebra. This is what this concentration provides.

Challenging yourself has other advantages. Matt Culek credits his ability to trouble-shoot proposals brought to him by quantitative analysts at Citadel Securities to the habits of thought developed in his undergraduate course in number theory here at UNO.

Code	Title	Credits
<b>15 credits of upper-level courses in this concentration must include the following 3 courses:</b>		<b>9</b>
MATH 4050	LINEAR ALGEBRA (3 credits)	
MATH 4110	ABSTRACT ALGEBRA I (3 credits)	
MATH 4230	MATHEMATICAL ANALYSIS I (3 credits)	
<b>Choose 2 of the following 5 courses:</b>		<b>6</b>
MATH 4120	ABSTRACT ALGEBRA II (3 credits)	
MATH 4240	MATHEMATICAL ANALYSIS II (3 credits)	
MATH 4270	COMPLEX ANALYSIS (3 credits)	
MATH/CSCI 4560	NUMBER THEORY & CRYPTOGRAPHY (3 credits)	
MATH 4610	INTRODUCTION TO TOPOLOGY (3 credits)	
<b>Total Credits</b>		<b>15</b>

### Applied Mathematics Concentration

Freshman		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
MATH 1950	CALCULUS I	5
Social Science		3
*ENGL 1150: Requires placement.		
**MATH 1950: Requires Math Placement Exam or ACT or SAT scores.		
<b>Credits</b>		<b>14</b>

Spring		Credits
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Natural/Physical Science with Lab		4
Humanities/Fine Arts Course with Global Diversity		3
<b>Credits</b>		<b>15</b>

**Sophomore****Fall**

MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA	3
Humanities/Fine Arts Course		3
Social Science		3
Natural/Physical Science*		3
*N&PS course must be in a 2nd discipline		

**Credits 16**

**Spring**

MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS (#)	3
Humanities/Fine Arts Course*		3
Social Science & U.S. Diversity Course**		3
Advanced Writing Requirement***		3

#MATH 2350: It is recommended you take MATH 2050 first, but not required

\*HFA must be in a 2nd discipline

\*\*SS must be in a 2nd discipline

\*\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

**Credits 15**

**Junior****Fall**

MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
MATH 3230	INTRODUCTION TO ANALYSIS (***)	3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course^		3
Additional Social Science Course for A&S or Minor/2nd Major Course#		3

\*MATH 4740: Requires MATH 1970 and MATH 2230

\*\*CIST 1400: Requires prior coding experience, or a prereq in CSCI 1200, CSCI 1280, or CIST 1300

\*\*\*MATH 3230: Requires MATH 2230

^A&S College Requirement Options. Additional HFA course must be in a 3rd discipline

#A&S College Requirement Options. Additional SS course must be in a 3rd discipline

**Credits 15**

**Spring**

MATH 3100	APPLIED COMBINATORICS (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
HIST 1000	WORLD CIVILIZATIONS I (or Minor/2nd Major Course**)	3
Cognate Course		3
Cognate Course		3

\*MATH 3100: Requires MATH 2230

\*\*A&S College Requirement Options

**Credits 15**

**Senior****Fall**

Applied Math Elective+	3	
Data Science Elective/Elective+	3	
HIST 1010	WORLD CIVILIZATIONS II (or Minor/2nd Major Course **)	3
Cognate Course		3
Cognate Course		3
*STAT 4410: Requires MATH 4740		
+See Academic Catalog for list of Applied Math Electives.		
**A&S College Requirement Options		

**Credits 15**

**Spring**

MATH 4760	TOPICS IN APPLIED MATHEMATICS (*)	3
MATH 4970	SEMINAR IN APPLIED MATHEMATICS (*)	3
Elective at 3000-4000 Level/Minor/2nd Major Course^		3
Elective at 3000-4000 Level/Minor/2nd Major Course^		3
Cognate Course		3

\*MATH 4760: Requires MATH 3100

\*MATH 4970: Requires MATH 3100

^Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits 15**

**Total Credits 120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Data Science Concentration****Freshman**

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Social Science		3

\*ENGL 1150: Requires placement.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Natural/Physical Science with Lab		4
Humanities/Fine Arts Course with Global Diversity		3

**Credits** **15**

**Sophomore****Fall**

MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA	3
Humanities/Fine Arts Course		3
Social Science		3
Natural/Physical Science*		3

\*N&PS course must be in a 2nd discipline

**Credits** **16**

**Spring**

MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2350	DIFFERENTIAL EQUATIONS (#)	3
Humanities/Fine Arts Course*		3
Social Science & U.S. Diversity Course**		3
Advanced Writing Requirement***		3

#MATH 2350: It is recommended you take MATH 2050 first, but not required.

\*HFA must be in a 2nd discipline

\*\*SS must be in a 2nd discipline

\*\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

**Credits** **15**

**Junior****Fall**

MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
MATH 3230	INTRODUCTION TO ANALYSIS (***)	3

Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course^ 3

Additional Social Science Course for A&S or Minor/2nd Major Course# 3

\*MATH 4740: Requires MATH 1970 and MATH 2230

\*\*CIST 1400: Requires prior coding experience, or a prereq in CSCI 1200, CSCI 1280, or CIST 1300

\*\*\*MATH 3230: Requires MATH 2230

^A&S College Requirement Options. Additional HFA course must be in a 3rd discipline

#A&S College Requirement Options. Additional SS course must be in a 3rd discipline

**Credits** **15**

**Spring**

MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
HIST 1000 or Minor/2nd Major Course**		3
Cognate Course		3

Cognate Course 3

\*MATH 4750: Requires MATH 4740

\*\*A&S College Requirement Options

**Credits** **15**

**Senior****Fall**

STAT 4410	INTRODUCTION TO DATA SCIENCE (*)	3
Data Science Elective/Elective+		3
HIST 1010 or Minor/2nd Major Course**		3
Cognate Course		3
Cognate Course		3

\*STAT 4410: Requires MATH 4740

+Students only need one Data Science Elective. Some are offered only in Fall, others only in Spring. Fall: MATH/ CSCI 4300 Deterministic Operations Research Models (prereq: MATH 2050), or STAT 4430 Linear Models (prereq: MATH 4750)

\*\*A&S College Requirement Options

**Credits** **15**

**Spring**

STAT 4420	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (*)	3
Data Science Elective/Elective+		3
Elective at 3000-4000 Level/Minor/2nd Major Course^		3
Elective at 3000-4000 Level/Minor/2nd Major Course^		3
Cognate Course		3

\*STAT 4420: Requires MATH 4750, and CSCI 1620 or MATH 3200

+Students only need one Data Science Elective. Some are offered only in Fall, others only in Spring. Spring: MATH/ CSCI 4310 Probabilistic Operations Research Models (prereq: MATH 2050 and MATH 4740), STAT 4440 Time Series Analysis (prereq: MATH 4750 and CSCI 1620 or MATH 3200), or MATH/STAT 4450 Intro to Machine Learning & Data Mining (prereq: MATH 4740)

^Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits** **15**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Mathematics Education Concentration

### Freshman

Fall		Credits
MATH 1950	CALCULUS I (*)	5
ENGL 1150	ENGLISH COMPOSITION I (**)	3
Natural/Physical Science Course, with lab		4
Humanities/Fine Arts Course, Global Diversity		3
*MATH 1950: Requires placement.		
**ENGL 1150: Requires placement.		
<b>Credits</b>		<b>15</b>

### Spring

MATH 1960	CALCULUS II	5
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Natural/Physical Science Course**		3
*MATH 2050: Requires MATH 1950		
**Natural/Physical Science Course must be in a 2nd discipline.		
Recommended: Begin studying for Praxis CORE Academic Skills.		
<b>Credits</b>		<b>17</b>

### Sophomore

Fall		
TED 2100	EDUCATIONAL FOUNDATIONS (*)	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (**)	3
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
Social Science		3
*TED 2100: Requires 2.50 GPA. Fulfills Advanced Writing Requirement.		
**TED 2200: Requires 2.50 GPA.		
Required: Apply for Educator Preparation Program at this time.		
Recommended but not required: Pass the Praxis CORE Academic Skills.		
<b>Credits</b>		<b>16</b>

### Spring

TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (**)	3
MATH 3230	INTRODUCTION TO ANALYSIS (***)	3
*TED 2400 and 2380 must be taken back-to-back, in either a Morning or Afternoon block.		
**MATH 2350: Requires MATH 1960		
***MATH 3230: Requires MATH 2230		
Required: Pass Praxis CORE Academic Skills by the end of this semester.		
Required: Acceptance into Educator Preparation Program. Must have 2.75 GPA.		
<b>Credits</b>		<b>15</b>

### Junior

Fall		
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (*) or MATHEMATICAL COMPUTING I	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**)	3
MATH 3640	MODERN GEOMETRY (***)	3
Social Science		3
Humanities/Fine Arts		3
*CIST 1400: Requires prior coding experience or CSCI 1200, CSCI 1280, or CIST 1300.		
**MATH 4740 Requires: MATH 1970 and MATH 2230		
***MATH 3640: Requires MATH 2230		
<b>Credits</b>		<b>15</b>

### Spring

TED 3550	SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690	LITERACY AND LEARNING (*)	3
Social Science**		3
MATH 3850	HISTORY OF MATHEMATICS (***)	3
MATH 3100 or MATH 4560	APPLIED COMBINATORICS (#) or NUMBER THEORY & CRYPTOGRAPHY	3
*TED 3550 and TED 3690 must be taken back-to-back, in either a Morning or Afternoon block.		
**Social Sciences Course must be in a 2nd discipline		
***MATH 3850 Requires: MATH 2230		
#MATH 3100 or MATH 4560 Requires: MATH 2230		
<b>Credits</b>		<b>15</b>

### Senior

Fall		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES (*)	3
Humanities/Fine Arts**		3
STAT 4410	INTRODUCTION TO DATA SCIENCE (***)	3
MATH 4030	MODERN ALGEBRA (#)	3
*SPED 3800: Must be taken concurrently with TED 4000 or TED 3550		
**Humanities/Fine Arts course must be in a 2nd discipline		
***STAT 4410: Requires MATH 4740		
#MATH 4030 Requires: MATH 2230		
Recommended but not required: Pass Praxis II.		
<b>Credits</b>		<b>15</b>

### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** TED 2100 and TED 2200 require a 2.50 GPA. TED 2380 and TED 2400 as well as Admission into the Teacher Prep Program require a 2.75 GPA.

**Graduation Requirements:** 2.75 GPA.

**Pre-Actuarial Math Concentration****Freshman**

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1950	CALCULUS I (**)	5
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Humanities/Fine Arts Course with Global Diversity		3
*ENGL 1150: Requires placement.		
**MATH 1950: Requires placement.		
<b>Credits</b>		<b>14</b>

**Spring**

MATH 1960	CALCULUS II	5
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities/Fine Arts Course		3
Social Science		3
<b>Credits</b>		<b>14</b>

**Sophomore**

<b>Fall</b>		
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
Humanities & Fine Arts/U.S. Diversity Course*		3
Natural & Physical Science		3
Cognate Course		3
*Must be in a 2nd discipline.		
<b>Credits</b>		<b>16</b>

**Spring**

MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 3230	INTRODUCTION TO ANALYSIS (^)	3
Natural & Physical Science with lab*		4
HIST 1000 or Minor/2nd Major Course**		3
Social Science		3

^MATH 2230 feeds right into MATH 3230, do your best to keep them in back-to-back semesters.

\*N&PS course should be in a 2nd discipline.

\*\*A&S College Requirement Options

Student should consider taking the Exam FM through the Society of Actuaries the summer following this semester.

**Credits** **16**

**Junior****Fall**

MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (*)	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I (**)	3
or MATH 2200	or MATHEMATICAL COMPUTING I	
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH 3400	THEORY OF INTEREST (*)	3
Social Science#		3
*MATH 4740: Requires MATH 2230		
**CIST 1400: Requires prior coding experience or CSCI 1200, CSCI 1280, or CIST 1300.		
***MATH 3400: Requires MATH 1970		
#Social Science Course must be in a 2nd discipline.		
<b>Credits</b>		<b>15</b>

**Spring**

MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
or MATH 3200	or MATHEMATICAL COMPUTING II	
MATH 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS (**)	3
or CSCI 4310	or PROBABILISTIC OPERATIONS RESEARCH MODELS	
Cognate Course		3
Additional Social Science Course for A&S or Minor/2nd Major Course^		3
*MATH 4750: Requires MATH 4740		
**MATH 4310: Requires MATH 4740 and MATH 2050.		
**IMPORTANT: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.		
^A&S College Requirement Options. Additional SS must be in a 3rd discipline.		
Student should consider taking Exam P through the Society of Actuaries the summer following this semester.		
<b>Credits</b>		<b>15</b>

**Senior****Fall**

STAT 4430	LINEAR MODELS (*)	3
Advanced Writing Requirement**		3
Cognate Course		3
Cognate Course		3
Additional Humanities and Fine Arts Course for A&S or Minor/2nd Major Course***		3
*STAT 4430: Requires MATH 4750		

\*IMPORTANT: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.

\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

\*\*\*A&S College Requirement Options. Additional HFA must be in 3rd discipline.

**Credits** **15**

**Spring**

STAT 4440	TIME SERIES ANALYSIS (*)	3
HIST 1010 or Minor/2nd Major Course**		3
Cognate Course#		3

Cognate Course#	3
Elective at 3000-4000L#	3
*STAT 4440: Requires MATH 4750	
**A&S College Requirement Options	
#Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.	
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Operations Research Concentration

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (*)	5
Humanities/Fine Arts Course with Global Diversity		3
*ENGL 1150: Requires placement.		
*MATH 1950: Requires Math Exam or ACT or SAT scores.		
<b>Credits</b>		<b>14</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Humanities/Fine Arts Course		3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		Credits
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
HIST 1000 or Minor/2nd Major Course**		3
Social Science		3
Social Science with U.S. Diversity		3
*MATH 2050: Requires MATH 1960		

\*\*A&S College Requirement Options.

Credits		16
<b>Spring</b>		
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (**)	3
Advanced Writing Requirement***		3
Social Science#		3
Humanities/Fine Arts Course^		3
*MATH 2230: Requires MATH 1960		
**MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.		
***Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.		
#Social Science must be in 2nd discipline.		
^HFA Must be in 2nd discipline		

Credits		15
<b>Junior</b>		
<b>Fall</b>		
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (***) or MATHEMATICAL COMPUTING I	3
MATH 4300 or CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS (#) or DETERMINISTIC OPERATIONS RESEARCH MODELS	3
Additional Social Science for A&S or Minor/2nd Major Course^		3
*MATH 3230: Requires MATH 2230		
**MATH 4740: Requires MATH 2230		
***CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300		
#MATH/CSCI 4300: Requires MATH 2050		
^A&S College Requirement Options. Additional SS Must be in a 3rd discipline		

Credits		15
<b>Spring</b>		
MATH 4310 or CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS (*) or PROBABILISTIC OPERATIONS RESEARCH MODELS	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Natural/Physical Science**		3
Cognate		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course^		3
*MATH/CSCI 4310: Requires MATH 2050 and MATH 4740		
**N&PS must be in 2nd discipline		
^A&S College Requirement Options. Additional HFA must be in 3rd discipline.		

Credits		15
<b>Senior</b>		
<b>Fall</b>		
Operations Research Elective^ or Cognate		3
Cognate		3

Cognate	3
HIST 1010 or Minor/2nd Major Course**	3
Elective#	3

^Must take one Operations Research Elective. Fall options:  
MATH 4750 Probability & Statistics II, MATH 4900  
Independent Studies, STAT 4410 Intro to Data Science,  
STAT 4430 Linear Models

**\*\*A&S College Requirement Options**

#Students need at least 120 credits and a minimum of 27  
upper level credits throughout the entire degree, with at  
least 18 credits of upper level coursework taken within the  
major/concentration. May need to select 3000/4000 level  
free electives and/or cognate courses to reach the 27 credit  
minimum.

	Credits	15
<b>Spring</b>		
MATH 4320	COMPUTATIONAL OPERATIONS RESEARCH (*)	3
Operations Research Elective^ or Cognate		3
Cognate		3
Elective at 3000-4000 Level/Minor/2nd Major Course#		3
Elective at 3000-4000 Level/Minor/2nd Major Course#		3
*MATH 4320: Requires MATH 3200 (or instructor permission) and MATH 4300.		
^Must take one Operations Research Elective. Fall options: MATH 4750 Probability & Statistics II, MATH 4900 Independent Studies, STAT 4420 Data Visualization, STAT 4440 Time Series Analysis, STAT 4450 Machine Learning & Data Mining.		
#Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting  
with an advisor. Please note that students may need to adjust the actual  
sequence of courses based on course availability. Please consult an advisor  
in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours  
for a UNO undergraduate degree is 120 credit hours. Please review the  
requirements for your specific program to determine all requirements for  
the program. In order to graduate on-time (four years for an undergraduate  
degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement  
exam may be required. More information on these exams can be found  
at [https://www.unomaha.edu/enrollment-management/testing-center/  
placement-exams/information.php](https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php)

\*\*Transfer credit or placement exam scores may change suggested plan of  
study

**Statistics Concentration**

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Humanities/Fine Arts Course with Global Diversity		3
*ENGL 1150: Requires placement.		
**MATH 1950: Requires Math Placement Exam or ACT or SAT scores.		

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Humanities/Fine Arts Course		3
Natural/Physical Science with Lab		4

**Credits 15**

**Sophomore**

Fall		
MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
Social Science		3
Social Science		3
Humanities/Fine Arts* & US Diversity Course		3
*MATH 2050: Requires MATH 1960		
*HFA Must be in a 2nd discipline		

**Credits 16**

**Spring**

MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (**)	3
Social Science***		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course^		3
Advanced Writing Requirement#		3

\*MATH 2230: Requires MATH 1960

\*\*MATH 2350: Requires MATH 1960. MATH 2050  
Recommended but not required.

\*\*\*SS must be in a 2nd discipline

^A&S College Requirement Options. Additional HFA must be  
in a 3rd discipline.

#Advanced Writing Requirement can be: CIST 3000 Advanced  
Composition for IS&T, ENGL 3050 Writing for the Workplace,  
or ENGL 3980 Technical Writing Across the Discipline.

**Credits 15**

**Junior**

Fall		
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**)	3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (***) or MATHEMATICAL COMPUTING I	3
Natural/Physical Science#		3
Additional Social Science for A&S or Minor/2nd Major Course^		3
*MATH 3230: Requires MATH 2230		
**MATH 4740: Requires MATH 2230		

\*\*\*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300

#N&PS Course must be in a 2nd discipline

^A&S College Requirement Options. Additional SS must be in a 3rd discipline

Credits		15
<b>Spring</b>		
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (*)	3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
HIST 1000 or Minor/2nd Major Course**		3
Cognate		3
Cognate		3
*MATH 4750: Requires MATH 4740		
**A&S College Requirement Options		

Credits		15
<b>Senior</b>		
<b>Fall</b>		
^ Group A Elective or Cognate		3
# Group B Elective or Cognate		3
Cognate		3
HIST 1010 or Minor/2nd Major Course**		3
Elective or Minor/Double Major Course		3

^Must take 3 Stat Electives with at least 2 from Group A. This semester Group A options: STAT 4430 (F) requires MATH 4750.

#Must take 3 Stat Electives with at least 2 from Group A. This semester Group B options: STAT 4410 (F) requires MATH 4740; MATH/CSCI 3100 (F, S) requires MATH 2230; MATH 4900 Independent Study.

\*\*A&S College Requirement Options

NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

Credits		15
<b>Spring</b>		
^ Group A Elective or Cognate		3
# Group B Elective or Cognate		3
Cognate		3
Elective at 3000-4000 Level/Minor/Double Major Course		3
Elective at 3000-4000 Level/Minor/Double Major Course		3

^Must take 3 Stat Electives with at least 2 from Group A. This semester Group A options: STAT 4420 (S) requires MATH 4750 & CSCI 1620 or MATH 3200; STAT 4440 (S) requires MATH 4750 & CSCI 1620 or MATH 3200.

#Must take 3 Stat Electives with at least 2 from Group A. This semester Group B options: MATH/CSCI 3100 (F, S) requires MATH 2230; MATH/CSCI 4310 (S) requires MATH 3050 and 4750; MATH/STAT 4450 (S) requires MATH 4740; MATH 4900 Independent Study.

NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

Credits		15
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Computational Mathematics Concentration

#### Freshman

Fall		Credits
MATH 1950	CALCULUS I (*)	5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
HIST 1000	WORLD CIVILIZATIONS I	3
*MATH 1950 - Requires appropriate placement		
*ENGL 1150 - Requires appropriate placement		

Credits		14
<b>Spring</b>		
MATH 1960	CALCULUS II	5
ENGL 1160	ENGLISH COMPOSITION II	3
HIST 1010	WORLD CIVILIZATIONS II	3
Natural/Physical Science with Lab		4

Credits		15
<b>Sophomore</b>		
<b>Fall</b>		
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH (*)	3
MATH 2050	APPLIED LINEAR ALGEBRA	3
Humanities and Fine Arts* with US Diversity		3
Social Science		3
*MATH 2230: Requires MATH 1960		
*HFA must be in something other than History		

Credits		16
<b>Spring</b>		
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (*)	3

Natural/Physical Science*	3
Social Science	3
Advanced Writing Requirement*	3

\*MATH 3230: Requires MATH 2230

\*MATH 2350: Requires MATH 1960. Recommended but not required: MATH 2050

\*N&PS Course must be in a 2nd discipline

\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

**Credits 15**

### Junior

#### Fall

MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (	3
	• or Elective	

)

CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I ( * ) or MATHEMATICAL COMPUTING I	3
---------------------------	---	---

Social Science	3
----------------	---

MATH 4400	THE FINITE ELEMENT METHOD (	3
	• or Computational Math Elective ^	

)

Humanities and Fine Arts* or Course towards Minor/2nd Major	3
---	---

- MATH 4330 Requires: MATH 1970 and 2350. + Offered only in Fall of odd-numbered years.

\*CIST 1400: Requires prior coding experience or CSCI 1200, CSCI 1280, or CIST 1300.

- MATH 4400: Requires MATH 1970, MATH 2050, and MATH 2350. MATH 3300 and MATH 4330 recommended. Offered only in Fall of odd-numbered years.

\*HFA must be in a 3rd discipline

^ Must take 1 Computational Math Elective. Fall offerings: MATH 4230 odd-numbered years, MATH 4350, MATH 4400 even-numbered years, MATH 4900

**Credits 15**

### Spring

MATH/CSCI 3300	NUMERICAL METHODS	3
----------------	-------------------	---

CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
---------------------------	---	---

Cognate Course	3
----------------	---

Social Science	3
----------------	---

Humanities & Fine Arts or Course towards Minor/2nd Major	3
--	---

\*MATH/CSCI 3300: Requires MATH 1960

\*SS Must be in a 3rd discipline

**Credits 15**

### Senior

#### Fall

MATH 4330	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (	3
	• or Elective	

)

Humanities & Fine Arts or Course towards Minor/2nd Major	3
--	---

Cognate Course	3
----------------	---

MATH 4400	THE FINITE ELEMENT METHOD (	3
	• or Computational Math Elective ^	

)

MATH 4900	INDEPENDENT STUDIES ( * )	3
-----------	---------------------------	---

- MATH 4330: Requires MATH 1970 and 2350. + Offered only in Fall of odd-numbered years.

\*Independent Studies must be related to Computational Mathematics

- MATH 4400: Requires MATH 1970, MATH 2050, and MATH 2350. MATH 3300 and MATH 4330 recommended. Offered only in Fall of odd-numbered years.

^ Must take 1 Computational Math Elective. Fall offerings: MATH 4230 odd-numbered years, MATH 4350, MATH 4900

**Credits 15**

### Spring

Cognate Course	3
----------------	---

Cognate Course	3
----------------	---

Cognate Course	3
----------------	---

Elective at 3000-4000 Level	3
-----------------------------	---

Elective at 3000-4000 Level	3
-----------------------------	---

**Credits 15**

**Total Credits 120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Pure Mathematics Concentration

#### Pure Math Concentration, Even Year Admit

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I ( * )	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I ( * )	5
Humanities/Fine Arts Course with Global Diversity		3

\*ENGL 1150: Requires placement.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Humanities/Fine Arts Course		3
Natural/Physical Science with Lab		4

**Credits** **15**

**Sophomore****Fall**

MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH (**)	3
Humanities/Fine Arts*** & US Diversity Course		3
Social Science		3

\*MATH 2050: Requires MATH 1960

\*\*MATH 2230: Requires MATH 1960

\*\*\*HFA Must be in 2nd discipline.

**Credits** **16**

**Spring**

MATH 4050	LINEAR ALGEBRA (*)	3
MATH 3230	INTRODUCTION TO ANALYSIS (**)	3
MATH 2350	DIFFERENTIAL EQUATIONS (***)	3
Social Science		3
Advanced Writing Requirement#		3

\*MATH 4050: Requires MATH 2050 and MATH 2230. Offered only Spring of even-numbered years.

\*\*MATH 3230: Requires MATH 2230

\*\*\*MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.

#Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

**Credits** **15**

**Junior****Fall**

MATH 4110	ABSTRACT ALGEBRA I (*)	3
^ Pure Math Elective or Cognate		3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
Natural/Physical Science***		3
Social Science#		3

\*MATH 4110: Requires MATH 4050. Offered only in fall of even-numbered years.

^ Must take 2 Pure Math Electives. This semester options: MATH 4270 Complex Variables (requires MATH 3230); MATH 4610 Intro to Topology (requires MATH 3230)

\*\*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300

\*\*\*N&PS Course must be in a 2nd discipline

#SS must be in a 2nd discipline

**Credits** **15**

**Spring**

^ Pure Math Elective or Cognate		3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Cognate		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course*		3

Additional Social Science Course for A&S or Minor/2nd Major Course\*\* **3**

^ Must take 2 Pure Math Electives. This semester options: MATH 4120 Abstract Algebra II (requires MATH 4110); MATH 4560 Number Theory & Cryptography (requires MATH 3230)

\*A&S College Requirement Options. Additional HFA Must be in a 3rd discipline.

\*\*A&S College Requirement Options. Additional SS Must be in a 3rd discipline.

**Credits** **15**

**Senior****Fall**

MATH 4230	MATHEMATICAL ANALYSIS I (*)	3
Cognate		3
HIST 1000 or Minor/2nd Major Course**		3
Elective or Minor/2nd Major Course#		3
Elective or Minor/2nd Major Course#		3

\*MATH 4230: Requires MATH 3230. Offered only in fall of odd-numbered years.

\*\*A&S College Requirement Options

#NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

**Credits** **15**

**Spring**

^ Pure Math Elective or Cognate		3
Cognate		3
Cognate		3
HIST 1010 or Minor/2nd Major Course*		3
Elective at 3000-4000 Level/Minor/2nd Major Course#		3

^ Must take 2 Pure Math Electives. This semester options: MATH 4560 Number Theory & Cryptography (requires MATH 2230), MATH 4240 Mathematical Analysis II (requires MATH 4230)

#NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

**Credits** **15**

**Total Credits** **120**

**Pure Math Concentration, Odd Year Admit****Freshman****Fall**

ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
Humanities/Fine Arts Course and Global Diversity		3

\*ENGL 1150: Requires placement.

\*\*MATH 1950: Requires Math Placement Exam or ACT or SAT scores.

**Credits** **14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
Humanities/Fine Arts Course		3
Natural/Physical Science with Lab		4

**Credits** **15**

**Sophomore****Fall**

MATH 1970	CALCULUS III	4
MATH 2050	APPLIED LINEAR ALGEBRA (*)	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH (**)	3
Humanities/Fine Arts* & US Diversity Course		3
Social Science		3

\*MATH 2050: Requires MATH 1960

\*\*MATH 2230: Requires MATH 1960

\*HFA Must be in a 2nd discipline.

**Credits** **16**

**Spring**

Social Science		3
MATH 3230	INTRODUCTION TO ANALYSIS (*)	3
MATH 2350	DIFFERENTIAL EQUATIONS (**)	3
Advanced Writing Requirement***		3
HIST 1000 or Minor/2nd Major Course#		3

\*MATH 3230: Requires MATH 2230

\*\*MATH 2350: Requires MATH 1960. MATH 2050 Recommended but not required.

\*\*\*Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, or ENGL 3980 Technical Writing Across the Discipline.

#A&S College Requirement Options

**Credits** **15**

**Junior****Fall**

MATH 4230	MATHEMATICAL ANALYSIS I (*)	3
Cognate		3
CIST 1400 or MATH 2200	INTRODUCTION TO COMPUTER SCIENCE I (**) or MATHEMATICAL COMPUTING I	3
Natural/Physical Science***		3
Social Science#		3

\*MATH 4230: Requires MATH 3230. Offered only in fall of odd-numbered years.

\*\*CIST 1400: Requires prior coding experience, CSCI 1200, CSCI 1280, or CIST 1300

\*\*\*N&PS Course must be in a 2nd discipline

#SS must be in a 2nd discipline.

**Credits** **15**

**Spring**

^ Pure Math Elective or Cognate		3
CSCI 1620 or MATH 3200	INTRODUCTION TO COMPUTER SCIENCE II or MATHEMATICAL COMPUTING II	3
Cognate		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course*		3
MATH 4050	LINEAR ALGEBRA (**)	3

\*\*MATH 4050: Requires MATH 2050 and MATH 2230.

Offered only Spring of even-numbered years.

\*A&S College Requirement Options. Additional HFA Must be in a 3rd discipline.

^ Must take 2 Pure Math Electives. This semester options: MATH 4560 Number Theory & Cryptography (requires MATH 2230), MATH 4240 Mathematical Analysis II (requires MATH 4230)

**Credits** **15**

**Senior****Fall**

MATH 4110	ABSTRACT ALGEBRA I (*)	3
^ Pure Math Elective or Cognate		3
HIST 1010 or Minor/2nd Major Course**		3
Additional Social Science Course for A&S or Minor/2nd Major Course#		3
Elective or Minor/2nd Major Course~		3

\*MATH 4110: Requires MATH 4050. Offered only in fall of even-numbered years.

^ Must take 2 Pure Math Electives. This semester options: MATH 4270 Complex Variables (requires MATH 3230); MATH 4610 Intro to Topology (requires MATH 3230)

\*\*A&S College Requirement Options

#A&S College Requirement Options. Additional SS must be in a 3rd discipline.

~NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

**Credits** **15**

**Spring**

^ Pure Math Elective or Cognate		3
Cognate		3
Cognate		3
Elective at 3000-4000 Level/Minor/2nd Major Course~		3
Elective at 3000-4000 Level/Minor/2nd Major Course~		3

^ Must take 2 Pure Math Electives. This semester options: MATH 4120 Abstract Algebra II (requires MATH 4110); MATH 4560 Number Theory & Cryptography (requires MATH 3230)

~NOTE: Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

**Credits** **15**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Mathematics Minor

### Requirements

All coursework must be completed with a grade of C- or better. Three tracks are available.

The **Traditional Track** Mathematics Minor allows for the most flexibility in Upper Division courses. Several programs including Engineering, Computer Science, and Secondary Education: Math Endorsement can complete a Traditional Track Mathematics Minor with few or no additional courses.

The **Discrete Mathematics Track** Mathematics Minor bypasses MATH 1960 Calculus II and instead guides students towards courses that are relevant to their specific fields. These include Biology, Neuroscience, Philosophy, Political Science, Physics, Economics, Finance, Social Sciences, Network Sciences, Computer Science, and Engineering.

The **Cybersecurity Track** Mathematics Minor bypasses MATH 1960 Calculus II and instead guides students towards courses that are relevant to work in Cybersecurity.

### Traditional Track

The Traditional Track minor in mathematics may be obtained by successful completion of 19-20 credits in mathematics courses consisting of:

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3
or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
One 3000-4000 level Math/Stat course <sup>1</sup>		3
One additional math course 1970 or above		3-4
<b>Total Credits</b>		<b>19-20</b>

<sup>1</sup> STAT 3000 does not count towards the Mathematics Minor.

If planned correctly, some disciplines require few, if any, additional math courses beyond what is required for the major. Please see specific examples below.

### Engineering Majors

#### Architectural

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 2350	DIFFERENTIAL EQUATIONS	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3

or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
<b>Total Credits</b>		<b>19</b>

#### Civil

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 2350	DIFFERENTIAL EQUATIONS	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3
or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
<b>Total Credits</b>		<b>19</b>

#### Computer

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3
or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
One additional 3000-4000 level MATH/STAT course		3
<b>Total Credits</b>		<b>20</b>

#### Electrical

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3
or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
One additional 3000-4000 level MATH/STAT course		3
<b>Total Credits</b>		<b>20</b>

#### Construction

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
MATH 2030	DISCRETE MATHEMATICS (or CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE)	3
or MATH 2230	INTRODUCTION TO ABSTRACT MATH	
<b>Total Credits</b>		<b>20</b>

### Secondary Education Majors with Math 6-12 Endorsement

These students automatically fulfill the 20 credits required for a math minor with required coursework for the major.

## Information Science and Technology Majors

### Computer Science

In addition to MATH 1950 and MATH 1960, all MATH/CSCI cross-listed courses qualify, but credit will not be given for both MATH 2230 and MATH 2030/CSCI 2030.

### Bioinformatics

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 2030 or CSCI 2030	DISCRETE MATHEMATICS MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
MATH 4150	GRAPH THEORY & APPLICATIONS	3
One additional MATH/STAT course MATH 1970 or above		3-4
<b>Total Credits</b>		<b>19-20</b>

### Discrete Mathematics Track

The Discrete Mathematics Track minor in mathematics may be obtained by successful completion of 17 credits in mathematics courses consisting of:

Code	Title	Credits
MATH 1940 or MATH 1950	CALCULUS FOR BIOMEDICINE CALCULUS I	5
MATH 3100	APPLIED COMBINATORICS	3
MATH 2030	DISCRETE MATHEMATICS	3
Select two Mathematics courses from the following:		6
MATH 3640	MODERN GEOMETRY	
MATH 4010	INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS	
MATH 4030	MODERN ALGEBRA	
MATH 4150	GRAPH THEORY & APPLICATIONS	
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
MATH 4760	TOPICS IN APPLIED MATHEMATICS	
MATH 4970	SEMINAR IN APPLIED MATHEMATICS	
<b>Total Credits</b>		<b>17</b>

### Cybersecurity Track

The Cybersecurity Track minor in mathematics may be obtained by successful completion of 17 credits in mathematics courses consisting of:

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	3
One additional MATH/STAT course at MATH 1960 level or higher. <sup>1</sup>		3-5
<b>Total Credits</b>		<b>17-19</b>

<sup>1</sup> STAT 3000 does not count towards the Mathematics Minor.

## Medical Humanities

### General Information

The Medical Humanities major helps students increase their understanding of the nature of illness, health, wellness, healing, and medicine by exploring these topics in three blocks of classes that share a commonality of focus. The Major in Medical Humanities is intentionally flexible and

interdisciplinary, reflecting both the needs of students and the nature of the field.

To ensure cohesion, all majors take the introductory course, a Medical Humanities Commons course, which is an interdisciplinary examination of a single relevant topic (e.g. "Suffering" or "Compliance") and a Capstone course in Medical Humanities that includes a project integrating their chosen coursework with community engagement.

**Block 1: Inclusivity & Diversity:** Courses in this block allow students to explore how race, ethnicity, gender, sex, age and income affect the experience of health, illness and medicine. Demographically, the population of the United States is aging and diversifying and this affects who seeks health care and how they interact with the system. Poverty has an enormous impact on the health and well-being of individuals, communities and populations. Students pursuing careers in health care will therefore benefit from a foundational understanding of these concepts and perspectives.

**Block 2: Ethics, Religion & Culture:** Courses in this block provide students with a foundation in the values, beliefs and concepts that define how health, illness, disease and medicine are experienced at a social and cultural level by individuals and societies. It prepares students to confront ethical questions of meaning and value that arise in the context of medical research and practice. Spirituality and religion for many patients, practitioners and communities are the heart of health care. Exploring cross-cultural perspectives on medical beliefs, practices and systems encourages students to reflect on the diverse ways humans approach, experience and solve problems of health and health care delivery.

**Block 3: Narrative Medicine, Communication & Fine Arts:** Courses in this block allow students the opportunity to explore different ways of observing, communicating and understanding health, illness and healing. Narrative medicine encourages students to write, reflect and find meaning in their own and others experiences with health and medicine. Literature introduces students to life situations associated with illness and disability in an intimate and intuitive way. Communication skills are essential for interprofessional teams, and working with clients and patients. Music, visual art and drama courses encourage students to express and experience the human condition in unique ways, as well as improving listening, observation and communication skills.

### Other Information

All coursework taken for the medical humanities major must be completed with a grade of "C-" or better.

### Residency

A maximum of three credit hours can be transferred from another university to count towards the medical humanities major, unless the Director agrees to additional credit transfer.

### Contact Information

Steve Langan, Director of Medical Humanities  
slangan@unomaha.edu

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/medical-humanities/>)

- Medical Humanities, Bachelor of Arts (p. 254)
- Medical Humanities, Bachelor of Science (p. 257)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the medical humanities major this course is ENGL 2400, WRWS 3500, ENGL 4970 or another approved course.

- Medical Humanities Minor (p. 259)

An education with a humanities perspective on health and medicine shapes individuals to think critically, compassionately and knowledgeably about the human condition, appreciate and respect diverse communities, and develop reflective and resilient habits of the mind. A major in Medical Humanities prepares graduates for health care occupations through its focus on the humanistic aspects of medicine that promote patient centered care and resilient professionals.

Students could benefit from this program if they are planning careers in

- medicine
- public health
- mental health
- counseling
- nursing
- health education
- bioethics
- health care administration
- health communications and public relations
- patient advocacy
- human resources
- wellness
- chaplaincy.

#### **MEDH 1000 INTRODUCTION TO MEDICAL HUMANITIES (3 credits)**

This is an interdisciplinary survey course in Medical Humanities. It focuses on the contributions and perspectives of arts and humanities in providing a broad and culturally diverse understanding of health, illness, healing, and medicine.

**Distribution:** Humanities and Fine Arts General Education course

#### **MEDH 2060 ART AND SCIENCE OF MEDICAL DECISION-MAKING (3 credits)**

The course explores multiple facets of medical decision-making, including the perspective of the patient, the family, and the healthcare provider. Topics include basic anatomy and medical terminology, which will be used to understand decision-making in the context of the provider. Students use literature and other records to generate and critically evaluate clinical decisions. The course does not satisfy requirements for degree programs in the Department of Biology minor, BA, BS in Biology; BS in Biotechnology. (Cross-listed with BIOL 2060).

**Prerequisite(s)/Corequisite(s):** BIOL 1060 or concurrent.

#### **MEDH 2300 HUMAN VALUES IN MEDICINE (3 credits)**

Human Values in Medicine examines questions of value and meaning that arise in medical contexts. This course provides an opportunity for philosophy majors, medical humanities majors / minors, and students preparing for health professions to confront ethical and social issues in medicine and biomedical research. (Cross-listed with PHIL 2300).

#### **MEDH 3000 MEDICAL HUMANITIES COMMONS (3 credits)**

A multidisciplinary study of a health-related topic from the perspective of medical humanities. Each semester the course will focus on a different topic or problem for exploration and inquiry. The course topic or problem is examined using disciplinary perspectives, interdisciplinary intersections, and translational opportunities.

**Prerequisite(s)/Corequisite(s):** MEDH 1000 or Permission of the instructor.

#### **MEDH 3450 PHILOSOPHY OF MEDICINE (3 credits)**

This course considers a range of philosophical questions raised by and within the practice of medicine. The course begins with a conceptual investigation of the meaning of "health" from "illness." Is the classification of individuals as healthy or ill an objective, scientific matter? Or is it instead a matter of social and ethical values? What follows from answering this question one way, versus another? This introduction forms the backdrop against which we move on to investigate a range of further topics.

Examples of some of the topics that may be covered include: medical and social models of disability; the role morality of doctors and other medical providers; abortion, euthanasia, and conscientious objection in the healthcare professions; health measurement and quality of life; "death panels" and health resource rationing; conditions on appropriately voluntary and informed consent to medical procedures; and the ethics of biomedical research. (Cross-listed with PHIL 3450).

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR permission of the instructor

#### **MEDH 4000 TOPICS IN MEDICAL HUMANITIES (3 credits)**

This course introduces students to a specialized subject matter in the disciplines of medical humanities not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor

#### **MEDH 4900 CAPSTONE IN MEDICAL HUMANITIES (3 credits)**

In this capstone course for students majoring in Medical Humanities, students will curate and complete their portfolio of educational experiences in the discipline. To integrate and apply their previous course work and experience, students will participate in a community-focused medical humanities project.

**Prerequisite(s)/Corequisite(s):** Senior standing (or students in junior standing with permission from the instructor) and MEDH 1000, MEDH 3000 and a writing in the discipline course approved for the major. Not open to non-degree graduate students.

#### **MEDH 4950 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 8956, ENGL 4950).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 prerequisite

#### **MEDH 4990 INDEPENDENT STUDY IN MEDICAL HUMANITIES (1-3 credits)**

This course is guided reading or independent research in special topics in Medical Humanities under the supervision of a member of the Medical Humanities faculty. This course is designed primarily for the student interested in topics not currently available in the program offerings and who has demonstrated ability to work independently. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

## Medical Humanities, Bachelor of Arts

To obtain a B.A. with a major in Medical Humanities, a student must fulfill university, college, and program requirements. Hour requirements follow:

- 46 hours of University General Education courses  
*Most majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead they select courses that meet multiple requirements.*
- 12-19 hours college breadth requirement
- 16 hours foreign language requirement

- 30 hours of major courses
- At least 9 hours of electives

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
<b>Core</b>		
MEDH 1000	INTRODUCTION TO MEDICAL HUMANITIES	3
MEDH 3000	MEDICAL HUMANITIES COMMONS	3
MEDH 4900	CAPSTONE IN MEDICAL HUMANITIES	3
Quantitative Literacy Requirement (Choose from courses listed below.)		3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOC 2130	SOCIAL STATISTICS	
PHIL 2010	SYMBOLIC LOGIC	
<b>Blocks - 18 Hours</b>		
Block courses must include at least 12 hours of 3000-4000 courses.		
<b>Block 1-Inclusivity &amp; Diversity</b>		<b>6</b>
BLST 3980	SPECIAL TOPICS IN BLACK STUDIES (HIV & AIDS IN AFRICA)	
PSYC 2500	LIFESPAN PSYCHOLOGY	
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 1 ATTRIBUTE)	
SOC 3820	MEDICAL SOCIOLOGY	
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	
SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (HEALTH & STRATIFICATION)	
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	
PHHB/GERO 3070	DEATH AND DYING	
GERO/WGST 4550	HEALTH ASPECTS OF AGING	
<b>Block 2-Ethics, Religion &amp; Culture</b>		<b>6</b>
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	
ANTH 4240	MEDICAL ANTHROPOLOGY	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (FREE HEALTHCARE, CLINICAL CULTURES, AND HEALTH DISPARITIES)	
ANTH/NAMS 4920	SEMINAR IN ANTHROPOLOGY (NATIVE AMERICAN HEALTH & WELLNESS)	
MEDH 2300	HUMAN VALUES IN MEDICINE	
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 2 ATTRIBUTE)	
PHIL 2300	HUMAN VALUES IN MEDICINE	
PHIL 3450	PHILOSOPHY OF MEDICINE	
PHIL 3500	PROBLEMS IN PHILOSOPHY (MYTH, MEDICINE & COSMOLOGY)	
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	
RELI 2500	SPIRITUALITY AND WELLNESS	
RELI 3020	NATIVE AMERICAN RELIGIONS	

RELI 3030	SHAMANISM
RELI 3500	SPECIAL TOPICS IN RELIGION (RELIGION IN PUBLIC LIFE)
RELI 3500	SPECIAL TOPICS IN RELIGION (HEALTH, RELIGION & HUMAN RIGHTS)
RELI 3500	SPECIAL TOPICS IN RELIGION (SPIRITUALITY & MADNESS)
RELI 3500	SPECIAL TOPICS IN RELIGION (COMPASSION)
RELI 4030	AFRICANA RELIGIONS
SPAN 3570	SPANISH FOR HEALTHCARE PROFESSIONALS

### Block 3-Narrative Medicine, Communication & Fine Arts 6

Select at least 3 credits from the following:

ART 2600	SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS ( IF MEDICAL HUMANITIES RELATED TOPIC)
ART 3330	ART IN PUBLIC PLACES (PUBLIC HEALTH FOCUS)
CFAM 1000	INTRODUCTION TO THE ARTS: WHY THE ARTS MATTER
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES
CMST 4220	HEALTH COMMUNICATION
MUS 2740	CHAMBER MUSIC (SOUND HEALTH)
MUS 4660	HEALTH AND WELLNESS FOR MUSICIANS
THEA 2310	ACTING I
WRWS 3500	CREATIVE WRITING FOR THE ARTS

Remaining 3 credits can include:

ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 3 ATTRIBUTE)
RELI 3500	SPECIAL TOPICS IN RELIGION (FIRST NATIONS, SPIRIT IN CULTURE)

### Complementary Courses

Students may use up to 3 credits from this list to replace 3 credits in Block 1, 2 or 3 with advisor approval

GERO/PSYC 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING
PHHB 2850	STRESS MANAGEMENT
PSYC 4440	ABNORMAL PSYCHOLOGY
PHIL 2030	INTRODUCTION TO ETHICS
SOC 4200	SOCIOLOGY OF THE BODY
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT
BIOL/MEDH 2060	ART AND SCIENCE OF MEDICAL DECISION-MAKING

### Freshman

Fall	Credits
Quantitative Literacy Gen Ed*	3
ENGL 1150 ENGLISH COMPOSITION I (**)	3
Foreign Language Course 1110^	5
MEDH 1000 INTRODUCTION TO MEDICAL HUMANITIES (***)	3

Elective	1
*MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.	
**ENGL 1150: Requires EPPE or AP score.	
^Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.	
***MEDH 1000 counts toward the Humanity/Fine Arts requirement and the major.	
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
Foreign Language Course 1120	5
CMST 1110 PUBLIC SPEAKING FUNDS or CMST 2120 or ARGUMENTATION AND DEBATE	3
ENGL 1160 ENGLISH COMPOSITION II (*)	3
Social Science Gen Ed #1**	3
*ENGL 1160 prereq is ENGL 1150 or proper placement via EPPE or AP.	
**Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses.	
<b>Credits</b>	<b>14</b>
<b>Sophomore</b>	
<b>Fall</b>	
Foreign Language Course 2110	3
Humanity & Fine Arts Course #3 with U.S. Diversity	3
Quantitative Literacy Requirement for Major*	3
Social Science Gen Ed #2**	3
Block 1 course in MEDH Major***	3
*MEDH QL Options are PSYC 3130, SOC 2130 or PHIL 2010. Any of these options will also satisfy the CAS Additional Gen Ed QL Requirement, if that option is selected. PSYC 3130 and SOC 2130 prereq is Math 1120, 1220 or STAT 1530.	
**Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses.	
***Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.	
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
Foreign Language Course 2120	3
Natural/Physical Science no Lab	3
Block 2 course in MEDH Major*	3
Social Science Gen Ed #3**	3
Elective	3
*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.	
**Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses. At least 2 disciplines must be represented in the 9 credits of SS.	
<b>Credits</b>	<b>15</b>
<b>Junior</b>	
<b>Fall</b>	
MEDH 3000 MEDICAL HUMANITIES COMMONS	3
HIST 1000 or Minor/2nd Major Course^	3
Block 3 Course in MEDH Major*	3

Block 1 Course in MEDH Major*	3
Natural/Physical Science Gen Ed with Lab**	4
^A&S College Requirement Options	
*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.	
**Natural/Physical Science must be in a 2nd discipline.	
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
Additional Social Science for A&S or course for Minor/2nd Major#	3
Block 2 Course in MEDH Major*	3
Block 3 Course in MEDH Major*	3
Additional Humanities/Fine Arts for A&S or Course for Minor/2nd Major**	3
HIST 1010 or Minor/2nd Major Course^	3
#A&S College Requirement Options. Additional Social Science must be in a 3rd discipline.	
*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.	
**A&S College Requirement Options. Additional Humanities/Fine Arts must be in a 3rd discipline.	
^A&S College Requirement Options	
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major#	3-4
Writing in the Discipline Course for Major*	3
Course for Minor/2nd Major/Elective**	3
Course for Minor/2nd Major/Elective**	3
Course for Minor/2nd Major/Elective**	3
*WID options are ENGL 2400, WRWS 3500, ENGL 4970 or another approved course.	
**120 total credits are required. At least 27 of those credits must be upper level throughout the degree. Electives may need to be selected at the 3000-4000 level to meet this minimum.	
<b>Credits</b>	<b>15-16</b>
<b>Spring</b>	
MEDH 4900 CAPSTONE IN MEDICAL HUMANITIES (*)	3
Course for Minor/2nd Major/Elective**	3
Course for Minor/2nd Major/Elective**	3
Elective**	3
Elective**	2-3
*MEDH 4900 Pre-Req is MEDH 1000, 3000, and WID course for the MEDH major.	
**120 total credits are required. At least 27 of those credits must be upper level throughout the degree. Electives may need to be selected at the 3000-4000 level to meet this minimum.	
<b>Credits</b>	<b>14-15</b>
<b>Total Credits</b>	<b>119-121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:****University Degree Requirements:**

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:**

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements: 2.0**

## Medical Humanities, Bachelor of Science

To obtain a B.S. with a major in Medical Humanities, a student must fulfill university, college, and program requirements. Hour requirements follow:

- 46 hours of University General Education courses  
*Most majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead they select courses that meet multiple requirements.*
- 12-19 hours college breadth requirement
- 15 hours cognate requirement
- 30 hours of major courses
- At least 10 hours of electives

TOTAL HOURS: 120

**Requirements**

Code	Title	Credits
<b>Core</b>		
MEDH 1000	INTRODUCTION TO MEDICAL HUMANITIES	3
MEDH 3000	MEDICAL HUMANITIES COMMONS	3
MEDH 4900	CAPSTONE IN MEDICAL HUMANITIES	3
Quantitative Literacy Requirement (Choose from courses listed below.)		3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOC 2130	SOCIAL STATISTICS	
PHIL 2010	SYMBOLIC LOGIC	

**Blocks - 18 Hours**

Block courses must include at least 12 hours of 3000-4000 courses.

<b>Block 1-Inclusivity &amp; Diversity</b>		<b>6</b>
BLST 3980	SPECIAL TOPICS IN BLACK STUDIES (HIV & AIDS IN AFRICA)	
PSYC 2500	LIFESPAN PSYCHOLOGY	
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 1 ATTRIBUTE)	
SOC 3820	MEDICAL SOCIOLOGY	
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	

SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (HEALTH & STRATIFICATION)	
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	
PHHB/GERO 3070	DEATH AND DYING	
GERO/WGST 4550	HEALTH ASPECTS OF AGING	
<b>Block 2-Ethics, Religion &amp; Culture</b>		<b>6</b>
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	
ANTH 4240	MEDICAL ANTHROPOLOGY	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (FREE HEALTHCARE, CLINICAL CULTURES, AND HEALTH DISPARITIES)	
ANTH/NAMS 4920	SEMINAR IN ANTHROPOLOGY (NATIVE AMERICAN HEALTH & WELLNESS)	
MEDH 2300	HUMAN VALUES IN MEDICINE	
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 2 ATTRIBUTE)	
PHIL 2300	HUMAN VALUES IN MEDICINE	
PHIL 3450	PHILOSOPHY OF MEDICINE	
PHIL 3500	PROBLEMS IN PHILOSOPHY (MYTH, MEDICINE & COSMOLOGY)	
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	
RELI 2500	SPIRITUALITY AND WELLNESS	
RELI 3020	NATIVE AMERICAN RELIGIONS	
RELI 3030	SHAMANISM	
RELI 3500	SPECIAL TOPICS IN RELIGION (RELIGION IN PUBLIC LIFE)	
RELI 3500	SPECIAL TOPICS IN RELIGION (HEALTH, RELIGION & HUMAN RIGHTS)	
RELI 3500	SPECIAL TOPICS IN RELIGION (SPIRITUALITY & MADNESS)	
RELI 3500	SPECIAL TOPICS IN RELIGION (COMPASSION)	
RELI 4030	AFRICANA RELIGIONS	
SPAN 3570	SPANISH FOR HEALTHCARE PROFESSIONALS	

**Block 3-Narrative Medicine, Communication & Fine Arts** **6**

Select at least 3 credits from the following:

ART 2600	SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS ( IF MEDICAL HUMANITIES RELATED TOPIC)	
ART 3330	ART IN PUBLIC PLACES (PUBLIC HEALTH FOCUS)	
CFAM 1000	INTRODUCTION TO THE ARTS: WHY THE ARTS MATTER	
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	
CMST 4220	HEALTH COMMUNICATION	
MUS 2740	CHAMBER MUSIC (SOUND HEALTH)	
MUS 4660	HEALTH AND WELLNESS FOR MUSICIANS	
THEA 2310	ACTING I	
WRWS 3500	CREATIVE WRITING FOR THE ARTS	

Remaining 3 credits can include:

ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (TOPIC WITH A BLOCK 3 ATTRIBUTE)
RELI 3500	SPECIAL TOPICS IN RELIGION (FIRST NATIONS, SPIRIT IN CULTURE)

**Complementary Courses**

Students may use up to 3 credits from this list to replace 3 credits in Block 1, 2 or 3 with advisor approval

GERO/PSYC 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING
PHHB 2850	STRESS MANAGEMENT
PSYC 4440	ABNORMAL PSYCHOLOGY
PHIL 2030	INTRODUCTION TO ETHICS
SOC 4200	SOCIOLOGY OF THE BODY
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT
BIOL/MEDH 2060	ART AND SCIENCE OF MEDICAL DECISION-MAKING

**Cognate Courses****15**

Students in the B.S. degree program are required to complete 15 hours of cognate coursework, a field of specialization outside of their major based on their interests and/or career aspirations. Cognates are designed by the student in consultation with the undergraduate adviser.

**Freshman**

Fall		Credits
Humanity & Fine Arts Course with Global Diversity		3
Quantitative Literacy Gen Ed*		3
ENGL 1150	ENGLISH COMPOSITION I (**)	3
MEDH 1000	INTRODUCTION TO MEDICAL HUMANITIES (***)	3
Elective		3
*MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.		
**ENGL 1150: Requires EPPE or AP score.		
***MEDH 1000 counts as a Humanities/Fine Arts course and toward the major.		

**Credits****15****Spring**

Humanity & Fine Arts Course #3* with U.S. Diversity		3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
ENGL 1160	ENGLISH COMPOSITION II (**)	3
Social Science Gen Ed #1***		3
Elective		3

\*HFA must be from a 2nd discipline

\*\*ENGL 1160 prereq is ENGL 1150 or proper placement via EPPE or AP.

\*\*\*Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses.

**Credits****15****Sophomore**

Fall		Credits
Quantitative Literacy Requirement for Major*		3

Social Science Gen Ed #2**	3
Block 1 course in MEDH Major***	3
Natural & Physical Science Course	3
B.S. Cognate Course^	3

\*MEDH QL Options are PSYC 3130, SOC 2130 or PHIL 2010. Any of these options will also satisfy the CAS Additional Gen Ed QL Requirement, if that option is selected. PSYC 3130 and SOC 2130 prereq is Math 1120, 1220 or STAT 1530.

\*\*Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses.

\*\*\*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.

^BS Cognate is 15 credits of complementary courses, approved in consultation with advisor.

**Credits****15****Spring**

Natural & Physical Science with Lab*	4
Block 2 course in MEDH Major**	3
Social Science Gen Ed #3***	3
Additional Social Science for A&S or Minor/2nd Major Course^	3
B.S. Cognate Course#	3

\*NPS must be in 2nd discipline

\*\*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.

\*\*\*Taking PSYC 1010, SOC 1010 and ANTH 1050 is recommended for Social Science Gen Eds due to being common prereqs for future MEDH Block courses.

^A&S College Requirement Options. Additional SS must be in a 3rd discipline.

#BS Cognate is 15 credits of complementary courses, approved in consultation with advisor.

**Credits****16****Junior**

Fall		Credits
MEDH 3000	MEDICAL HUMANITIES COMMONS	3
Block 1 Course in MEDH Major*		3
Block 3 Course in MEDH Major*		3
HIST 1000 or Minor/2nd Major Course**		3
Additional Humanity/Fine Arts Course for A&S or Minor/2nd Major Course#		3

\*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.

\*\*A&S College Requirement Options

#A&S College Requirement Options. Additional HFA must be in a 3rd discipline.

**Credits****15****Spring**

Block 2 Course in MEDH Major*	3
Block 3 Course in MEDH Major*	3
HIST 1010 or Minor/2nd Major Course^	3
Additional Natural & Physical Science with Lab for A&S for Minor/2nd Major Course#	3-4
Course for Minor/2nd Major/Elective	3

\*Out of 18 credits of Block courses in major, 12 must be 3000/4000 level.

^A&S College Requirement Options

#A&S College Requirement Options

**Credits****15-16**

**Senior****Fall**

Writing in the Discipline Course for Major*	3
Course for Minor/2nd Major/Elective*	3
Course for Minor/2nd Major/Elective*	3
B.S. Cognate Course*	3
B.S. Cognate Course*	3

\*120 total credits required. Of the 120, at least 27 credits must be upper level throughout the degree. Electives and/or Cognate courses may need to be selected at the 3000-4000 level to meet this minimum.

\*WID options are ENGL 2400, WRWS 3500, ENGL 4970 or another approved course. Choosing a 3000-4000 level would go toward the College's 27 credit minimum.

\*BS Cognate is 15 credits of complementary courses, approved in consultation with advisor.

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

MEDH 4900	CAPSTONE IN MEDICAL HUMANITIES (*)	3
Course for Minor/2nd Major/Elective*		3
Course for Minor/2nd Major/Elective*		3
B.S. Cognate course		3
Elective*		2-3

\*MEDH 4900 Pre-Req is MEDH 1000, 3000, and WID course for the MEDH major.

\*120 total credits required. Of the 120, at least 27 credits must be upper level throughout the degree. Electives and/or Cognate courses may need to be selected at the 3000-4000 level to meet this minimum.

<b>Credits</b>	<b>14-15</b>
----------------	--------------

<b>Total Credits</b>	<b>120-122</b>
----------------------	----------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:****University Degree Requirements:**

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:**

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements: 2.0**

**Graduation Requirements:** Physics majors must also take the two assessment tests (Major Field Test and Local test) and complete the exit interview.

The senior project must be approved and the department chair notified at least eight months prior to graduation as a Physics major and the student

must register for either PHYS 4950 (<https://catalog.unomaha.edu/search/?P=PHYS%204950>) or PHYS 4960 (<https://catalog.unomaha.edu/search/?P=PHYS%204960>).

## Medical Humanities Minor

### Description

Medical humanities is an interdisciplinary field that explores, from multiple perspectives, connections between humans, cultures, medicine and allied health sciences. Medical humanities complements the health sciences, and encompasses the humanities, social sciences and the arts. It includes topics related to: health and illness; the interactions between health practices and conceptions of personhood, gender, and community; beliefs; practices, healing and ethics across cultures; the nature of suffering; and models of wellness.

The minor in medical humanities provides students who are interested in careers in medicine, nursing, public health, psychology, social work, health education, and other allied health sciences, with courses that complement and support their studies. The minor is intentionally flexible and interdisciplinary, reflecting both the needs of students and the nature of the discipline. It includes options and opportunities such as distance education and service learning. The medical humanities minor helps students to increase their understanding of the nature of illness, health, wellness, healing and medicine by exploring these topics in relation to:

- inclusivity and diversity
- ethics, religion and culture
- narrative medicine, communication, fine arts

### Other Information

All coursework taken for the medical humanities minor must be completed with a grade of "C-" or better.

### Contact Information

Steve Langan, Director of Medical Humanities  
slangan@unomaha.edu

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/medical-humanities/>)

### Requirements

Undergraduate students seeking to minor in medical humanities must complete at least 15 credit hours of medical humanities courses with a grade of C- or higher, and include at least one course from each of three core areas or blocks related to the study and practice of medical humanities: 1) inclusivity and diversity; 2) ethics, religion and culture; 3) narrative medicine, communication, fine arts. Nine credit hours of course work must be upper division (3000 or higher) courses.

Please note: As this is a new minor, courses are being added. As new courses are being added on an on-going basis, students should select medical humanities courses in consultation with their minor advisor who will provide them with the most recent list of course options.

### Courses Fulfilling the Core Area Requirements

Students must choose at least one course from each of the three core areas or blocks below. The rest of the 15 credit minor requirement may consist of coursework chosen from the medical humanities minor full course listings.

MEDH 1000 Introduction to Medical Humanities will fulfill one Block requirement. That is, a MEDH minor taking MEDH 1000 may use it to satisfy the requirement of three hours of coursework from Block 1, 2, or 3.

MEDH 3000 Medical Humanities Commons will fulfill one Block requirement. Attribution to Block 1, 2, or 3 will be handled through advisement as the topic may change from semester to semester.

Code	Title	Credits
<b>Inclusivity and Diversity</b>		
BLST 3980	SPECIAL TOPICS IN BLACK STUDIES (HIV and AIDS in Africa)	3
GERO/PHHB/WGST 4550	HEALTH ASPECTS OF AGING	3
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (Topic with a Block 1 attribute)	3
PHHB/GERO 3070	DEATH AND DYING	3
PSYC 2500	LIFESPAN PSYCHOLOGY	3
SOC 3820	MEDICAL SOCIOLOGY	3
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	3
SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (Health & Stratification)	3
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	3
<b>Ethics, Religion and Culture</b>		
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	3
ANTH 4240	MEDICAL ANTHROPOLOGY	3
ANTH 4920	SEMINAR IN ANTHROPOLOGY (Free Healthcare, Clinical Cultures, and Health Disparities)	3
ANTH/NAMS 4920	SEMINAR IN ANTHROPOLOGY (Native American Health and Wellness)	3
MEDH/PHIL 2300	HUMAN VALUES IN MEDICINE	3
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (Topic with a Block 2 attribute)	3
PHIL 3450	PHILOSOPHY OF MEDICINE	3
PHIL 3500	PROBLEMS IN PHILOSOPHY (Myth, Medicine & Cosmology, Neuroethics)	3
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	3
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3
RELI 2500	SPIRITUALITY AND WELLNESS	3
RELI 3020	NATIVE AMERICAN RELIGIONS	3
RELI 3030	SHAMANISM	3
RELI 3500	SPECIAL TOPICS IN RELIGION (Spirituality and Madness; Public Health, Religion, and Human Rights; Religion in Public Life)	3
SPAN 3570	SPANISH FOR HEALTHCARE PROFESSIONALS	3
<b>Narrative Medicine, Communication, Fine Arts</b>		
ART 2600	SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS (As topic appropriate)	3
ART 3330	ART IN PUBLIC PLACES (Theory & Practice in Public Health)	3
CFAM 1000	INTRODUCTION TO THE ARTS: WHY THE ARTS MATTER	3
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	3
CMST 4220	HEALTH COMMUNICATION	3

ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM	3
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH	3
MEDH 4000	TOPICS IN MEDICAL HUMANITIES (Topic with a Block 3 attribute)	3
MUS 2740	CHAMBER MUSIC (Sound Health)	1
MUS 4660	HEALTH AND WELLNESS FOR MUSICIANS	3
RELI 3500	SPECIAL TOPICS IN RELIGION (First Nations, Spirit in Culture)	3
RELI 4030	AFRICANA RELIGIONS	3
THEA 2310	ACTING I (Medical Humanities Section)	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS (Medical Humanities Section)	3

## Medical Humanities Minor Full Course Listings

### College of Arts and Sciences

Code	Title	Credits
<b>Anthropology</b>		
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	3
ANTH 4240	MEDICAL ANTHROPOLOGY	3
ANTH 4920	SEMINAR IN ANTHROPOLOGY (Free Healthcare, Clinical Cultures, and Health Disparities)	3
ANTH/NAMS 4920	SEMINAR IN ANTHROPOLOGY (Native American Health and Wellness)	3
<b>Biology</b>		
BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS	2
BIOL 2060	ART AND SCIENCE OF MEDICAL DECISION-MAKING	3
<b>Black Studies</b>		
BLST 3980	SPECIAL TOPICS IN BLACK STUDIES (HIV and AIDS in Africa)	3
<b>English</b>		
ENGL/MEDH 4950	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM	3
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE (Writing Graphic Memoirs)	3
ENGL 4970	WRITING ABOUT SICKNESS AND HEALTH	3
<b>Environmental Studies</b>		
ENVN 4320	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	3
<b>Medical Humanities</b>		
MEDH 1000	INTRODUCTION TO MEDICAL HUMANITIES	3
MEDH/PHIL 2300	HUMAN VALUES IN MEDICINE	3
MEDH 3000	MEDICAL HUMANITIES COMMONS	3
MEDH 4000	TOPICS IN MEDICAL HUMANITIES	3
<b>Native American Studies</b>		
NAMS/ANTH 4920	SPECIAL TOPICS IN NATIVE AMERICAN STUDIES (Native American Health & Wellness)	3
<b>Philosophy</b>		
PHIL 2030	INTRODUCTION TO ETHICS	3

PHIL/MEDH 2300	HUMAN VALUES IN MEDICINE	3
PHIL 3450	PHILOSOPHY OF MEDICINE	3
PHIL 3500	PROBLEMS IN PHILOSOPHY (Myth, Medicine & Cosmology, Neuroethics)	3

**Psychology**

PSYC 2500	LIFESPAN PSYCHOLOGY	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	3
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3

**Religious Studies**

RELI 2500	SPIRITUALITY AND WELLNESS	3
RELI 3020	NATIVE AMERICAN RELIGIONS	3
RELI 3030	SHAMANISM	3
RELI 3500	SPECIAL TOPICS IN RELIGION (Religion in Public Life; First Nations, Spirit in Culture, Compassion; Spirituality and Madness; Public Health, Religion and Human Rights)	3
RELI 4030	AFRICANA RELIGIONS	3

**Sociology**

SOC 3820	MEDICAL SOCIOLOGY	3
SOC 4200	SOCIOLOGY OF THE BODY	3
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	3
SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (Health & Stratification)	3
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	3

**Spanish**

SPAN 3570	SPANISH FOR HEALTHCARE PROFESSIONALS	3
-----------	--------------------------------------	---

**Women's and Gender Studies**

WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	3
WGST/PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
WGST 4550	HEALTH ASPECTS OF AGING	3

**College of Communication, Fine Arts and Media**

Code	Title	Credits
------	-------	---------

**Art**

ART 2600	SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS (As topic appropriate)	3
ART 3330	ART IN PUBLIC PLACES (Public Health focus-please check with the professor)	3
CFAM 1000	INTRODUCTION TO THE ARTS: WHY THE ARTS MATTER (MH Section)	3

**Music**

MUS 2740	CHAMBER MUSIC (Sound Health Service Learning component)	1
MUS 4000	SPECIAL STUDIES IN MUSIC (Health & Wellness for Musicians)	3

**Communication Studies**

CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	3
-----------	---------------------------------------	---

CMST 2010	INTERPERSONAL COMMUNICATION	3
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3
CMST 4220	HEALTH COMMUNICATION	3
THEA 2310	ACTING I (MH Section)	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS (MH Section)	3

**College of Education**

Code	Title	Credits
------	-------	---------

**Public Health and Health Behavior**

PHHB 2850	STRESS MANAGEMENT	3
PHHB/GERO 3070	DEATH AND DYING	3
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
PHHB/SOC 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3

**College of Public Affairs and Community Service**

Code	Title	Credits
------	-------	---------

**Gerontology**

GERO/PHHB 3070	DEATH AND DYING	3
GERO 4350	ISSUES IN AGING	3
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO/PHHB/WGST 4550	HEALTH ASPECTS OF AGING	3
GERO/SOWK 4850	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	3

**Recommended Courses**

Recommended courses for students interested in pursuing a minor in Medical Humanities (but not counting directly toward the minor) include:

Code	Title	Credits
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
CMST 4170	ORGANIZATIONAL COMMUNICATION	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3
CMST 4700	INTERPERSONAL CONFLICT	3
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES	3
PHIL 1210	CRITICAL REASONING	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II	3
RELI 1010	INTRODUCTION TO WORLD RELIGIONS	3
SOC 1010	INTRODUCTORY SOCIOLOGY	3
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3

## Medieval/Renaissance Studies Minor

The minor in Medieval/Renaissance Studies is designed to help students understand and appreciate the thirteen centuries belonging to the Middle Ages and the Renaissance through the disciplines of history, English and other European languages, art history, history of music, theatre, history of science, Middle Eastern studies, philosophy, and theology. Students

explore the Medieval and Renaissance era and their crucial developments, from the invention of eye glasses to the printing by moveable type, from Gothic cathedrals to the discovery of America, from the birth of university to the development of all the modern European vernacular languages, from King Arthur and Robin Hood to Shakespeare's plays and Michelangelo's paintings and sculpture.

## Minors Offered

Medieval/Renaissance Studies Minor

## Other Information

All coursework taken for the Medieval/Renaissance Studies minor must be completed with a grade of "C" or better.

## Contact

Martina Saltamacchia, PhD, Medieval and Renaissance Studies Director  
msaltamacchia@unomaha.edu  
402.554.4826

Website (<http://www.unomaha.edu/mrs/>)

## Requirements

Undergraduate students seeking to minor in Medieval and Renaissance Studies must complete at least **15** credit hours of coursework from at least three of the four following areas: 1) Fine and Performing Arts; 2) Literature and Language; 3) History; and 4) Philosophy and Religion. See below for a list of approved courses. A minimum of 9 credits must be at the upper-division (3000/4000) level.

Please note: As new courses are being added to this minor on an on-going basis, students should select Medieval/Renaissance Studies courses in consultation with their minor advisor or with the minor director, who will provide them with the most recent list of course options.

### Fine and Performing Arts

Code	Title	Credits
ART 3760	ART HISTORY SEMINAR	3
ART 3770	HISTORY OF ARCHITECTURE TO 1850	3
ART 4750	LATE ROMAN AND BYZANTINE ART HISTORY	3
ART 4770	EARLY MEDIEVAL ART	3
ART 4780	LATE MEDIEVAL ART HISTORY	3
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3
ART 4850	BAROQUE AND ROCOCO ART HISTORY	3
ART 4930	SPECIAL TOPICS IN ART HISTORY (Blood, Bones and Bricks; British Study Abroad with medieval project)	3
MUS 4540	RENAISSANCE MUSIC LITERATURE	3
THEA 4010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY (Acting in Shakespeare)	1-3
THEA 4020	ADVANCED PROJECTS IN THEATRE	1-3

### Literature and Language

Code	Title	Credits
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	3
ENGL 2510	GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD	3
ENGL 3280	IRISH LITERATURE I	3

ENGL 3400	JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE (King Arthur through the Ages)	3
ENGL 4320	CHAUCE	3
ENGL 4340	SHAKESPEARE	3
ENGL 4360	RENAISSANCE LYRIC	3
ENGL 4390	MEDIEVAL CELTIC LITERATURE	3
ENGL 4620	HISTORY OF ENGLISH	3
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE (Medieval Women Writers)	3
LATN 1110	ELEMENTARY LATIN I (A total of 3 maximum credits in Latin may be applied to the minor.)	5
or LATN 1120	ELEMENTARY LATIN II	
or LATN 2110	INTERMEDIATE LATIN I	
or LATN 2120	INTERMEDIATE LATIN II	
RUSS 3050	WOMEN IN RUSSIAN SOCIETY & CULTURE: A HISTORICAL PERSPECTIVE	3
RUSS 3370/ HIST 2710	RUSSIAN CULTURE AND CIVILIZATION	3
SPAN 3170	SURVEY OF SPANISH LITERATURE I	3
SPAN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM (Topic: Medieval and Golden Age)	3
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY (Don Quijote)	3

### History

Code	Title	Credits
HIST 4530	EUROPE: RENAISSANCE & REFORMATION	3
HIST 4540	MEDIEVAL EUROPE	3
HIST 4610	TUDOR AND STUART ENGLAND	3
HIST 4910	TOPICS IN HISTORY (Byzantine History 330-1453, Building Cathedrals, Castles & Cathedrals, The Crusades, The Medieval University, Women in Europe 1300-1800)	3

### Philosophy and Religion

Code	Title	Credits
PHIL 3500	PROBLEMS IN PHILOSOPHY	3
PSCI 4320	EARLY MODERN POLITICAL THOUGHT	3
RELI 3060	RELIGIONS OF THE WEST	3
RELI 3170	HISTORY OF CHRISTIANITY I	3
RELI 3200	ISLAM AND MUSLIMS	3
RELI 3500	SPECIAL TOPICS IN RELIGION (Qur'an)	3

No more than 3 credits of independent study, directed readings, or internships may be applied toward the minor, and such study is subject to approval by the program director.

Only one course in Latin may be applied to the minor, for a maximum of 3 credits.

# Molecular and Biomedical Biology

Students seeking biomedical careers can pursue specialized studies in cellular and molecular biology. Molecular and Biomedical Biology majors gain real-world experience in biomedical research during the required biotechnology internship under the Molecular Biotechnology Pathway. Under the Biomedical Humanities Pathway, Molecular and Biomedical

Biology majors explore perspectives that connect the human condition to biomedicine. The Molecular and Biomedical Biology major is an outstanding way to prepare for graduate programs in cellular and molecular biology, a career in the biotechnology industry, or the health professions.

## Other Information

All coursework taken for the Molecular and Biomedical Biology major or minor must be completed with a grade of "C-" or better.

Students may not earn a Molecular and Biomedical Biology major and a Biology minor.

## Double Majors

For a double major in Biology and Molecular and Biomedical Biology or Bioinformatics and Molecular and Biomedical Biology, beyond: BIOL 1450, BIOL 1750, BIOL 2140 and BIOL 3020, no other biology courses may count for both majors.

## Contact Information

Allwine Hall 114  
402.554.2641

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/biology/academics/biotechnology.php>)

## Degrees Offered

- Molecular and Biomedical Biology, Bachelor of Science (p. 263)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Molecular and Biomedical Biology major, the writing in the discipline requirement can be fulfilled by completing a sequence of approved biology courses at UNO that incorporate discipline specific writing as part of their requirements. To satisfy the requirement for the writing in the discipline course students must complete BIOL 1450 AND BIOL 1750, two courses from BIOL 2140, BIOL 3020 and BIOL 3340 and two additional 3000/4000 level courses that are approved as meeting the writing requirement by the Department of Biology. Only courses taken at UNO and after January 1, 2010 can be applied to this requirement. Students not meeting the writing requirement through this sequence of courses will fulfill the writing requirement by completing BIOL 3150 or, ENGL 3980, or another college-approved advanced writing course.

## Minors Offered

- Molecular and Biomedical Biology, Minor (p. 267)

At a most basic level molecular and biomedical biology involves the use of biological organisms, systems, or processes to develop technologies and products to improve the quality of life. Nowhere is this more apparent than in healthcare and new avenues to diagnose, treat, and study disease. The curriculum focuses on molecular biology, genetics and genomics, cellular biology, and biochemistry. Through the Molecular Biotechnology track, students are able to participate in research through a semester-long internship in an academic, commercial, clinical, or government laboratory in the region. Within the Biomedical Humanities track, students are exposed to perspectives that connect the human condition to biomedicine.

- Laboratory Technologist
- Research Technician
- Biomedical Scientist
- Pharmaceutical/Medical Product Sales Representative
- Health Professional
- Health Educator
- Data Analyst

### Specialized fields include:

- Agricultural or animal biotechnology
- Bio-based fuels
- Pharmaceuticals
- Conservation and the environment
- Medical technology
- Healthcare
- Biomedical consulting

# Molecular and Biomedical Biology, Bachelor of Science

To obtain a BS in Molecular and Biomedical Biology (MBB), a student must fulfill university, college, and department requirements. Minimum hour requirements follow:

In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.

1. 46 hours of University General Education courses

Most commonly, MBB majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often do the following:

- Test out of at least three hours of fundamental academic skills,
- Take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements,
- Meet the seven-hour University General Education natural sciences distribution requirement through completing major courses.

In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.

2. 12 hours college breadth requirement (Track 1 only)
3. 70-73 hours of major courses
4. Elective hours as required for a total of 120 hours

TOTAL HOURS: 120

## Requirements

The Bachelor of Science in Molecular and Biomedical Biology degree requires 36-45 credits of biology courses of which 18 credits must be 3000-4000 level courses. The course requirements are below.

Code	Title	Credits
<b>Required Courses</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
<b>Biochemistry Lecture and Lab</b>		
Select one of the following:		4
BIOL/CHEM 4650	BIOCHEMISTRY I (with the following lab)	
BIOL/CHEM 4654	BIOCHEMISTRY I LABORATORY	
or		
CHEM 4610	BIOCHEMISTRY OF METABOLISM	
<b>Additional Courses</b>		
Select three of the following, at least two must be lab-based:		10-13
BIOL 4130	MOLECULAR GENETICS	

BIOL 4140	CELLULAR BIOLOGY
BIOL 4450 & BIOL 4454	VIROLOGY and VIROLOGY LABORATORY
BIOL 4640	MICROBIAL PHYSIOLOGY
BIOL 4850 & BIOL 4830	DEVELOPMENTAL BIOLOGY and DEVELOPMENTAL GENETICS
BIOL 4860	COMPARATIVE GENOMICS
BIOL/CHEM 4660	BIOCHEMISTRY II
BIOL/CHEM 4664	BIOCHEMISTRY II LABORATORY
BIOL 4760	GENOME TECHNOLOGY AND ANALYSIS
BIOL/NEUR 4870	MOLECULAR AND CELLULAR NEUROBIOLOGY

**Required Chemistry Sequence**

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260	ORGANIC CHEMISTRY II	3
CHEM 2274	ORGANIC CHEMISTRY LABORATORY	2

**Physics**

PHYS 1110 or PHYS 2110	GENERAL PHYSICS I WITH ALGEBRA GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1

**Mathematics**

Two courses in mathematics or statistics are required and must include one of the following calculus courses:		6
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (3 cr)	
MATH 1940	CALCULUS FOR BIOMEDICINE (5 cr)	
MATH 1950	CALCULUS I (5 cr)	

To complete the degree, students choose one of the following two tracks:

**Track 1: Molecular Biotechnology**

This track will position students to excel in graduate or professional schools, as well as industry jobs in Biotechnology. Students will have about 10 hours of free electives with this track.

Code	Title	Credits
<b>Internship</b>		<b>3</b>
BIOL 4550	MOLECULAR AND BIOMEDICAL BIOLOGY INTERNSHIP	
<b>Six hours in Information, Innovation, and Development</b>		<b>6</b>
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	
BIOI 3000	APPLIED BIOINFORMATICS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
ITIN 2220	APPLIED I.T. INNOVATION	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ENTR 4740	TECHNOLGY AND INNOVATION MANAGEMENT	
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
MGMT 3490	MANAGEMENT	
STAT 4410	INTRODUCTION TO DATA SCIENCE	

Track 1 Total Credits

70-73

**Track 2: Biomedical Humanities**

This is a path to prepare students for success in medical school programs.

Students will have approximately 4 hours of free electives with this track. Requires completion of minor in Medical Humanities (p. 259). BIOL 1060 Intro to Health Careers and Ethics must be taken as part of the minor and nine credits must be in upper division (3000 or higher) courses.

Code	Title	Credits
Track 2 Total Credits		76-79

**Writing in the Discipline**

All students are required to take a writing in the discipline course within their major. For the Molecular and Biomedical Biology major, the writing in the discipline requirement can be fulfilled by completing a sequence of approved biology courses at UNO that incorporate discipline specific writing as part of their requirements. To satisfy the requirement for the writing in the discipline course students must complete BIOL 1450 AND BIOL 1750, two courses from BIOL 2140, BIOL 3020 and BIOL 3340 and two additional 3000/4000 level courses that are approved as meeting the writing requirement by the Department of Biology. Only courses taken at UNO and after January 1, 2010 can be applied to this requirement. Students not meeting the writing requirement through this sequence of courses will fulfill the writing requirement by completing BIOL 3150, ENGL 3980, or another college-approved advanced writing course.

**Biomedical Sciences Track****Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1320	PRE-CALCULUS ALGEBRA (**)	3
BIOL 1450	BIOLOGY I (***)	5
BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS (^)	2

\*ENGL 1150: Requires appropriate placement via EPPE or AP scores.

\*\*MATH 1320: Requires MATH 1220 OR placement via ACT, SAT or Math Placement. Higher level Math may be taken - please consult with your advisor.

\*\*\*BIOL 1450: Requires high school biology.

^BIOL 1060 is required within the Medical Humanities minor/ Biomedical Humanities Track.

Credits		16
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Humanities/Fine Arts Course + Global Diversity course		3
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (**)	4
BIOL 1750	BIOLOGY II (***)	5
*ENGL 1160: Requires ENGL 1150 or appropriate placement via EPPE or AP scores.		
**BIOL 1750: Requires BIOL 1450.		
***CHEM 1180+1184: requires MATH 1320 or higher within last 2 years or placement via ACT, SAT or Math placement exam..		

Credits 15

**Sophomore****Fall**

CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
--------------------------	--	---

Medical Humanities Minor Course – Lower Level	3
Humanities/Fine Arts	3
Social Science + US Diversity Course	3
Calculus Course**	3-5

\*CHEM 1190: Requires CHEM 1180 & 1184 with grade of C- or better and Math 1320 or higher (or placement via ACT/SAT/Math placement exam)..

\*\*Calculus options include: MATH 1930, 1940, 1950.

**Credits 16-18**

**Spring**

CHEM 2250	ORGANIC CHEMISTRY I (*)	3
BIOL 2140	GENETICS (**)	4
Social Science		3
Humanities/Fine Arts***		3
Elective		2-3

\*CHEM 2250: Requires CHEM 1190/ & 1194 with grade of C- or better.

\*\*BIOL 2140: Requires BIOL 1450 and BIOL 1750, as well as CHEM 1140 or 1180. Must enroll in discussion.

\*\*\*HFA course must come from a 2nd discipline.

**Credits 15-16**

**Junior****Fall**

CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (**)	3
Elective		3
Ethical/Religious/Cross-cultural course for minor^		3

\*CHEM 2260: Requires CHEM 2250 with a grade of C- or better within the last 12 months. Must take CHEM 2274 concurrently.

\*\*BIOL 3020: Requires BIOL 2140 and at least one semester of general chemistry.

^The Medical Humanities minor requires 15 credits, of which 9 must be 3000-4000 level. Take an upper or lower level course, accordingly.

**Credits 14**

**Spring**

CHEM 4610	BIOCHEMISTRY OF METABOLISM (*)	4
BIOL 3240	INTRODUCTION TO IMMUNOLOGY (**)	3
Upper Level BIOL course with Lab***		4
Race/Ethnicity/Gender/Sex/Age course for minor^		3
Elective		1

\*CHEM 4610: Requires CHEM 2260 & 2274 with a grade of C- or better. Alternatively, CHEM 4650 & 4654 (requires CHEM 2260 & 2274, and either CHEM 2400 or BIOL 3020, all with a C- or better, (F) only) may be taken next semester. In that case, move one class from that semester to this one.

\*\*BIOL 3240: Requires BIOL 1450, 1750, 2140. and junior standing. Recommended: BIOL 3020.

\*\*\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

^The Medical Humanities minor requires 15 credits, of which 9 must be 3000-4000 level. Take an upper or lower level course, accordingly.

**Credits 15**

**Senior****Fall**

Upper Level BIOL Course*		3
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (**)	5
Medical humanities minor course^		3
Elective or Medical humanities minor course		1-3
Elective***		3

\*\*PHYS 1110: Requires MATH 1220 or higher or placement via ACT/SAT/Math placement exam.

\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

w Meets Advanced Writing requirement: BIOL 4130, 4140, 4450/4454, 4640, 4850, 4830, CHEM 4660/4664. Alternatively, students may meet the writing requirement by completing BIOL 3150 Writing in Biology or ENGL 3980 Technical Writing Across the Disciplines.

\*\*\*Students must have a minimum of 120 credits, with 27 upper-level credits throughout the degree and 18 of those upper level credits must be concentrated in the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

^The Medical Humanities minor requires 15 credits, of which 9 must be 3000-4000 level. Take an upper or lower level course, accordingly.

**Credits 15-17**

**Spring**

Upper Level BIOL Course with Lab* w	4
Narrative medicine/Communication course for minor^	3
Elective**	3
Elective**	1
Social Science***	3

\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

^The Medical Humanities minor requires 15 credits, of which 9 must be 3000-4000 level. Take an upper or lower level course, accordingly.

\*\*Students must have a minimum of 120 credits, with 27 upper-level credits throughout the degree and 18 of those upper level credits must be concentrated in the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

\*\*\*SS must come from a 2nd discipline.

**Credits 14**

**Total Credits 120-125**

**Biotechnology Track****Freshman**

ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1220	COLLEGE ALGEBRA (**)	3

BIOL 1450	BIOLOGY I (***)	5
*ENGL 1150: Requires appropriate placement via EPPE or AP scores.		
**MATH 1220: Requires placement via ACT, SAT or Math placement.		
***BIOL 1450: Requires high school biology.		

**Credits 14**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II (*)	3
Elective or Minor/2nd Major Course		
MATH 1320	PRE-CALCULUS ALGEBRA (**)	3
BIOL 1750	BIOLOGY II (***)	5

\*ENGL 1160: Requires ENGL 1150 or appropriate placement via EPPE or AP scores.

\*\*MATH 1320: Requires MATH 1220 within last two years with grade of C- or better or placement.

\*\*\*BIOL 1750: Requires BIOL 1450.

NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

**Credits 14**

**Sophomore****Fall**

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
Course in Information, Innovation, and Development**		
Humanities/Fine Arts Course + Global Diversity		
Social Science + US Diversity Course		
Calculus Course***		

\*CHEM 1180+1184: requires MATH 1320 or higher with grade of C- or better within last 2 years or ACT/SAT/Math placement. Must take CHEM 1184 concurrently..

\*\*Approved IDD courses include: BIOI 2000, 3000, ITIN 1110, 2220, ENTR 3710, 4740, ACCT 2010, MGMT 3490, STAT 4410.

\*\*\*Calculus options include: MATH 1930, 1940, 1950.

NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

**Credits 16-18**

**Spring**

CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
BIOL 2140	GENETICS (**)	4
Social Science		
Humanities/Fine Arts		
Elective***		

\*CHEM 1190: Requires CHEM 1180 & 1184, as well as MATH 1320 or higher (or placement), all with grades of C- or better. Must take CHEM 1194 concurrently.

\*\*BIOL 2140: Requires BIOL 1450, BIOL 1750, and CHEM 1180 or 1140.

\*\*\*Students must have a minimum of 120 credits, with 27 upper-level credits throughout the degree and 18 of those upper level credits must be concentrated in the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

**Credits 15**

**Junior****Fall**

CHEM 2250	ORGANIC CHEMISTRY I (*)	3
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (**)	3
Social Science***		
Humanities/Fine Arts#		
Minor/2nd Major Course or Elective^		

\*CHEM 2250: Requires CHEM 1190 & 1194.

\*\*BIOL 3020: Requires BIOL 2140 and at least one semester of general chemistry.

\*\*\*SS course must be in a 2nd field.

#HFA course must be in a 2nd field.

^NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses at UNO and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

NOTE: Students must have a minimum of 120 credits, with 27 upper-level credits throughout the degree and 18 of those upper level credits must be concentrated in the major. Electives or Minor/2nd Major courses may need to be selected at the 3000-4000 level to reach these minimums.

**Credits 15**

**Spring**

CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
BIOL 3240	INTRODUCTION TO IMMUNOLOGY (**)	3
Upper Level BIOL course with Lab***		
Course towards Minor/2nd Major or Elective^		

\*CHEM 2260: Requires CHEM 2250 with grade of C- or better within last 12 months. Must take CHEM 2274 concurrently.

\*\*BIOL 3240: Requires BIOL 1450, 1750, 2140, and junior. Recommended: BIOL 3020.

\*\*\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

^NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses at UNO and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

**Credits 15**

**Senior****Fall**

Upper Level BIOL Course with Lab\* w

4

PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (**)	5
--------------------------	--	---

CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY (***)	4
--------------------------	---	---

Course in Information, Innovation, and Development#		3
---	--	---

\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

w Meets Advanced Writing requirement: BIOL 4130, 4140, 4450/4454, 4640, 4850, 4830, CHEM 4660/4664. Alternatively, students may meet the writing requirement by completing BIOL 3150 Writing in Biology or ENGL 3980 Technical Writing Across the Disciplines.

\*\*PHYS 1110: Requires MATH 1220 or higher or placement via ACT/SAT/Math placement exam.

\*\*\*CHEM 4650: Requires CHEM 2260 & 2274, and must take CHEM 4654 concurrently. Alternatively, CHEM 4610 (requires CHEM 2260 & 2274, (S) only) may be taken next semester. In that case, move one class from that semester to this one.

#Approved IID courses include: BIOI 2000, 3000, ITIN 1110, 2220, ENTR 3710, 4740, ACCT 2010, MGMT 3490, STAT 4410.

<b>Credits</b>	<b>16</b>
----------------	-----------

#### Spring

Upper Level BIOL Course*	3
--------------------------	---

Course towards Minor/2nd Major or Elective. ^	3
---	---

Course towards Minor/2nd Major or Elective ^	3
--	---

Elective	3
----------	---

BIOL 4550	MOLECULAR AND BIOMEDICAL BIOLOGY INTERNSHIP (***)	3
-----------	--	---

\*Approved Upper Level BIOL courses include: BIOL 4130, 4140, 4450/4454, 4640, 4760, 4850, 4830, 4860, NEUR 4870, or CHEM 4660/4664.

^NOTE: Students in A&S are required to earn a minor or double major or to take additional general education requirements in various areas. Molecular & Biomedical Biology majors can meet this requirement by taking their required Chemistry courses at UNO and earning a Chemistry minor. Students may earn additional minors or majors, if desired.

\*\*\*BIOL 4550: Requires at least one 4000-level BIOL lab course.

NOTE: Students must have a minimum of 120 credits, with 27 upper-level credits throughout the degree and 18 of those upper level credits must be concentrated in the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

<b>Credits</b>	<b>15</b>
----------------	-----------

<b>Total Credits</b>	<b>120-122</b>
----------------------	----------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Molecular and Biomedical Biology, Minor

### Requirements

#### Courses required for Molecular and Biomedical Biology Minor.

A minor in molecular and biomedical biology, requires a minimum of 21 semester credit hours. All courses counted toward a minor in molecular and biomedical biology, must be applicable toward a major in molecular and biomedical biology. These hours must include:

Code	Title	Credits
<b>Required courses:</b>		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
<b>In addition, select one 4000-level Biology lecture + lab course from the Molecular and Biomedical Biology major course options, listed below:</b>		<b>4-5</b>
BIOL 4130	MOLECULAR GENETICS (4 hrs for lec + lab)	
BIOL 4140	CELLULAR BIOLOGY (4 hrs for lec + lab)	
BIOL 4450 & BIOL 4454	VIROLOGY and VIROLOGY LABORATORY (4450 lec + 4454 lab, 4 hrs total)	
BIOL 4640	MICROBIAL PHYSIOLOGY (4 hrs for lec + lab)	
BIOL/CHEM 4650	BIOCHEMISTRY I (4650 lec + following 4654 lab, 4 hrs total)	
BIOL/CHEM 4654	BIOCHEMISTRY I LABORATORY (1 hr)	
BIOL/CHEM 4660	BIOCHEMISTRY II (4660 lec + following 4664 lab, 4 hrs total)	
BIOL/CHEM 4664	BIOCHEMISTRY II LABORATORY (1 hr)	
BIOL 4850 & BIOL 4830	DEVELOPMENTAL BIOLOGY and DEVELOPMENTAL GENETICS (4850 lec + 4830 lab, 5 hrs total)	
<b>TOTAL</b>		<b>21-22</b>

Students transferring biology credits are required to take a minimum of two 3000 or 4000-level courses at UNO. Students may not earn a molecular and biomedical biology minor if they earn a biology major.

## Native American Studies Minor

### Mission

Native American Studies offers students an opportunity to learn about Native American cultures, literatures, histories, arts, values, lifeways,

spirituality, and social and political institutions. Our program has a long-standing tradition of activism on contemporary issues and includes a focus on urban Indian issues, providing students with the opportunity to engage in meaningful community-based research.

## Minors Offered

Native American Studies minor

## Other Information

All coursework taken for the Native American Studies minor must be completed with a grade of "C" or better.

Students may also elect to pursue a Native American Studies concentration (30 hours) through the Bachelor of Multidisciplinary Studies program (College of Public Affairs and Community Service). This program should be initiated by the beginning of the junior year.

## Contact

Brady DeSanti, Ph.D., Native American Studies Director  
402.554.2956  
bdesanti@unomaha.edu

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/native-american-studies/>)

## Requirements

The Native American Studies minor requires 15 credit hours, a minimum 9 hours must be 3000 and/or 4000 level. Introduction to Native American Studies (NAMS 1100) is required.

Code	Title	Credits
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES	3
At least 12 hours of courses approved for credit in the Native American Studies Program. (9 must be 3000 and/or 4000 level.)		12
<b>Total Credits</b>		<b>15</b>

# Neuroscience

The study of neuroscience is one of the most rapidly growing areas of life sciences, reflecting the importance of the fundamental and applied interest in how the nervous system is coordinated and regulated. The field of neuroscience examines the physiology, anatomy, pharmacology, development, growth, maintenance, and evolution of nervous system processes.

Students working toward completion of this degree will be able to concentrate in one of two tracks (Molecular/ Cellular Neuroscience or Integrative/Behavioral Neuroscience) or take courses that provide a blended combination of these complementary areas of neuroscience. The major provides both content and hands-on experience in various areas of neuroscience, and is an excellent choice for students with interests in pursuing neuroscience-related graduate programs, health careers (for example, students with post-graduate aspirations for attending medical, PA, dental, veterinary, or nursing school), or careers in private industry. Students will emerge from the major with the ability to think across disciplines, to formulate questions and seek answers, to interpret data and draw conclusions, and to effectively communicate the outcome of these processes to a larger audience. This suite of skills makes neuroscience majors eligible for a variety of career opportunities both within and outside the discipline of neuroscience.

## Other Information

All coursework taken for the neuroscience major must be completed with a grade of "C-" or better.

**Note for Double Majors in Neuroscience and Biology:**

Beyond the neuroscience fundamentals courses, students cannot use a 3000/4000 level course to count toward both majors.

**Note for Double Majors in Neuroscience and Psychology:** Beyond the neuroscience fundamentals courses, students cannot use a 3000/4000 level course to count toward both majors. Students may overlap 3000/4000 level PSYC courses between the Psychology Neuroscience & Behavior concentration and the Neuroscience major.

**Note for Students Completing a Neuroscience Major and Psychology Minor:**

No psychology coursework will be allowed to count toward both programs.

**Note for Students Completing a Neuroscience Major and Biology Minor:**

No 3000/4000 level course(s) may count toward both programs.

## Additional Laboratory Experiences

Students wishing additional laboratory experiences can enroll in Experiential Study in Neuroscience (NEUR 4960) or seek independent research opportunities with faculty conducting neuroscience research at UNO, UNMC, Creighton University, or Boys Town National Research Hospital.

## Student Group

Nu Rho Psi – National Honor Society in Neuroscience  
<http://nurhopsi.org>

## Contact

Neuroscience Director, Dr. Suzanne Sollars: 402.554.3981

Contact by email is best: [ssollars@unomaha.edu](mailto:ssollars@unomaha.edu)

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/neuroscience/>)

## Degrees Offered

- Neuroscience, Bachelor of Science (p. 270)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Neuroscience major this is fulfilled with PSYC 3140.

Neuroscience is a rapidly growing field, with a faster than average projected jobs growth of 8% in the next ten years (U.S. Department of Labor). Students in our program have been highly successful in admissions to graduate and medical schools, and obtaining employment in neuroscience-related fields. Alumni from our Neuroscience Program have outstanding jobs as physicians, researchers, nurses, physician assistants, teachers, dentists, medical industry experts, technicians, and CEO's of neuroscience-related businesses.

Within your Neuroscience Program, you will gain knowledge in all aspects of how the brain and body function, with tracks in cellular and molecular neuroscience, and integrative behavioral neuroscience. Built within the curriculum are opportunities for hands-on experimental experiences. We currently have faculty with expertise in neuropharmacology, development, endocrinology, gerontology, genetics, sensory systems, behavior, and biomechanics. Your curriculum will focus on understanding and engaging with new and innovative research within neuroscience, science writing, data analysis, and applications of the latest concepts in the field.

Career Opportunities:

- Research & Development
- Hospitals
- Universities/Colleges
- Laboratories

- Government Agencies
- Health Care
- Pharmaceutical & Other Science Industries
- Laboratory Software and Equipment
- Science Writing
- Consultancies
- Medical Illustrators

### **NEUR 1520 INTRODUCTION TO NEUROSCIENCE I (3 credits)**

The nervous system is intricate, complex, and is the subject of one of the most exciting fields in the life sciences. This course is part 1 of a 2-semester sequence designed for neuroscience majors or students who are contemplating neuroscience as a major. This course will focus on understanding how the nervous system interacts at the cellular and molecular levels: anatomy and function of neurons, communication within and between neurons, and how neurons interact to perceive and process sensory information.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry. Not open to non-degree graduate students.

### **NEUR 1540 INTRODUCTION TO NEUROSCIENCE II (3 credits)**

The nervous system is intricate, complex, and is the subject of one of the most exciting fields in the life sciences. This course is part 2 of a 2-semester sequence designed for neuroscience majors or students who are contemplating neuroscience as a major. This course will focus on understanding how the nervous system interacts at the organismal, behavioral and cognitive levels: how the nervous system develops, how the motor system, hormones, and physiology influences behavior, and how cognition and systems neuroscience leads to understanding of the mind.

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or permission of instructor. Not open to non-degree graduate students.

### **NEUR 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with GERO 3500, BIOL 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

### **NEUR 4000 SYSTEMS NEUROSCIENCE (3 credits)**

This is an advanced course for the Neuroscience major designed to provide a solid understanding of the peripheral and central connections that make the systems of the body function. Data and theories of brain-behavior relationships from current research in neuroscience will be discussed. (Cross-listed with NEUR 8006).

**Prerequisite(s)/Corequisite(s):** NEUR 1520 and NEUR 1540, BIOL 1450, BIOL 1750; or permission. Not open to non-degree graduate students.

### **NEUR 4050 ADVANCED BIOLOGY OF AGING (3 credits)**

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 4050, GERO 8056).

### **NEUR 4200 ADVANCED NEUROSCIENCE LABORATORY (3 credits)**

This course is designed as a capstone laboratory course for Neuroscience majors. The course will provide students with hands-on experience in collecting data in diverse areas of neuroscience, analyzing these data, interpreting the data, and preparing written and verbal presentations of the data.

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, PSYC 3130, PSYC 3140, and BIOL 1450. Not open to non-degree graduate students.

### **NEUR 4230 BEHAVIORAL NEUROSCIENCE (3 credits)**

A comprehensive study of the relationship of the nervous and other organ systems to behavior. Research on both human and other animal species is considered. (Cross-listed with PSYC 4230).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 OR PSYC 1010

### **NEUR 4290 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, BIOL 8296, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540 and BIOL 1750; or by permission of instructor. Not open to non-degree graduate students.

### **NEUR 4330 SOCIAL NEUROSCIENCE (3 credits)**

This course will evaluate the biological substrates of sociality and social behavior, and explore the impact of social environments on brain function and development. Students in the course will explore the molecular, cellular, neurotransmitter, and endocrine influences on social behavior, including affiliative care, aggression, social bonding, altruism, and social cognition. (Cross-listed with PSYC 8336)

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or NEUR 1540, and BIOL 1450, or permission of Instructor. Not open to non-degree graduate students.

### **NEUR 4650 NEUROMECHANICS OF HUMAN MOVEMENT (3 credits)**

A study of basic principles of neural process as they relate to human voluntary movement. Applications of neural and mechanical principles through observations and assessment of movement, from learning to performance, as well as development. (Cross-listed with BMCH 4650).

**Prerequisite(s)/Corequisite(s):** NEUR 1540 or permission of instructor

### **NEUR 4870 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, BIOL 8876, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

### **NEUR 4890 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 8896, BIOL 4890, BIOL 8896, PSYC 8896).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, and BIOL 2140. Or by permission of instructor. Not open to non-degree graduate students.

NEUR 4910 SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 1 (3 credits)

Fulfills Neuroscience BLOCK 1 or Neuroscience Elective requirement. A study of designated special topic in neuroscience. Students may repeat this class as long as the specific topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** NEUR 1520, junior-senior status (sophomore status by permission), or instructor permission. Not open to non-degree graduate students.

NEUR 4920 SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 2 (3 credits)

This course fulfills Neuroscience BLOCK 2 or Neuroscience Elective requirements. A study of designated special topic in neuroscience. Students may repeat this class as long as the specific topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or NEUR 1540, junior-senior status (sophomore status by permission), or instructor permission. Not open to non-degree graduate students.

NEUR 4960 EXPERIENTIAL STUDY IN NEUROSCIENCE (1-3 credits)

Focused research projects, data analysis, and/or directed readings with faculty supervision. Oral and written reports based on empirical research are expected outcomes.

**Prerequisite(s)/Corequisite(s):** NEUR 1520; PSYC 3130. PSYC 3140 recommended. Instructor permission required.

Neuroscience, Bachelor of Science

To obtain a BS with a major in Neuroscience, a student must fulfill university, college, and departmental requirements. As an interdisciplinary major, Neuroscience major requirements meet the college breadth requirement. Other hour requirements follow:

- 46 hours of University General Education courses (*Testing out of academic skills requirements and enrolling in major courses that satisfy distribution requirements are likely to reduce the total number of General Education hours and allow for additional elective hours.*)
- 70 hours of major courses
- 0-4 hours of electives

TOTAL HOURS: 120

Requirements

Code	Title	Credits
<b>Required Neuroscience Fundamentals Courses (Core)</b>		
NEUR 1520	INTRODUCTION TO NEUROSCIENCE I	3
NEUR 1540	INTRODUCTION TO NEUROSCIENCE II	3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY	4
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS <sup>1</sup>	4
Select ONE of the following sequences of natural sciences courses with labs (or their equivalents at higher levels) for a minimum of 10 credit hours in chemistry or physics:		10
Sequence 1:		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY <sup>2</sup>	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	

Sequence 2:		
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
<b>Mathematics Requirements</b>		
Although not required, Calculus is strongly recommended, especially the following:		
MATH 1940	CALCULUS FOR BIOMEDICINE	
<b>Advanced Neuroscience Lecture and Lab Course</b>		
NEUR 4200	ADVANCED NEUROSCIENCE LABORATORY	3
or PSYC/BIOL 4280 ANIMAL BEHAVIOR LABORATORY		
Select one of the following lecture courses (that has not already been used to satisfy the Supporting Neuroscience Elective Courses requirement):		3
PSYC/BIOL 4320	HORMONES & BEHAVIOR	
NEUR 4000	SYSTEMS NEUROSCIENCE	
NEUR 4330	SOCIAL NEUROSCIENCE	
NEUR/BIOL 4870	MOLECULAR AND CELLULAR NEUROBIOLOGY	
NEUR/BIOL 4890	GENES, BRAIN, AND BEHAVIOR	
<b>Total Credits</b>		<b>43</b>

- <sup>1</sup> Pre-requisite to BIOL 2140 is CHEM 1140-CHEM 1144 or CHEM 1180-CHEM 1184, and BIOL 1450 & BIOL 1750.
- <sup>2</sup> CHEM 1180/CHEM 1184 + CHEM 1190/CHEM 1194 can be substituted for CHEM 1140/CHEM 1144. Both are required prerequisites for CHEM 2210/CHEM 2214. CHEM 2250 + CHEM 2260/CHEM 2274 can substitute for CHEM 2210/CHEM 2214.

Supporting Neuroscience Elective Courses

In addition to the required core courses, 12 credit hours as a combination from the Block I and Block II lists below must be selected. At least 3 credits must come from Block I and at least 3 credits must come from Block II. The remaining minimum of 6 credits can be taken from either Block I or II. Three hours of Experiential Study in Neuroscience (NEUR 4960) may be applied to the Additional Neuroscience Electives category.

Block I Neuroscience Electives: Molecular and Cellular Neuroscience

Code	Title	Credits
NEUR 4000	SYSTEMS NEUROSCIENCE	3
NEUR 4290	NEUROETHOLOGY	3
NEUR 4870	MOLECULAR AND CELLULAR NEUROBIOLOGY	3
NEUR/BIOL 4890	GENES, BRAIN, AND BEHAVIOR	3
NEUR 4910	SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 1	3

Block II Neuroscience Electives: Integrative Behavioral Neuroscience

Code	Title	Credits
NEUR/BIOL/GERO 3500	BIOLOGICAL PRINCIPLES OF AGING	3
NEUR/GERO 4050	ADVANCED BIOLOGY OF AGING	3
NEUR/PSYC 4230	BEHAVIORAL NEUROSCIENCE	3
NEUR 4330	SOCIAL NEUROSCIENCE	3
NEUR/BMCH 4650	NEUROMECHANICS OF HUMAN MOVEMENT	3

NEUR 4920	SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 2	3
PSYC 4090	COGNITIVE NEUROSCIENCE	3
PSYC 4210	SENSATION AND PERCEPTION	3
PSYC 4250/PHIL 3250	LIMITS OF CONSCIOUSNESS	3
PSYC/BIOL 4270	ANIMAL BEHAVIOR	3
PSYC/BIOL 4320	HORMONES & BEHAVIOR	3

Code	Title	Credits
<b>Additional Neuroscience Electives</b>		
NEUR 4960	EXPERIENTIAL STUDY IN NEUROSCIENCE	3

Students must complete 15 credits worth of a cognate set of courses (see below) or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites.

Code	Title	Credits
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
ANTH 3910	INTRODUCTION TO PHYSICAL ANTHROPOLOGY	3
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	3
ANTH 4240	MEDICAL ANTHROPOLOGY	3
BIOI 1000	INTRODUCTION TO BIOINFORMATICS	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	3
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
BIOL 4110	STATISTICS FOR BIOLOGICAL SCIENCES	4
BIOL 4130	MOLECULAR GENETICS	4
BIOL 4140	CELLULAR BIOLOGY	4
BIOL 4230	EVOLUTION	3
BIOL 4260	BEHAVIORAL ECOLOGY	3
BIOL 4650 & BIOL 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY	4
BIOL 4730	VERTEBRATE ENDOCRINOLOGY	3
BIOL 4740	ANIMAL PHYSIOLOGY	3
BIOL 4850	DEVELOPMENTAL BIOLOGY	3
BIOL 4860	COMPARATIVE GENOMICS	3
BIOL 4960	ADVANCED GENETICS	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II	4
BMCH 4100	BIOINSPIRED ROBOTICS	3
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
CHEM 4610	BIOCHEMISTRY OF METABOLISM	4
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY	4
CSCI 1200 & CSCI 1204	COMPUTER SCIENCE PRINCIPLES and COMPUTER SCIENCE PRINCIPLES LABORATORY	4
ENVN 4320	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	3
MATH 1940	CALCULUS FOR BIOMEDICINE	5
PHIL 1210	CRITICAL REASONING	3

PHIL 2020	INTRODUCTION TO PHILOSOPHY OF MIND	3
PHIL 3650	PHILOSOPHY OF MIND	3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
PHYS 3500	ELEMENTS OF ELECTRONICS	3
PHIL 4220	NEUROETHICS	3
PHYS 4500	BIOLOGICAL PHYSICS	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II	3
PSYC 2024	EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY	2
PSYC 3520	CHILD PSYCHOLOGY	3
PSYC 4020	LEARNING	3
PSYC 4024	LABORATORY IN PSYCHOLOGY: LEARNING	3
PSYC 4234	LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
PSYC 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
PSYC 4470	MENTAL HEALTH AND AGING	3
PSYC 4990	SENIOR THESIS	3-6

### Freshman

Fall		Credits
NEUR 1520	INTRODUCTION TO NEUROSCIENCE I	3
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1220	COLLEGE ALGEBRA (**)	3
BIOL 1450	BIOLOGY I	5
Elective		1

\*ENGL 1150: requires placement via AP or EPPE.

\*\*MATH 1220: requires placement via ACT/SAT/Math Placement Exam within past 2 years. MATH 1220 is required prior to CHEM 1140/1144 or PHYS 1110/1154. If planning to take CHEM 1180/1184 and CHEM 1190/1194 instead of CHEM 1140/1144, need MATH 1320 or higher. Please confer with your advisor for options.

Credits		15
Spring		
NEUR 1540	INTRODUCTION TO NEUROSCIENCE II (*)	3
ENGL 1160	ENGLISH COMPOSITION II (**)	3
BIOL 1750	BIOLOGY II (***)	5
Elective		3
*NEUR 1540: requires NEUR 1520		
**ENGL 1160: requires ENGL 1150 or placement via AP or EPPE.		
***BIOL 1750: requires BIOL 1450		

Credits		14
<b>Sophomore</b>		
<b>Fall</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)	5
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES (**)	3
Humanities/Fine Arts course + U.S. Diversity		3
Elective		3

\*CHEM 1140: requires MATH 1220 or higher within past 2 years of placement via ACT/SAT/Math Placement Exam. Neuroscience majors may take CHEM 1180/1184 and 1190/1194 in lieu of CHEM 1140/1144. MATH 1320 or equivalent within last 2 years is a prereq for CHEM 1180-1184. May also take PHYS 1110/1154 and PHYS 1120/1164 in lieu of Chemistry coursework.

\*\*PSYC 3130: requires MATH 1220, 1120, or STAT 1530. Appropriate scores on the ACT/SAT/Math Placement Exam may also serve as an acceptable prereq.

Credits		14
<b>Spring</b>		
BIOL 2140	GENETICS (*)	4
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science course + Global Diversity		3
Social Science course		3
Cognate course**		3
*BIOL 2140: requires BIOL 1450, 1750, and CHEM 1140/1144 (or CHEM 1180/1184).		
**Students must complete 15 credits worth of a cognate set of courses or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites. Courses are listed in the catalog.		

Credits		16
<b>Junior</b>		
<b>Fall</b>		
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*)	5
Supporting Neuroscience Block 1 course		3
Humanities/Fine Arts Course		3
Cognate Course**		3
*CHEM 2210: requires CHEM 1140/1144. Must take CHEM 2214 concurrently. CHEM 2250/2260/2274 can be taken in lieu of CHEM 2210/2214. PHYS 1110/1154 and PHYS 1120/1164 can be taken in lieu of Chemistry coursework.		
**Students must complete 15 credits worth of a cognate set of courses or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites. Courses are listed in the catalog.		

Credits		14
<b>Spring</b>		
Advanced Neuroscience Lecture Course^		3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY (*)	4
Humanities/Fine Arts Course**		3
Cognate Course***		3
Elective		3
^Advanced Neuroscience Lecture options include: PSYC/BIOL 4320; NEUR 4000; NEUR 4330; NEUR/BIOL 4870; NEUR/BIOL 4890.		

\*PSYC 3140: requires PSYC 3130 and ENGL 1160.

\*\*HFA course must come from 2nd discipline.

\*\*\*Students must complete 15 credits worth of a cognate set of courses or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites. Courses are listed in the catalog.

Credits		16
<b>Senior</b>		
<b>Fall</b>		
NEUR 4200 or PSYC 4280 or BIOL 4280	ADVANCED NEUROSCIENCE LABORATORY (*) or ANIMAL BEHAVIOR LABORATORY or ANIMAL BEHAVIOR LABORATORY	3
Supporting Neuroscience coursework (Block 1 or 2)		3
Social Science Course**		3
Cognate Course***		3
Elective		3
Elective		1
*NEUR 4200: requires NEUR 1520, 1540, PSYC 3130, 3140, and BIOL 1450. PSYC/BIOL 4280 requires PSYC 3130, PSYC 3140 and either PSYC/BIOL 4270 or PSYC/BIOL 4320.		

\*\*SS course must come from 2nd discipline.

\*\*\*Students must complete 15 credits worth of a cognate set of courses or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites. Courses are listed in the catalog.

Credits		16
<b>Spring</b>		
Supporting Neuroscience coursework (Block 1 or 2)		3
Cognate Course*		3
Elective**		3
Elective**		3
Elective**		3
*Students must complete 15 credits worth of a cognate set of courses or may choose a minor of at least 15 hours or a double major. Six (6) hours of cognate coursework may double-count with your Gen Ed requirements. No more than 6 hours of cognate coursework may be at the 1000 level. At least 3 hours of cognate coursework must be at the 3000-4000 level. Note that some classes have prerequisites. Courses are listed in the catalog.		
**Students need 27 upper level credits throughout the degree. Electives may need to be selected at the 3000- 4000 level to reach this minimums.		
120 credits minimally needed for a degree. Take as many electives as is needed to reach this minimum.		

Credits		15
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Pharmaceutical Sciences, Bachelor of Science Requirements

Code	Title	Credits
<b>University Fundamental skills and General Education</b>		
Statistics course		
ENGL 1150	ENGLISH COMPOSITION I	3
ENGL 1160	ENGLISH COMPOSITION II	3
NSCI 3940	WRITING IN CHEMISTRY	2
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	ARGUMENTATION AND DEBATE	
Humanities (include Ethics course and a Diversity)		9
Social Sciences (includes a Diversity)		9
College of Arts and Sciences Breadth Requirements		12-15
<b>Chemistry Courses - all required</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY	4
CHEM 4660 & CHEM 4664	BIOCHEMISTRY II and BIOCHEMISTRY II LABORATORY	4
<b>Pharmacy Courses - all required</b>		
PHSI 1010	Introduction to Pharmaceutical Sciences	1
**		
<b>Electives select from the following</b>		<b>6</b>
PHSI 4560	Pharmacy and Health Care	
PHSI 4550	Pharmaceutical Care	
PHSI 4520	Pharmaceutical Biochemistry	
PHSI 4620	Advanced Medicinal Chemistry	
PHSI 4750	Advanced Pharmaceutical Sciences	
PHSI 3210	Foundations Molecules to Medicine	3
PHSI 3310	Applied Molecules to Medicine	3
PHSI 4010	Principles of Pharmaceutical Sciences	3
PHSI 4210	Contemporary Use of Medicines	2

PHSI 3110	Current Research Topics in Pharmaceutical Sciences	1
PHSI 4410	Introduction to Research in Pharmaceutical Sciences	1
PHSI 4510	Advanced Research in Pharmaceutical Sciences	1
<b>STEM Cognates - all required</b>		
BIOL 1450	BIOLOGY I	5
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	5
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
MATH 1940 or MATH 1950	CALCULUS FOR BIOMEDICINE or CALCULUS I	5
Electives to reach 120		1-4
<b>Total Credits</b>		<b>117-123</b>

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4
MATH 1940 or MATH 1950	CALCULUS FOR BIOMEDICINE (*) or CALCULUS I	5
ENGL 1150	ENGLISH COMPOSITION I	3
Elective (eg, Strongly recommend: BIOL 1060 Health Car & Ethics)		2
*Fulfills Prerequisites for Pharmacy School		
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4
Humanities/Fine Arts Course with U.S. Diversity		3
BIOL 1450	BIOLOGY I (*)	5
ENGL 1160	ENGLISH COMPOSITION II	3
PHSI 1010	Introduction to Pharmaceutical Sciences	1
**		
*Fulfills Prerequisites for Pharmacy School		
**Courses Coordinated/Taught by COP Faculty		
<b>Credits</b>		<b>16</b>

<b>Sophomore</b>		
<b>Fall</b>		
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB (*)	4
Social Science with Global Diversity		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
CHEM 2250	ORGANIC CHEMISTRY I (*)	3
HIST 1000 or Minor Course **		3
*Fulfills Prerequisites for Pharmacy School		
**College of Arts & Sciences Breadth Requirement		
<b>Credits</b>		<b>16</b>

<b>Spring</b>		
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (*)	5
PHSI 3110	Current Research Topics in Pharmaceutical Sciences	1

Humanities/Fine Arts Course (cannot be PHIL)	3
Social Science	3
HIST 1010 or Minor Course **	3
*Fulfills Prerequisites for Pharmacy School	
**College of Arts & Sciences Breadth Requirement	

<b>Credits</b>	<b>15</b>
----------------	-----------

**Junior****Fall**

PHSI 3210	Foundations of Molecules to Medicine **	3
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I (*)	4
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY	4
PHIL 2030	INTRODUCTION TO ETHICS (also counts as a Humanities/Fine Arts Course)	3
PHSI 4510	Introduction to Research in Pharmaceutical Sciences ***	1

\*Fulfills Prerequisites for Pharmacy School

\*\*Courses Coordinated/Taught by COP Faculty

\*\*\*Research Experience may be with UNMC or UNO faculty

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

PHSI 3310	Applications of Molecules to Medicine **	3
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II (*)	4
CHEM 4660 & CHEM 4664	BIOCHEMISTRY II and BIOCHEMISTRY II LABORATORY	4
Social Science from 2nd discipline		3
NSCI 3940	WRITING IN CHEMISTRY	2

\*Fulfills Prerequisites for Pharmacy School

\*\*Courses Coordinated/Taught by COP Faculty

<b>Credits</b>	<b>16</b>
----------------	-----------

**Senior****Fall**

PHSI 4010	Principles of Pharmaceutical Sciences **	3
PHSI 4510	Advanced Research in Pharmaceutical Sciences***	1
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)	5

Additional Humanities/Fine Arts Course from 3rd discipline or Minor Course \*\*\*\*

\*Fulfills Prerequisites for Pharmacy School

\*\*Courses Coordinated/Taught by COP Faculty

\*\*\*Research Experience may be with UNMC or UNO faculty

\*\*\*\*College of Arts &amp; Sciences Breadth Requirement

Elective	3
----------	---

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

PHSI 4210	Contemporary Use of Medicines **	2
Major Elective (e.g. PHSI XXXX)		3
Minor Course*** or Elective		3
Statistics (or Elective) *		3
Major Elective (e.g. PHSI XXX) **		3

\*Fulfills Prerequisites for Pharmacy School

\*\*Courses Coordinated/Taught by COP Faculty

\*\*\*College of Arts &amp; Sciences Breadth Requirement

<b>Credits</b>	<b>14</b>
<b>Total Credits</b>	<b>121</b>

## Philosophy

The study of philosophy is an attempt to understand the world in as unified and general a way as possible. Philosophers want to know what there is, how it works, how we know, how we should live, what is good, what is immoral, whether or not there is a God, and many other things—and, especially, how all these things fit together. One reason the study of philosophy is useful is that the methodology of philosophy—careful reasoning, precise application of logic, and thorough analysis of concepts—is applicable to any subject matter whatsoever.

The philosophy major may be earned in one of three ways: (1) the traditional major with requirements covering the core areas of the discipline – metaphysics, theory of knowledge, ethical theory, and history of philosophy, (2) the major with a concentration in the philosophy of brains, minds, and machines, particularly suited to students with interests in subjects like psychology, neuroscience, cognition, or artificial intelligence, and (3) the major with a concentration in ethics, law, and social/political philosophy, particularly suited to students with interests in these areas, some of whom intend to earn advanced degrees in law, criminal justice, sustainability, or other related fields. The philosophy minor offers options for electives suited to nearly any companion major. The interdisciplinary ethics minor enhances and complements most other degrees.

## Other Information

All coursework taken for the philosophy major or minor must be completed with a grade of “C-” or better.

## Residency Requirement

A maximum of three credit hours can be transferred from another university to count towards the philosophy major, unless the chair agrees to additional credit transfer.

## Student Groups

Philosophy Club; Platonic Society

## Contact

205 Arts and Sciences Hall  
402.554.2628

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/philosophy/>)

## Degrees Offered

- Philosophy, Bachelor of Arts (p. 278)
- Philosophy, Bachelor of Arts Concentration in the Philosophy of Brains, Minds, and Machines (p. 280)
- Philosophy, Bachelor of Arts Concentration in Ethics, Law and Social-Political Philosophy (p. 282)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the philosophy major this is PHIL 3000 or PHIL 4000.

## Minors Offered

- Philosophy Minor (p. 284)
- Ethics Minor (p. 284)

Philosophy builds the core skills that employers most value: critical thinking, creative thinking, and analytic writing. This means that study in Philosophy

provides a solid foundation for a career in almost anything that you can imagine.

Just a few examples...

- **Law:** Philosophy majors have among the highest average scores on the Law School Admission Exam (LSAT) and have among the highest acceptance rates to law school.
- **Medicine:** Philosophy and other humanities majors have among the highest average scores on the Medical College Admission Test (MCAT) and among the highest acceptance rates to medical school.
- **Business:** Philosophy majors have among the highest average scores on the Graduate Management Admission Test (GMAT).
- **Graduate School:** Philosophy majors have among the highest average scores on the Graduate Record Examination (GRE) and have the highest average scores on the both the verbal section and the analytic writing section.
- **Technology:** Philosophy majors often go to work in technology related fields such as computer programming and artificial intelligence (AI) where their background in logic and language, as well as ethics, is highly prized. In particular, philosophy courses are a central part of prestigious programs in Artificial Intelligence.
- **Public administration and social services**
- **Criminal Justice**
- **Education**

When the study of Philosophy is paired with other areas of study, the foundation for success is even greater. In short, double-majoring in Philosophy multiplies the skills and knowledge provided by both majors. This is an especially attractive option since a double-major in Philosophy only requires 30 credit hours.

#### **PHIL 1010 INTRODUCTION TO PHILOSOPHY: MEANING OF LIFE (3 credits)**

We all find ourselves at one point or another wondering what everything adds up to. This sentiment manifests itself as different questions: 'why are we here?', 'what's my purpose?', 'how can I lead a fulfilling life?', or, perhaps most relevantly, 'what is the meaning of life?'. Now that you're in college, these questions are of the essence. Where will you go from here? Which skills should you develop? Which major should you choose? What should you pursue? Love? Family? Friendship? Education? Career? Fame? Fortune? Religious devotion? Service to others? Fulfillment? Happiness? What does it mean to be happy or fulfilled? In this course, we're going to set all else aside and dedicate real effort to coming to grips with these questions. Our focus will be on developing our ability to think about what we're asking and acquiring the tools necessary to assess the responses on offer.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 1020 CONTEMPORARY MORAL PROBLEMS (3 credits)**

Introduction to the application of basic moral concepts and theories to contemporary moral issues. Discussion topics will vary and may include: distribution of wealth and resources, environmental ethics and sustainability, animal rights, capital punishment, torture, euthanasia, abortion, cloning, genetic engineering, privacy rights, drug laws, marriage and sexuality, gun control, and affirmative action.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 1030 INTRODUCTION TO PHILOSOPHY: BRAINS, MINDS, AND MACHINES (3 credits)**

Introduction to Philosophy: Brains, Minds, and Machines examines central questions in philosophy about the nature of the mind, the self, human rationality, perception/experience, and technology through the lens of work in cognitive science, neuroscience, artificial intelligence, and psychology. Some major topics and questions include: What are minds? Is the human mind a digital computer? Could a machine - e.g., a robot or a computer - be truly intelligent, or have experiences like humans and animals do? How does the brain "represent" its environment? In engaging these questions, the course also introduces students to foundational issues in cognitive science and artificial intelligence including: nativism vs. empiricism, mental representation, classical artificial intelligence vs. neural networks, modularity, evolutionary psychology, embodied cognition, and extended cognition.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 1040 INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY (3 credits)**

A first course in philosophy designed to introduce students to the foundational theories and concepts of legal philosophy, ethics, and social/political philosophy. Students engage theories and concepts by exploring how they are relevant to life in contemporary society. Discussion topics may include free speech, immigration, racism, authoritarianism and populism, human rights, and humanitarian intervention.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 1210 CRITICAL REASONING (3 credits)**

A study of the principles of correct reasoning: induction, deduction, formal and informal fallacies. Critical reasoning is excellent preparation for the LSAT and the reasoning portions of other examinations for graduate study.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 2010 SYMBOLIC LOGIC (3 credits)**

A first course in symbolic logic designed to introduce students to formal systems of propositional and predicate logic. Logic is excellent preparation for the LSAT and the reasoning portions of other examinations for graduate study.

#### **PHIL 2020 INTRODUCTION TO PHILOSOPHY OF MIND (3 credits)**

This course is an introductory overview of fundamental issues in the study of mind, thinking and consciousness. Provides a forum for students to explore these philosophical issues from the perspective of current research in psychology, neuroscience, linguistics and computer science.

**Prerequisite(s)/Corequisite(s):** 3 hours in philosophy or permission of instructor.

#### **PHIL 2030 INTRODUCTION TO ETHICS (3 credits)**

A critical study of basic moral concepts and problems contained in ethical theories of important western philosophers: relativism, egoism, happiness, obligation, justice, freedom, conscience, love, religious precepts, moral rules, moral attitudes and moral language.

**Distribution:** Humanities and Fine Arts General Education course

#### **PHIL 2040 INTRODUCTION TO EAST ASIAN PHILOSOPHY (3 credits)**

This course makes a critical and philosophical inquiry into the fundamental questions raised in East Asian Philosophy, typically including a critical evaluation of the traditional theories in Confucianism, Buddhism, and Taoism of China, Korea, and Japan, as well as contemporary responses to those theories, e.g., Kyoto School or Maoism.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

#### **PHIL 2300 HUMAN VALUES IN MEDICINE (3 credits)**

Human Values in Medicine examines questions of value and meaning that arise in medical contexts. This course provides an opportunity for philosophy majors, medical humanities majors / minors, and students preparing for health professions to confront ethical and social issues in medicine and biomedical research. (Cross-listed with MEDH 2300).

**PHIL 3000 PHILOSOPHY WRITING SEMINAR (3 credits)**

This course focuses on writing instruction, with a particular emphasis on logical argument, editing and revision, and research methods in the discipline of philosophy. It is designed for students who are beginning to take upper-level coursework and is suitable for Philosophy majors, minors, and non-majors, particularly those who seek additional preparation in argument-focused writing.

**Prerequisite(s)/Corequisite(s):** Composition II or the equivalent, and three hours of Philosophy, are required.

**Distribution:** Writing in the Discipline Single Course

**PHIL 3010 PHILOSOPHY OF JUSTICE (3 credits)**

An examination of the concept of justice from Greek moral philosophy to modern moral philosophy with focus on the problems of modern moral philosophy and the application of those ideas in government and society.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3020 THE JUSTIFICATION OF PUNISHMENT (3 credits)**

The course examines the major philosophical arguments concerning the conditions under which punishment is justifiable, and provides a background of ethical theory in order to make these arguments comprehensible.

**Prerequisite(s)/Corequisite(s):** Junior, or 3 credits in philosophy, or 1 course in criminology & criminal justice.

**PHIL 3040 PHILOSOPHY OF LAW (3 credits)**

An overview of central issues in the philosophy of law, including the nature, source, and legitimacy of law, the relationship between law and morality, competing theories of legal reasoning and interpretation, the sources and structure of rights and responsibilities, and theories of punishment.

**Prerequisite(s)/Corequisite(s):** Junior standing or 6 hours in Philosophy.

**PHIL 3050 ETHICAL THEORY (3 credits)**

This course surveys issues and controversies in meta-ethics, that is, in the theoretical understanding of ethics. A central organizing question is whether or not there are objective ethical facts that we use ethical language to report and discuss. If there are ethical facts, what kind of facts are they and how could we know them? There seems to be no scientific experiment or mathematical proof which could demonstrate an ethical claim. If there are no ethical facts, is ethics simply a matter of emotional self-expression, arbitrary cultural norms, or the like? If so, can there be significant ethical truth and substantive ethical knowledge? All in all, students will survey a variety of proposals on the fundamental nature of ethics and develop an understanding of their relative strengths and weaknesses.

**Prerequisite(s)/Corequisite(s):** PHIL 2030 or 6 hours in philosophy or permission of instructor.

**PHIL 3060 VALUES AND VIRTUES (3 credits)**

This course explores advanced topics in ethics with particular emphasis on value theory and virtue ethics. Topics to be considered include the meaning and status of value claims, sources of value, intrinsic goods, agent-relative goods, practical reason, moral development, happiness, moral ambiguity, moral luck, the identification of virtues, and relationships of care, trust, and responsibility. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8215)

**PHIL 3110 HISTORY OF ANCIENT PHILOSOPHY (3 credits)**

A survey of philosophy from its beginning to the Middle Ages: pre-Socratics, Plato, Aristotle, Cynics, Epicureans, Stoics, Skeptics, Neo-Platonists.

**PHIL 3130 HISTORY OF MODERN PHILOSOPHY (3 credits)**

The Modern Period (roughly 1600 to 1800) was a time of great scientific advancement, political upheaval, and philosophical progress. During this period, philosophers wrestled with fundamental metaphysical questions about the nature of matter, causation, mind, and God, key epistemological questions regarding the nature and grounds of knowledge, and central ethical and political questions about our rights and duties. As such, the philosophical work of this period provides the foundations for contemporary work in epistemology, metaphysics, philosophy of mind, philosophy of science, ethics, and political philosophy. In this course, students will explore the interpretation and implications of work by some of the most influential thinkers of the period such as Descartes, Spinoza, Locke, Leibniz, Berkeley, Hume, Reid, and Kant.

**Prerequisite(s)/Corequisite(s):** 3 hours in Philosophy or permission of the instructor.

**PHIL 3140 NINETEENTH CENTURY PHILOSOPHY (3 credits)**

An examination of major views in 19th century philosophy including the development of German idealism, British empiricism and Marxism. Special attention will be paid to the origins of existentialism, pragmatism and modern empiricism as reactions to 19th century positions.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**PHIL 3150 PHILOSOPHY OF HISTORY (3 credits)**

This course is designed to introduce students to the thinkers and issues in the philosophy of history (and historiography). After being coined by Voltaire, the term 'philosophy of history' has taken on different meanings. Prior to the twentieth century, philosophy of history meant speculation over the course and aims of history. It sought to investigate the subject matter of history, that is, the historical process itself. Consequently, philosophers of history aimed at comprehensive views of this process. During the twentieth century, however, philosophy of history became "analytical or critical." The aim of this approach is to question and criticize the ways that historians work, so issues of knowledge and explanation have become very important for the present-day philosopher of history. Although the course takes a thematic approach to the study of the philosophy of history, prominent philosophers who have investigated history will be introduced throughout the course.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3170 ETHICS IN BUSINESS (3 credits)**

An application of ethical concepts and principles to moral issues arising in business: corporate responsibility, discrimination, advertising, competition, whistle-blowing, trade secrets, multinationals, environmental protection, workers' rights, government regulation, investment, bribes, product liability and consumerism.

**PHIL 3180 ENVIRONMENTAL ETHICS (3 credits)**

This course introduces students to the thinkers and issues that make environmental ethics what it is today. It includes the analysis and evaluation, from ethical viewpoints, of such topics as: intrinsic value of animals, plants and ecosystems; animal rights; climate change; conservation and preservation; environmental law and politics; obligations to future generations; sustainability and new technologies; war, immigration, and the environment; human rights and the environment; nature and the built environment; and environmental activism. (Cross-listed with ENVN 3180).

**Prerequisite(s)/Corequisite(s):** Junior or 3 hours of philosophy.

**PHIL 3200 PHILOSOPHY OF RELIGION (3 credits)**

A study of the major arguments for and against the existence of God, religious knowledge, miracles, morality without religion and immortality.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3210 SOCIAL PHILOSOPHY (3 credits)**

An examination of the problems and concepts of social and political philosophy.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or junior or permission of instructor.

**PHIL 3220 PHILOSOPHY OF ART (3 credits)**

An inquiry into historical and contemporary philosophical perspectives on the making, interpreting and criticizing of works of art, including relations of the arts to other dimensions of cultures. (Cross-listed with PHIL 8225)

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3250 LIMITS OF CONSCIOUSNESS (3 credits)**

A course focusing on the scientific study of the psychology, neurology, and philosophy of the mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 4250, PSYC 8256)

**Prerequisite(s)/Corequisite(s):** PSYC 1010; or 6 hours in Philosophy.

**PHIL 3260 HISTORY OF AMERICAN PHILOSOPHY: 20TH CENTURY (3 credits)**

A study of the thinkers and movements in 20th century American thought: pragmatism, critical realism, new realism; along with selected readings from contemporary American thinkers.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3300 EARLY ANALYTIC PHILOSOPHY (3 credits)**

This course focuses on the foundations of the Analytic tradition (from 1879 to 1930). During this period, central figures such as Gottlob Frege, Bertrand Russell, G.E. Moore, Ludwig Wittgenstein, and Frank Ramsey aimed to bring clarity and precision to a wide range of philosophical problems by focusing on fundamental issues in the philosophy of logic and the philosophy of language. Understanding the developments of this period is essential to understanding the development of philosophy in the 20th and 21st centuries.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or permission of instructor.

**PHIL 3370 CONCEPTS OF NATURE (3 credits)**

An examination of key philosophical conceptions of nature from the Greeks through the 21st century. Topics covered include concepts of time, the cosmos, causation, determinism, natural law, the relationship between God and nature, and the place of humans and animals in nature.

**Prerequisite(s)/Corequisite(s):** Previous experience in philosophy, especially PHIL 3110, would be helpful.

**PHIL 3400 PHILOSOPHY OF NATURAL SCIENCE (3 credits)**

An examination of the philosophical problems associated with the methods of the natural sciences, the presuppositions of scientific inquiry, and the nature of scientific laws and theories.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or permission of instructor.

**PHIL 3410 PHILOSOPHY OF SOCIAL SCIENCE (3 credits)**

This course introduces students to central philosophical issues that are raised by and within the practice of social science. Some key questions are: In which respects is social science similar to natural science and in which respects is it dissimilar? Does social science aim at forming generalizable explanations, or does it seek to provide humanistic understanding? Can social science be conducted in a purely objective, disinterested way, or does the practice of social science always rely on at least implicit value assumptions? Must responsible researchers interrogate their research for such assumptions, and, if so, what does it take for research to "pass?"

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy and junior, or permission of instructor.

**PHIL 3430 PHILOSOPHY OF BIOLOGY (3 credits)**

An examination and evaluation of contrasting views on philosophical issues in the biological sciences, including explanation, observation, reduction, units of description analysis and the role of values. Attention will be paid to ways in which the study of biology has produced a new understanding of the nature of scientific inquiry.

**Prerequisite(s)/Corequisite(s):** 6 hours in philosophy or biology or permission of instructor.

**PHIL 3450 PHILOSOPHY OF MEDICINE (3 credits)**

This course considers a range of philosophical questions raised by and within the practice of medicine. The course begins with a conceptual investigation of the meaning of "health" from "illness." Is the classification of individuals as healthy or ill an objective, scientific matter? Or is it instead a matter of social and ethical values? What follows from answering this question one way, versus another? This introduction forms the backdrop against which we move on to investigate a range of further topics.

Examples of some of the topics that may be covered include: medical and social models of disability; the role morality of doctors and other medical providers; abortion, euthanasia, and conscientious objection in the healthcare professions; health measurement and quality of life; "death panels" and health resource rationing; conditions on appropriately voluntary and informed consent to medical procedures; and the ethics of biomedical research. (Cross-listed with MEDH 3450).

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR permission of the instructor

**PHIL 3480 PHILOSOPHY OF RACE (3 credits)**

Where does the concept of race come from? How has the concept of race influenced scientific theories? Do empirical findings of genetic differences between racial groups show that races are biologically real? Why are racial categories used in medicine? Is some particular concept of race necessary for political and social opposition to racism? The course will involve reading original articles and book extracts from a range of disciplines, including history, philosophy, and several sciences. These articles will be explained and discussed in class. The course aims to provide you with the tools and concepts to think about race and racism in a nuanced and reflective way.

**Prerequisite(s)/Corequisite(s):** 6 credit hours Philosophy OR Sophomore Status OR Permission of the Instructor

**PHIL 3490 GENDER AND PHILOSOPHY (3 credits)**

This course examines philosophical arguments concerning gender and sexual difference, gender issues and women in the history of philosophy, and major views in feminist theory. (Cross-listed with WGST 3490).

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in PHIL or 6 hours in WGST.

**PHIL 3500 PROBLEMS IN PHILOSOPHY (3 credits)**

Seminar on specialized topic in philosophy. (See "Topic" in class search for specification of particular topic.)

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in philosophy.

**PHIL 3510 PHENOMENOLOGY AND EXISTENTIALISM (3 credits)**

A critical examination of phenomenology and existentialism as historical and philosophical movements. Course focus includes such thinkers as Edmund Husserl, Martin Heidegger, Jean-Paul Sartre, and Simone De Beauvoir.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3520 HERMENEUTICS IN PHILOSOPHY (3 credits)**

Introduction to hermeneutics or the notion of interpretation in certain thinkers and philosophy movements since the late 19thC. Focus includes Nietzsche, pragmatism, Peirce, James, Dewey, Gadamer, Frankfurt School, and Derrida. Course to exclude topics or things covered in PHIL3510.

**Prerequisite(s)/Corequisite(s):** 3 hours in philosophy, junior or permission of instructor.

**PHIL 3570 UNDERSTANDING SELF-DECEPTION (3 credits)**

This course is designed to introduce students to a variety of problems associated with the special issue of self-deception. Conceptual and linguistic issues concerning the paradox of self-deception, as well as epistemological issues concerning self-deception are considered.

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in philosophy or permission.

**PHIL 3600 EPISTEMOLOGY (3 credits)**

The course covers major theories and debates in Epistemology (i.e., the study of evidence, reasons, justification, warrant, knowledge, explanation, and understanding). The course covers both foundational structural debates (e.g., the structure of justification, the analysis for knowledge, the requirements of explanation, and the nature of understanding) and applied issues (e.g., expertise and testimony, peer disagreement, burden of proof, group deliberation and voting, epistemic bubbles and conspiracy theories, and the value of feelings of confidence, surety, and certainty).

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3650 PHILOSOPHY OF MIND (3 credits)**

A discussion of various accounts of the nature of minds which focuses upon philosophical problems such as whether the mind is identical with the brain, the extent of similarities between human minds and computers, the nature of personal identity and the relationship of mental activity to behavior. (Cross-listed with PHIL 8655).

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3700 METAPHYSICS (3 credits)**

This course introduces students to the critical study of selected philosophical theories of reality. Some representative views from the history of philosophy will be covered as well as contemporary debates. The course includes examination of the relation of metaphysical positions to other areas of knowledge and belief and the critical evaluation of metaphysics as an intellectual enterprise.

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3960 READINGS IN PHILOSOPHY (1-3 credits)**

Readings in specialized areas or individual problems in philosophy.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHIL 4000 ADVANCED PHILOSOPHY WRITING SEMINAR (3 credits)**

This is the capstone course of the philosophy major, designed to teach students to write at an advanced level. Students will present their own writing and critique the writing of others, under close guidance of the instructor. By the end of the seminar, each student will have produced a "journal-length" (approximately 20 page) paper on a philosophical topic, and gained extensive experience in revising papers and editing the work of others.

**Prerequisite(s)/Corequisite(s):** Junior standing and 15 hours in philosophy including 9 hours consisting of 3000-level courses, or instructor permission. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**PHIL 4220 NEUROETHICS (3 credits)**

Neuroscience is a burgeoning field that yields new insights into the workings of the human mind and brain. Work in basic neuroscience also yields technological innovations - brain scans, smart pills, brain modification techniques, etc. - that have profound ethical and social implications. In this upper level philosophy course, we will primarily examine the social, legal, medical, and ethical implications of current and emerging neuroscience technologies and research practices. The emerging field of "neuroethics" examines the ethical ramifications of neuroscience using the concepts of normative and applied ethics. The course will discuss the ethics of neuroscientific technologies - e.g., the use of neuroimaging in the clinical and legal contexts - using the major ethical theories (utilitarianism, virtue ethics, deontological ethics) and principles central to biomedical ethics (autonomy, beneficence, justice, non-maleficence, competence, and informed consent).

**Prerequisite(s)/Corequisite(s):** Prior Philosophy coursework, particularly PHIL 2300, or prior coursework in Neuroscience, is recommended but not required. Sophomore standing or above.

**PHIL 4240 PHILOSOPHY OF EMOTION (3 credits)**

In this class, we will aim to understand emotions, moods, attitudes, and other affective phenomena from a broad, empirically informed perspective while keeping practical issues in mind. We will ask questions such as: What are emotions, moods, and the rest? How are these various affective phenomena related to one another? How do they provide information about our relationship to the world? Under what conditions are they appropriate or inappropriate? What role do they play in our reasoning and decision-making? What role do they play in our ethical lives? What role do they play in the arts (e.g., music, literature, film)?

**PHIL 4260 MORAL PSYCHOLOGY (3 credits)**

The growing interdisciplinary field of moral psychology studies our moral beliefs and decision-making processes using the tools of anthropology, psychology, philosophy, and neuroscience. Topics in the science of morality will include the moral-conventional distinction (the distinction between moral norms and non-moral norms such as etiquette), the role of reasons vs. emotions in moral judgment, the brain basis of moral decision-making, cultural differences in moral norms, psychopathy, and the development of morality in children. Psychology studies the nature of moral judgment using behavioral tasks. Neuroscience employs techniques such as functional magnetic resonance imaging (fMRI), transcranial magnetic stimulation (TMS), and other tools for monitoring and manipulating brain processes to study "where" in the brain moral decision making occurs and the nature of these decisions. Throughout the course, we will examine how these empirical findings intersect with the ethical choices that we ought to make.

**Prerequisite(s)/Corequisite(s):** No prerequisite. Prior Philosophy coursework is recommended but not required.

**PHIL 4610 PHILOSOPHY OF LANGUAGE (3 credits)**

This course provides an introduction to the central problems and foundational theories in the philosophy of language. We will investigate central semantic issues concerning the nature of reference, meaning, and truth; examine key pragmatic issues concerning the role of context and the ways in which we use language; and explore expressive and figurative uses of language such as metaphor. Such issues lie at heart of many perennial philosophical puzzles, encompass debates in linguistics and psycholinguistics, and pose challenges to work in Computer Science and, especially, Artificial Intelligence.

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR Permission of Instructor

## Philosophy, Bachelor of Arts

To obtain a B.A. with a major in Philosophy, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign language
- 12 hours college breadth requirement
- 33 hours of major courses
- Electives as required to total 120 hours.

TOTAL HOURS: 120

### Requirements

The Bachelor of Arts in Philosophy requires a minimum of 33 credits in philosophy, 21 hours of which must be upper division (3000-4990). The degree may be earned in one of three ways:

1. Philosophy Major
2. Philosophy Major with a Concentration in Philosophy of Brains, Minds, and Machines.
3. Philosophy Major with a Concentration in Ethics, Law, and Social-Political Philosophy

Students completing the philosophy major (without a concentration) as a second or double major must complete 33 credit hours in philosophy, 21 hours of which must be upper division (3000-4990).

Code	Title	Credits
<b>Courses Required for Major (Core Curriculum)</b>		
The Bachelor of Arts in Philosophy requires 33 credit hours, 21 hours of which must be upper division (3000-4990).		
<b>Lower division courses must include the following:</b>		
PHIL 2030	INTRODUCTION TO ETHICS	3
PHIL 1210	CRITICAL REASONING	3
or PHIL 2010	SYMBOLIC LOGIC	
<b>Upper division courses must include the following:</b>		
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	3
PHIL 3130	HISTORY OF MODERN PHILOSOPHY	3
PHIL 3600	EPISTEMOLOGY	3
PHIL 3700	METAPHYSICS	3
PHIL 3050	ETHICAL THEORY	3
PHIL 3000	PHILOSOPHY WRITING SEMINAR	3
or PHIL 4000	ADVANCED PHILOSOPHY WRITING SEMINAR	
<b>Electives:</b>		
Select 9 additional credit hours in PHIL, with a minimum of 3 credit hours at the 3000/4000 level.		9
<b>Total Credits</b>		<b>33</b>
<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
Foreign Language Course 1110 <sup>^</sup>		5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1120	INTRODUCTION TO MATHEMATICAL	3
or MATH 1130	AND COMPUTATIONAL THINKING (**)	
or MATH 1220	or QUANTITATIVE LITERACY	
or STAT 1100	or COLLEGE ALGEBRA	
or STAT 1530	or DATA LITERACY AND VISUALIZATION	
	or ELEMENTARY STATISTICS	
PHIL 1010	INTRODUCTION TO PHILOSOPHY:	3
or PHIL 1030	MEANING OF LIFE (***)	
or PHIL 1040	or INTRODUCTION TO PHILOSOPHY: BRAINS, MINDS, AND MACHINES	
	or INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY	
Elective		1
<sup>^</sup> Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.		
*ENGL 1150: Appropriate English placement required.		
**MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.		
***Any of the three: PHIL 1010, PHIL 1030, and PHIL 1040 may count as a Humanities/Fine Arts course and major elective.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Foreign Language Course 1120		5
ENGL 1160	ENGLISH COMPOSITION II (*)	3
PHIL 2030	INTRODUCTION TO ETHICS (**)	3
Social Science		3

Elective		1
*ENGL 1160: requires ENGL 1150 or placement via EPPE or AP.		
**PHIL 2030 counts as a Humanities/Fine Arts course and required major course.		
Credits		15
Sophomore		
Fall		
Foreign Language Course 2110		3
Social Science + U.S. Diversity		3
PHIL 1210 or PHIL 2010	CRITICAL REASONING (*) or SYMBOLIC LOGIC	3
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	3
Elective		3
*If choosing PHIL 2010, it also counts for the A&S Required Add'l Gen Ed QL course if doing that option.		
Credits		15
Spring		
PHIL 3130	HISTORY OF MODERN PHILOSOPHY (*)	3
PHIL 3000	PHILOSOPHY WRITING SEMINAR (**)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Foreign Language Course 2120		3
Social Science***		3
*PHIL 3130: Requires 3 hours PHIL or permission of instructor.		
**PHIL 3000: Requires ENGL 1160 or equivalent and 3 hours of PHIL.		
***Social Science must come from a 2nd discipline.		
Credits		15
Junior		
Fall		
PHIL 3700	METAPHYSICS (*)	3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major**		3
HIST 1000 or Minor/2nd Major course***		3
Natural and Physical Science with Lab		4
Elective		1
*PHIL 3700: Requires 6 hours PHIL or permission of instructor.		
**A&S College Requirement Options. Additional HFA course must come from 3rd discipline.		
***A&S College Requirement Options		
Credits		14
Spring		
PHIL 3050	ETHICAL THEORY (*)	3
PHIL 3000/4000 Elective, for example PHIL 3220 Philosophy of Art		3
Additional Q.L. course for A&S or Minor/2nd Major course***		3
Natural and Physical Science without Lab#		3
HIST 1010 or Minor/2nd Major course^		3
*PHIL 3050: Requires PHIL 2030 or 6 hours in Philosophy or permission of instructor.		
***A&S College Requirement Options. A&S Additional QL course not needed if you took PHIL 2010 for the major. Otherwise, several options exist - please refer to your advisor.		
#NPS without Lab must be from 2nd discipline.		

^A&S College Requirement Options		
	Credits	15
<b>Senior</b>		
<b>Fall</b>		
PHIL 3600	EPISTEMOLOGY (*)	3
Additional Social Science for A&S or Minor/2nd Major course**		3
Elective or Minor/2nd Major Course		3
Elective or Minor/2nd Major course		3
Elective or Minor/2nd Major course		3
*PHIL 3600: Requires 6 hours PHIL or permission of instructor.		
**A&S College Requirement Options. Additional SS must be from 3rd discipline.		
	Credits	15
<b>Spring</b>		
PHIL 3000/4000 level Elective, for example PHIL 3510 Phenomenology and Existentialism		3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course**		3-4
Elective or Minor/2nd Major course		3
Elective***		3
Elective***		3
**A&S College Requirement Options		
***120 credits minimally needed for a bachelor's degree. Students need 27 upper level credits throughout the degree with at least 21 upper level PHIL credits required within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.		
	Credits	15-16
<b>Total Credits</b>		<b>119-120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

# Philosophy, Bachelor of Arts Concentration in Philosophy of Brains, Minds and Machines

## Requirements

The philosophy major with a concentration in the philosophy of brains, minds, and machines requires 33 credit hours of which 21 hours must be upper level (3000-4000) in philosophy .

Code	Title	Credits
<b>Required Core Courses</b>		
PHIL 1210 or PHIL 2010	CRITICAL REASONING SYMBOLIC LOGIC	3
PHIL 2020 or PHIL 3650	INTRODUCTION TO PHILOSOPHY OF MIND PHILOSOPHY OF MIND	3
PHIL 2030	INTRODUCTION TO ETHICS	3
PHIL 4250 or PSYC 4250	LIMITS OF CONSCIOUSNESS LIMITS OF CONSCIOUSNESS	3
PHIL 3000 or PHIL 4000	PHILOSOPHY WRITING SEMINAR ADVANCED PHILOSOPHY WRITING SEMINAR	3
<b>Required Elective Courses</b>		
At least 6 credit hours drawn from upper level (3000- and 4000-) courses on List A, "Approved Courses in Philosophy of Brains, Minds, and Machines" (see below).		6
At least 9 additional credit hours drawn in any combination from EITHER courses on List A, "Approved courses in Philosophy of Brains, Minds, and Machines" OR List B, "Approved Courses in Neuroscience and Psychology" (see below).		9
At least 3 additional credit hours drawn from any upper level (3000- and 4000-) PHIL course.		3
<b>Total Credits</b>		<b>33</b>

## The Philosophy of Brains, Minds, and Machines List of Approved Philosophy Courses

Code	Title	Credits
<b>List A: Approved courses in Philosophy of Brains, Minds, and Machines</b>		
PHIL 1030	INTRODUCTION TO PHILOSOPHY: BRAINS, MINDS, AND MACHINES	3
PHIL 1210	CRITICAL REASONING	3
PHIL 2010	SYMBOLIC LOGIC	3
PHIL 2020	INTRODUCTION TO PHILOSOPHY OF MIND	3
PHIL 3130	HISTORY OF MODERN PHILOSOPHY	3
PHIL 3300	EARLY ANALYTIC PHILOSOPHY	3
PHIL 3400	PHILOSOPHY OF NATURAL SCIENCE	3
PHIL 3410	PHILOSOPHY OF SOCIAL SCIENCE	3
PHIL 3500	PROBLEMS IN PHILOSOPHY (Special Topic: Rationality, Judgement, and Decision Making)	3
PHIL 3500	PROBLEMS IN PHILOSOPHY (Special Topic: Special Topics in Philosophy - approved topics only)	3
PHIL 3600	EPISTEMOLOGY	3
PHIL 3700	METAPHYSICS	3
PHIL 3650	PHILOSOPHY OF MIND	3

PHIL 3960	READINGS IN PHILOSOPHY (approved topics only)	3
PHIL 4220	NEUROETHICS	3
PHIL 4240	PHILOSOPHY OF EMOTION	3
PHIL 4260	MORAL PSYCHOLOGY	3
PHIL 4610	PHILOSOPHY OF LANGUAGE	3

**Code Title Credits**

**List B: Approved courses in Neuroscience and Psychology**

PSYC 4070	COGNITIVE PSYCHOLOGY	3
PSYC 4090	COGNITIVE NEUROSCIENCE	3
PSYC 4210	SENSATION AND PERCEPTION	3
PSYC 4230	BEHAVIORAL NEUROSCIENCE	3
PSYC 4520	PSYCHOLINGUISTICS	3
NEUR 1520	INTRODUCTION TO NEUROSCIENCE I	3
NEUR 4330	SOCIAL NEUROSCIENCE	3
NEUR 4890	GENES, BRAIN, AND BEHAVIOR	3
AND ADDITIONAL PSYC, NEUR, and CSCI COURSES UPON APPROVAL OF THE CHAIR OF PHILOSOPHY		

**Freshman**

**Fall Credits**

Foreign Language Course 1110 <sup>^</sup>		5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (**)	3
or MATH 1130	or QUANTITATIVE LITERACY	
or MATH 1220	or COLLEGE ALGEBRA	
or STAT 1100	or DATA LITERACY AND VISUALIZATION	
or STAT 1530	or ELEMENTARY STATISTICS	
PHIL 1030	INTRODUCTION TO PHILOSOPHY: BRAINS, MINDS, AND MACHINES	3
Elective		1

<sup>^</sup>Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

\*ENGL 1150: Requires EPPE or AP score.

\*\*MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.

\*\*\*PHIL 1030 may count as a Humanities/Fine Arts course and List A course.

**Credits 15**

**Spring**

Foreign Language Course 1120		5
Natural/Physical Science Gen Ed with Lab		4
ENGL 1160	ENGLISH COMPOSITION II (*)	3
PHIL 2030	INTRODUCTION TO ETHICS (**)	3

\*ENGL 1160: requires ENGL 1150 or placement via EPPE or AP.

\*\*PHIL 2030 counts as a Humanities/Fine Arts course and required major course.

**Credits 15**

**Sophomore**

**Fall**

Foreign Language Course 2110		3
------------------------------	--	---

CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	

PHIL 2010	SYMBOLIC LOGIC (*)	3
PHIL/PSYC 4250	LIMITS OF CONSCIOUSNESS (**)	3
Social Science		3

\*PHIL 2010 counts for the A&S Required Add'l Gen Ed QL course if doing that option, as well as a major core course. .

\*\*PHIL 4250/PSYC 4250: Requires PSYC 1010 or 6 hours in Philosophy

**Credits 15**

**Spring**

Foreign Language Course 2120		3
Natural/Physical Science*		3
Social Science + U.S. Diversity		3
PHIL 3000	PHILOSOPHY WRITING SEMINAR (**)	3
PHIL 3650	PHILOSOPHY OF MIND (***)	3

\*Natural/Physical Science must be in a 2nd discipline.

\*\*PHIL 3000: Requires ENGL 1160 or equivalent and 3 hours of Philosophy

\*\*\*PHIL 3650: Requires 6 credit hours in Philosophy courses.

**Credits 15**

**Junior**

**Fall**

Philosophy of Brain, Minds, and Machines List A 3000-4000 Level Course, such as PHIL 3600 Epistemology <sup>^</sup>		3
Additional Humanities/Fine Arts for A&S or Minor/2nd Major Course*		3
Social Science**		3
Elective or Minor/2nd Major Course		3
Elective		3

<sup>^</sup>At least 6 credit hours drawn from 3000/4000 level PHIL courses on List A are required.

\*A&S College Requirement Options: Additional HFA must come from 3rd discipline.

\*\*Social Science must be in a 2nd discipline.

**Credits 15**

**Spring**

Philosophy of Brains, Minds, and Machines List A 3000-4000 Level Course, such as PHIL 4240 Philosophy of Emotion <sup>^</sup>		3
Philosophy of Brains, Minds, and Machines List A 3000-4000 Level Course, such as PHIL 4260 Moral Psychology <sup>^</sup>		3
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major*		3-4
Additional Social Science Course for A&S or Course for Minor/2nd Major**		3
Elective from List A or List B***		3

<sup>^</sup>At least 6 credit hours drawn from 3000/4000 level PHIL courses on List A are required.

\*A&S College Requirement Options.

\*\*A&S College Requirement Options. Additional Social Science Gen Ed must be in a 3rd discipline.

\*\*\*At least 9 credit hours in any combination from EITHER courses on List A or B are required. Please refer to the catalog requirements and your advisor for details. Keep in mind that out of 33 credits in the major, 21 must be Upper Level (3000/4000) PHIL.

**Credits 15-16**

**Senior  
Fall**

Philosophy of Brains, Minds, and Machines List A 3000-4000 Level Course, such as PHIL 3700 Metaphysics	3
HIST 1000 or Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course	3
Elective or Minor/2nd Major Course	3
Elective	3

\*\*A&S College Requirement Options.

NOTE: 120 credits, minimum, are needed for a bachelor's degree. Students need 27 upper level credits throughout the degree, with 21 credits coming specifically from the PHIL discipline for this major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

**Credits** **15**

**Spring**

PHIL 3000/4000 level Elective, for example PHIL 3220 Philosophy of Art^	3
HIST 1010 or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course**	3
Elective of Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course**	3

^At least 9 credit hours in any combination from EITHER courses on List A or B are required. Please refer to the catalog requirements and your advisor for details. Keep in mind that out of 33 credits in the major, 21 must be Upper Level (3000/4000) PHIL.

\*A&S College Requirement Options

\*\*120 credits, minimum, are needed for a bachelor's degree. Students need 27 upper level credits throughout the degree, with 21 credits coming specifically from the PHIL discipline for this major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

**Credits** **15**

**Total Credits** **120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

# Philosophy, Bachelor of Arts Concentration in Ethics, Law and Social-Political Philosophy

**Requirements**

The philosophy major with a concentration in ethics, law, and social-political philosophy requires 33 credit hours of which 27 hours must be in philosophy and 21 hours must be upper level (3000-4990).

Code	Title	Credits
<b>Core Courses</b>		
PHIL 1210 or PHIL 2010	CRITICAL REASONING SYMBOLIC LOGIC	3
PHIL 2030	INTRODUCTION TO ETHICS	3
PHIL 3040	PHILOSOPHY OF LAW	3
PHIL 3050	ETHICAL THEORY	3
PHIL 3210	SOCIAL PHILOSOPHY	3
PHIL 3000 or PHIL 4000	PHILOSOPHY WRITING SEMINAR ADVANCED PHILOSOPHY WRITING SEMINAR	3
<b>Required Elective Courses</b>		
9 credit hours total, of which 3 hours must be in Philosophy, drawn in any combination from groups on the list of approved courses (see below):		9
Additional Courses: 6 hours total, all of which must be in Philosophy		6
<b>Total Credits</b>		<b>33</b>

**Ethics, Law, and Social-Political Philosophy List of Approved Courses**

Code	Title	Credits
<b>Ethics Group</b>		
PHIL 1020	CONTEMPORARY MORAL PROBLEMS	3
PHIL 2040	INTRODUCTION TO EAST ASIAN PHILOSOPHY	3
PHIL 2300	HUMAN VALUES IN MEDICINE	3
PHIL 3060	VALUES AND VIRTUES	3
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	3
PHIL 3170	ETHICS IN BUSINESS	3
PHIL 3180	ENVIRONMENTAL ETHICS	3
PHIL 3500	PROBLEMS IN PHILOSOPHY (Ethics)	3
PHIL 3960	READINGS IN PHILOSOPHY (Ethics)	1-3
<b>Law Group</b>		
PSCI 3240	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	3
PSCI 4170	CONSTITUTIONAL LAW: FOUNDATIONS	3
PSCI 4180	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM	3
PSCI 4190	CONSTITUTIONAL LAW: CIVIL LIBERTIES	3
PSCI 4260	INTERNATIONAL LAW	3
<b>Social/Political Group</b>		
PHIL 1040	INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY	3
PHIL 3150	PHILOSOPHY OF HISTORY	3
PHIL 3450	PHILOSOPHY OF MEDICINE	3
PHIL 3480	PHILOSOPHY OF RACE	3
PHIL 3490	GENDER AND PHILOSOPHY	3

PHIL 3500	PROBLEMS IN PHILOSOPHY	3
PHIL 3510	PHENOMENOLOGY AND EXISTENTIALISM	3
PHIL 3960	READINGS IN PHILOSOPHY (Social/Political Philosophy)	1-3
PSCI 3340	AMERICAN POLITICAL THOUGHT	3
PSCI 4310	CLASSICAL POLITICAL THOUGHT	3
PSCI 4320	EARLY MODERN POLITICAL THOUGHT	3
PSCI 4330	LATE MODERN POLITICAL THOUGHT	3
PSCI 4340	CONTEMPORARY POLITICAL THOUGHT	3

**Freshman****Fall****Credits**

Foreign Language Course 1110 <sup>^</sup>		5
MATH 1120 or MATH 1130 or MATH 1220 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (*) or QUANTITATIVE LITERACY or COLLEGE ALGEBRA or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
ENGL 1150	ENGLISH COMPOSITION I (**)	3
PHIL 1040	INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY (***)	3

<sup>^</sup>Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

\*MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores.

\*\*ENGL 1150: Requires EPPE or AP score.

\*\*\*PHIL 1040 counts as a Humanities/Fine Arts course and approved major elective.

**Credits 14**

**Spring**

Foreign Language Course 1120		5
Natural/Physical Science Gen Ed with Lab		4
ENGL 1160	ENGLISH COMPOSITION II (*)	3
PHIL 2030	INTRODUCTION TO ETHICS (**)	3

\*ENGL 1160: requires ENGL 1150 or placement via EPPE or AP.

\*\*PHIL 2030 counts as a Humanities/Fine Arts course and required major course.

**Credits 15**

**Sophomore****Fall**

Foreign Language Course 2110		3
PHIL 1210 or PHIL 2010	CRITICAL REASONING (*) or SYMBOLIC LOGIC	3
Natural/Physical Science**		3
Approved 3000/4000 Level Ethics, Law, and Social-Political Philosophy Elective, such as PHIL 3110 Ancient Philosophy		3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3

\*PHIL 1210 also counts as a HFA. PHIL 2010 also counts as a A&S Required Add'l Gen Ed QL course if selecting that option. Students only need either PHIL 1210 or PHIL 2010.

\*\*NPS must come from 2nd discipline.

**Credits 15**

**Spring**

Foreign Language Course 2120		3
PHIL 3000	PHILOSOPHY WRITING SEMINAR (*)	3
PHIL 3040	PHILOSOPHY OF LAW (**)	3
Humanities/Fine Arts Gen Ed*** or Elective		3
HIST 1010 or Minor/2nd Major course#		3
Social Science + US Diversity course		3

\*PHIL 3000: requires ENGL 1160 or equivalent, and 3 hours of PHIL.

\*\*PHIL 3040: Requires 6 credits PHIL or junior standing.

\*\*\*Humanities/Fine Arts Gen Ed only required if you take PHIL 2010 instead of PHIL 1210. If you took PHIL 1210, select an elective of choice.

#A&S College Requirement Options

**Credits 15**

**Junior****Fall**

PHIL 3210	SOCIAL PHILOSOPHY (*)	3
Approved 3000/4000 Level Ethics, Law, and Social-Political Philosophy Elective, such as PHIL 3180 Environmental Ethics		3
Additional Humanity/Fine Arts for A&S or Minor/2nd Major Course**		3
Additional Q.L. course or Minor/2nd Major course***		3
Social Science Course		3

\*PHIL 3210: requires 3 credits PHIL or junior or permission of instructor.

\*\*A&S College Requirement Options: Additional HFA must come from 3rd discipline.

\*\*\*A&S College Requirement Options. Additional QL course not needed if you took PHIL 2010.

**Credits 15**

**Spring**

PHIL 3050	ETHICAL THEORY (*)	3
Social Science**		3
HIST 1000 or Minor/2nd Major Course***		3
Additional Social Science for A&S or Minor/2nd Major course#		3
Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major <sup>^</sup>		3-4

\*PHIL 3050: requires PHIL 2030 or 6 credits PHIL.

\*\*Social Science must be from a 2nd discipline.

\*\*\*A&S College Requirement Options.

#A&S College Requirement Options. Add'l Social Science must be in a 3rd discipline.

<sup>^</sup>A&S College Requirement Options.

**Credits 15-16**

**Senior****Fall**

Elective or Course for Minor/2nd Major		3
Elective or Course for Minor/2nd Major		3
Approved 3000/4000 Level Ethics, Law, and Social-Political Philosophy Elective, such as PHIL 3480 Philosophy of Race <sup>^</sup>		3
PHIL elective*		3
Elective		3

<sup>^</sup>Of the 9 credits Ethics, Law and Social-Political Philosophy electives, 3 credits must be in Philosophy.

\*Students need 27 upper level credits throughout the degree with at least 21 upper level PHIL credits required within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

Credits	15
<b>Spring</b>	
Approved Ethics, Law, and Social-Political Philosophy Elective, such as PHIL 4240 Philosophy of Emotion^	3
Elective	3
Elective	3
Elective	3
Elective	3

^Of the 9 credits in Ethics, Law and Social-Political Philosophy electives, 3 credits must be in Philosophy.

\*Students need 27 upper level credits throughout the degree with at least 21 upper level PHIL credits required within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

NOTE: 120 credits minimally needed for a degree. Only need as many electives as is required to reach 120.

Credits	15
<b>Total Credits</b>	<b>119-120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Philosophy Minor

### Requirements

The requirements for the minor in philosophy are 15 hours in philosophy, of which no more than 6 may be below the 3000 level, completed with a grade of C- or higher.

## Ethics Minor

### Requirements

The requirements for the minor in ethics are 15 hours of approved coursework, of which no more than 6 may be below the 3000 level, completed with a grade of C- or higher. No more than 6 hours counted as credit toward a major or another minor may be counted as credit toward the ethics minor. All special topics courses and independent studies are permitted only upon review and approval.

Code	Title	Credits
<b>Core Requirement</b>		
PHIL 2030	INTRODUCTION TO ETHICS	3
<b>Elective Course</b>		
3 hours, from any course on the lists below:		3
<b>Theory and Meta-Ethics Requirement</b>		
6 hours minimum selected from the following:		6
PHIL 2040	INTRODUCTION TO EAST ASIAN PHILOSOPHY	
PHIL 3050	ETHICAL THEORY	
PHIL 3060	VALUES AND VIRTUES	
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	
PHIL 3210	SOCIAL PHILOSOPHY	
PHIL 3500	PROBLEMS IN PHILOSOPHY (Theoretical or Meta-Ethical focus; requires approval)	
PHIL 3960	READINGS IN PHILOSOPHY (Theoretical or Meta-Ethical focus; requires approval)	
RELI 2200	GLOBAL RELIGIOUS ETHICS: THE BASICS	
RELI 3500	SPECIAL TOPICS IN RELIGION (Theoretical or Meta-Ethical focus; requires approval)	
RELI 3960	READINGS IN RELIGION (Theoretical or Meta-Ethical focus; requires approval)	
RELI 4200	COMPARATIVE RELIGIOUS ETHICS	
<b>Practical and Applied Requirement</b>		
3 hours minimum, selected from the following lists:		3
<b>Business, Engineering, and Technology</b>		
BSAD 2600	ETHICS IN ORGANIZATIONS	
BSAD/MGMT/MKT 3600	BUSINESS ETHICS	
CIST 3110	INFORMATION TECHNOLOGY ETHICS	
CNST 4200	PROFESSIONAL PRACTICE AND ETHICS	
ENGR 3200	LEADERSHIP, MANAGEMENT, AND ETHICS	
ENGR 4000	PROFESSIONAL ETHICS&SOC RESPONSBLTY	
JMC 4400	MASS MEDIA ETHICS	
PHIL 3170	ETHICS IN BUSINESS	
<b>Law and Justice</b>		
CRCJ 4060	CRIMINAL JUSTICE ETHICS	
LAWS/PHIL 3170	ETHICS IN BUSINESS	
LAWS 3940	LEGAL AND ETHICAL APPLICATIONS	
PHIL 1040	INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY	
PHIL 3010	PHILOSOPHY OF JUSTICE	
PHIL 3020	THE JUSTIFICATION OF PUNISHMENT	
PHIL 3040	PHILOSOPHY OF LAW	
PSCI 3240	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
PSCI 4310	CLASSICAL POLITICAL THOUGHT	
PSCI 4320	EARLY MODERN POLITICAL THOUGHT	
PSCI 4330	LATE MODERN POLITICAL THOUGHT	
PSCI 4340	CONTEMPORARY POLITICAL THOUGHT	
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	
<b>Science and Medicine</b>		
PHIL 1020	CONTEMPORARY MORAL PROBLEMS	
PHIL 2300	HUMAN VALUES IN MEDICINE	
PHIL 3180	ENVIRONMENTAL ETHICS	

PHIL 3450	PHILOSOPHY OF MEDICINE
PHIL 3480	PHILOSOPHY OF RACE
BMCH 1100	ETHICS OF SCIENTIFIC RESEARCH
<b>Religion and Education</b>	
RELI 3500	SPECIAL TOPICS IN RELIGION
RELI 3960	READINGS IN RELIGION
RELI 4220	VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION
SPED 2100	PROFESSIONALISM & ETHICS OF INTERPRETING
<b>Special Topics</b>	
PHIL 3500	PROBLEMS IN PHILOSOPHY (Practical or Applied focus; requires approval)
PHIL 3960	READINGS IN PHILOSOPHY (Practical or Applied focus; requires approval)
<b>Total Credits</b>	
<b>15</b>	

## Physics

The Physics Department at UNO is a vibrant program well-known for offering quality education, diverse research activities, and broad community outreach programs.

The variety of options students have in the physics program makes our graduates well prepared to thrive in modern industries. Additionally, about a third of physics graduates are accepted into top graduate degree programs where they can pursue a master's or doctoral degree in physics, physics education, engineering, chemistry, astrophysics, biophysics and medical physics. Our curriculum is flexible and provides students with a number of options to better prepare them for the career of their choice.

In addition to our Bachelors of Science program we offer concentrations in Biomedical Physics and Physics education. The Physics Department emphasizes involving its physics majors in undergraduate research as well as the education process. Working closely with the faculty provides students a valuable experience. Beyond-the-classroom learning opportunities engage students and create a sense of community. Research projects are available in the following areas: astrophysics, biophysics, medical physics, computational physics, quantum computing, materials for energy applications, solid-state physics, and physics education.

### Other Information

All coursework taken for the Physics major or minor must be completed with a grade of "C-" or better.

Physics majors must also take the two assessment tests (Major Field Test and Local test) and complete the exit interview.

Apart from PHYS 1154, PHYS 1164 and PHYS 1950, no 1000-level courses may count toward the major requirements in physics. However, they do count as electives for various other college degrees.

Physics majors should strive to take as many of the courses in modern physics (PHYS 4210, PHYS 4220, PHYS 4230) and electronics (PHYS 3500) as their program will permit.

The **senior project** must be approved and the department chair notified at least eight months prior to graduation as a Physics major and the student must register for either PHYS 4950 or PHYS 4960.

Upper division courses (3000-level or higher) will assume that students have at least some experience with, and ability to use, computers for solving physics problems. Physics is also offered as a concentration in the Division of Continuing Studies.

### Contact

129 DSC  
402.554.2511

Website (<http://www.physics.unomaha.edu/>)

### Degrees Offered

- Physics, Bachelor of Arts (p. 288)
- Physics, Bachelor of Science (p. 290)
- Physics, Bachelor of Science with a Concentration in Biomedical Physics (p. 292)
- Physics, Bachelor of Science with a Concentration in Physics Education (p. 294)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Physics major this is: ENGL 3980 .

### Minors Offered

- Physics Minor (p. 296)

Physics is one of the broadest scientific disciplines. Most students develop expertise with a great variety of hands-on experiences with instrumentation, fabrication, analytical techniques and computer modeling. These practical skills make physicists attractive to employers in physics, engineering, financial and computer science fields.

Particular skills include: research and problem solving, fluency in using scientific equipment, refined mathematical skills, programming, modeling and simulation, quality control protocol.

"Soft skills" are also vital to successful career. Soft skills you would be trained in at the university include: cultivating strategic written and oral communication skills, learning to work well on a team, being a good listener.

Some common jobs for those who have a bachelor's degree in physics include:

- Design or Process engineer
- Software engineer
- Applications engineer
- Inside sales engineer
- Research analyst
- Lab technician
- IT developer (administrator, consultant)
- Programmer
- High school science teacher
- Accelerator Operator
- Data Analyst
- Systems Analyst
- Technical Specialist.

### If students choose to continue and receive a graduate degree the 10 most common jobs are

- Research scientist (at tech companies, national laboratories or universities)
- Professor, Physics Teacher
- Data Scientist
- Lab Manager
- Medical Physicist
- Aerospace Engineer
- Astronomer

- Environmental Scientist
- Geophysicist.

**PHYS 1030 PHYSICS OF EVERYDAY LIFE (3 credits)**

A conceptual course in the principles of physics and their relationship to man and his environment. Topics included relate the basic laws of physics and recent developments in science to their effects on man. This course is intended for students not majoring in the sciences and may be used in partial fulfillment of the natural science requirement.

**Prerequisite(s)/Corequisite(s):** High School algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1034 PHYSICS OF EVERYDAY LIFE LABORATORY (1 credit)**

A physics laboratory consisting of a series of concise experiments which relate man directly to his physical environment.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent; PHYS 1030, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1050 INTRODUCTION TO PHYSICS (4 credits)**

A terminal one-semester course covering major topics in mechanics, heat, sound, electricity, magnetism, light and modern physics. Designed particularly for non-science liberal arts majors or others for whom such a one-semester coverage might be deemed adequate. (Does not count towards physics requirement for chemistry, physics and engineering majors.)

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1054 INTRODUCTION TO PHYSICS LABORATORY (1 credit)**

A series of concise experiments on varied topics in physics, such as scientific sampling, optics, elasticity, motion, sound, light and electricity are covered in this one-semester course. Emphasis is placed on data collection and graphing, and error reduction.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent;

PHYS 1050, prior or concurrent, or permission of the instructor

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1110 GENERAL PHYSICS I WITH ALGEBRA (4 credits)**

First part of a two-semester continuing course designed for students with no prior background in physics. Mechanics, heat and sound are covered in this semester.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent, or MPE score above 2 or permission of instructor

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1120 GENERAL PHYSICS (4 credits)**

Second part of a two-semester continuing course designed for students with no prior background in physics. Electricity and magnetism, light, and a little modern physics are covered.

**Prerequisite(s)/Corequisite(s):** PHYS 1110 or permission.

**PHYS 1154 GENERAL PHYSICS LABORATORY I (1 credit)**

One-semester laboratory course for students enrolled in PHYS 1110 or PHYS 2110. Covers experiments in mechanics, wave motion and heat.

**Prerequisite(s)/Corequisite(s):** PHYS 1110 or PHYS 2110, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1164 GENERAL PHYSICS LABORATORY II (1 credit)**

One-semester laboratory course for students enrolled in PHYS 1120 or PHYS 2120. Second semester covers experiments in electricity and magnetism, optics, and modern physics.

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120, prior or concurrent.

**PHYS 1350 PRINCIPLES OF ASTRONOMY (3 credits)**

An introductory course that satisfies divisional requirements in natural science. Topics discussed include the night sky, gravity, telescopes, atoms and radiation, the solar system, the sun and stars; and cosmology.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1354 INTRODUCTORY ASTRONOMY LAB (1 credit)**

Laboratory sessions acquaint students with basic phenomena, methods and data acquisition in astronomy. By use of the experiments, students will be able to explore and add to what has been discussed in lecture. Several night observing sessions will also be available for students to use telescopes.

**Prerequisite(s)/Corequisite(s):** PHYS 1350 prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1750 FUNDAMENTAL PHYSICS OF SOUND (4 credits)**

A course designed for music and communication majors. It covers transmission of sound, wave motion, pitch, quality, sound synthesis, acoustics, resonance, interference, musical scales, string and wind instruments, recording and reproduction of sound. Three lectures and one discussion per week.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**PHYS 1754 FUNDAMENTAL PHYSICS OF SOUND LABORATORY (1 credit)**

A laboratory that accompanies PHYS 1750. The experiments are coordinated with the music-related portions of lecture course. The laboratory is designed for music majors.

**Prerequisite(s)/Corequisite(s):** PHYS 1750 prior or concurrent and music major or permission of instructor.

**PHYS 1950 PHYSICS GATEWAY COURSE (1 credit)**

Designed for first year physics majors, a one-semester introduction to concepts and tools to be encountered and used in earning a physics degree.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**PHYS 2030 ENERGY AND FUELS (3 credits)**

This one semester course focuses on energy from a macroscopic perspective. Viewpoints based on the law of physics are distinguished from unsupported opinion. Topics include: electricity production and consumption; mineral and fossil fuel resources; nuclear, solar, fossil fuel and biomass energies; pollution, conservation and recycling; extrapolation and interconnections.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220

**PHYS 2040 RADIATION FUNDAMENTALS (3 credits)**

This one-semester course examines the ways radiation affects our daily lives. Topics include: structure of matter and types of radiation, half-life and activity, biological effects of radiation, radiation standards and protection, uses of isotopes and radiation, nuclear wastes life-cycle, nature of risk versus benefit, dose calculations and shielding fundamentals.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, minimum of PHYS 1050.

**PHYS 2110 GENERAL PHYSICS I - CALCULUS LEVEL (4 credits)**

First part of a two-semester continuing course for students majoring in some area of science, mathematics or engineering. Mechanics, molecular properties of matter and heat are covered in the first semester.

**Prerequisite(s)/Corequisite(s):** MATH 1950 (MATH 1930 for Geology majors) or permission of the instructor. High school physics or PHYS 1050 is recommended.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 2120 GENERAL PHYSICS-CALCULUS LEVEL (4 credits)**

Second part of a two-semester continuing course for students majoring in some area of science, mathematics or engineering. Wave motion, electricity, magnetism and light are considered during the second semester.

**Prerequisite(s)/Corequisite(s):** PHYS 2110 and MATH 1960 (MATH 1930 for Geology majors) or permission of the instructor.

**PHYS 2130 MODERN PHYSICS (4 credits)**

The course is composed of introductions to relativity theory and quantum theory with applications to atomic and nuclear structure. Topics include: Planck radiation law; Compton Effect; photoelectric effect; the Rutherford experiments and Bohr model of the atom; the Schrodinger electronic structure of atoms; nuclear reactions, nuclear models, radioactive decay, fission, fusion and elementary particles.

**Prerequisite(s)/Corequisite(s):** PHYS 2110, PHYS 2120, MATH 1950, & MATH 1960; or permission.

**PHYS 2350 SPECIAL TOPICS IN ASTRONOMY: OBSERVATIONAL ASTRONOMY (2-3 credits)**

This one semester course emphasizes personal study of the sky, including observing, measuring and recording celestial positions. Students will be shown how to observe and measure the Sun, the Moon, visible planets, and stars, and how to document astronomical observations. Students will be required to study outdoors on their own and will also use the department's observing facilities.

**Prerequisite(s)/Corequisite(s):** PHYS 1350 or instructor permission.

**PHYS 3050 THE PHILOSOPHY OF SPACE EXPLORATION (3 credits)**

This course deals mainly with the justification of space exploration in the face of conflicting needs. Topics to be studied include objections to the space program and responses to them, spin-off benefits, space industrialization, planetary and interstellar exploration, space colonies, search for life elsewhere, and other related theoretical issues. (Cross-listed with PHYS 8055)

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**PHYS 3150 MODERN DEVELOPMENTS IN PHYSICS (3 credits)**

A resume of the most important discoveries, changes and new concepts gleaned from the last decade of research in physics. Superconductivity, lasers, masers, superfluidity, ultra large magnetic fields, space plasmas, nuclear fusion power, etc. Designed for updating physical science concepts for science majors and for science teachers. (Cross-listed with PHYS 8155)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120

**PHYS 3160 CURRENT TOPICS IN SCIENCE (1-3 credits)**

The subject matter of this course will generally not be presented in a standard physics course and may be of an interdisciplinary nature. The specific topics and prerequisites will be listed in the schedule. (Cross-listed with PHYS 8165)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHYS 3250 MATHEMATICAL METHODS OF PHYSICS (3 credits)**

Training in the use of mathematical techniques applicable to physics problems encountered in upper-level physics courses. Vector operators, Fourier analysis, frequently used differential equations (ordinary and partial), orthogonal functions, and matrix methods of coordinate transformation are included. Emphasis is given to solving problems from mechanics such as vectorial mechanics, oscillatory systems, wave motion, potential theory, etc.

**Prerequisite(s)/Corequisite(s):** MATH 1950, MATH 1960, MATH 1970 and PHYS 2160 or 2120 or permission.

**PHYS 3260 COMPUTER TOOLS FOR PHYSICISTS (2 credits)**

This course will introduce a wide selection of computer-powered mathematical tools for doing physics or any upper level science courses. It will introduce software packages in real and complex algebra, trigonometry, calculus I & II, linear algebra, statistics, differential equations, special functions, graphics, document preparation, and programming in the manner of a research scientist.

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1960.

**PHYS 3300 INTRODUCTION TO BIOMEDICAL PHYSICS (3 credits)**

This course is designed primarily for students desiring to specialize in Biomedical Physics. The course emphasizes an understanding of the fundamental principles of physics and the use of these principles in a variety of biological and medical applications with the major goal to merge physics, biology, and medicine in a unified perspective. PHYS 3300 covers various topics relating basic physics to living systems, including mechanics, fluid mechanics, thermodynamics, sound, electricity, optics, atomic physics, nuclear physics, and nanotechnology. It also describes various technologies widely used in modern medicine such as laser surgery, ultrasound imaging, X-ray, computed tomography, and magnetic resonance imaging. Each topic briefly introduces related background of physics principles as well as comprehensive overview of biological/medical application, thus (although highly recommended) very little background in physics or biology is required. This course will benefit students with interests in medicine, biology, biophysics, or medical physics.

**Prerequisite(s)/Corequisite(s):** PHYS1110 is required. PHYS2110 and PHYS1120 or PHYS2120 are recommended.

**PHYS 3450 CLASSICAL MECHANICS (3 credits)**

Statics and dynamics of particles and rigid bodies including the equations of Lagrange and Hamilton. (Cross-listed with PHYS 8455)

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 3250 or permission.

**PHYS 3500 ELEMENTS OF ELECTRONICS (3 credits)**

The topics covered will include basic circuit theory, principles and operation of electronic devices such as diodes, transistors and integrated circuits.

Application of these devices in various electronic circuits. Both analog and digital circuitry will be studied. (Cross-listed with PHYS 8505)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970

**PHYS 3504 EXPERIMENTAL PHYSICS I (1 credit)**

A set of experiments designed to complement PHYS 3750 and PHYS 4200.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3524 EXPERIMENTAL PHYSICS II (1 credit)**

A set of experiments designed to complement PHYS 3760 and PHYS 4210.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3544 EXPERIMENTAL PHYSICS III (1 credit)**

A set of experiments designed to complement PHYS 3450, PHYS 3850, and PHYS 4200.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3564 EXPERIMENTAL PHYSICS IV (1 credit)**

A set of experiments designed to complement PHYS 3020 and PHYS 4220.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3600 THERMODYNAMICS AND STATISTICAL PHYSICS (3 credits)**

Topics include: empirical and absolute temperature, equations of state, work, heat, entropy, the four laws of thermodynamics, phase changes, thermodynamic potentials, classical and quantum statistics of an ideal gas. Applications to be included: Einstein theory of a solid, paramagnetism, blackbody radiation, and conduction electrons. (Cross-listed with PHYS 8605)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and MATH 1970.

**PHYS 3750 ELECTRICITY AND MAGNETISM I (3 credits)**

An advanced study of electrostatics and magnetostatics, including Coulomb's law, Gauss' law, the scalar potential, conductors and dielectrics, electrostatic energy, special methods, electric current, Ampere's law, the magnetic induction, Faraday's law, and the electromagnetic wave equation as obtained from Maxwell's equations, with simple examples such as transmission lines and antennas. (Cross-listed with PHYS 8755)

**Prerequisite(s)/Corequisite(s):** MATH 1950, MATH 1960, MATH 1970, PHYS 3250, or permission.

**PHYS 3760 ELECTRICITY AND MAGNETISM II (3 credits)**

A selection of more advanced topics from electromagnetic theory, including a deeper treatment of the electromagnetic wave equations derived from Maxwell's equations, extending to propagation, reflection and refraction of plane waves, waves in wave guides, and radiation. Other topics covered might be magnetism and magnetic energy, plasmas and special relativity. (Cross-listed with PHYS 8765)

**Prerequisite(s)/Corequisite(s):** PHYS 3750

**PHYS 3800 OPTICS (3 credits)**

The behavior of electromagnetic radiation as formulated in the ray, wave, and quantum models. Topics will include: reflection and refraction, vergence, matrix method, optical instruments, scalar waves, electromagnetic waves, blackbody radiation, interference, diffraction, and lasers; if time permits, fiber optics and holography will also be included. (Cross-listed with PHYS 8805)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970

**PHYS 4200 INTRODUCTION TO QUANTUM MECHANICS (3 credits)**

This course provides an introduction to the historical development of modern physics and to the Schroedinger formulation of quantum mechanics. Specific topics will include square wells potential barriers, the simple harmonic oscillator potential and the hydrogen atom. Characteristics of multi-electron atoms, including angular momentum coupling schemes, spectra and transition rules will also be included. (Cross-listed with PHYS 8206)

**Prerequisite(s)/Corequisite(s):** PHYS 3250 or permission.

**PHYS 4210 QUANTUM THEORY (3 credits)**

The matrix operator formalism is covered along with philosophical implications of this approach. The methods developed will be applied to simple harmonic oscillator and hydrogen atom potentials. Raising and lowering operators, creation-annihilation operators, and first and second order perturbation theory will be discussed. (Cross-listed with PHYS 8216)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4220 PHYSICS OF MOLECULES AND SOLIDS (3 credits)**

This course covers the various types of atomic bonding found in molecules and solids. Electronic energy levels and spectra of molecules will be discussed. Topics in solid state physics will include mechanics and thermodynamics of crystals, the scattering of waves, including x-ray and neutron scattering, electron scattering and phonon and photon interactions. (Cross-listed with PHYS 8226)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4230 SPECIAL RELATIVITY AND NUCLEAR PHYSICS (3 credits)**

This course includes a brief historical background of the development of relativity theory and the importance of the experiments performed in conjunction with it. Lorentz transformations and covariant formalism will be developed and applied to certain problems in mechanics and electricity and magnetism. The nuclear physics portion of the course will include the historical development of the concept of the nuclear atom. Theoretical models of nuclear structure will be discussed, along with the theory of alpha, beta and gamma decay. Fission and fusion discussed as time permits. (Cross-listed with PHYS 8236)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4300 GENERAL RELATIVITY (3 credits)**

A study of general relativity theory and its leading applications. Physical motivations and conceptual foundations will be explored. Students will be guided step-by-step to mastery of the tensor analysis required by this theory. Topics covered will include the equivalence principle, recap of special relativity, tensors, curvature and geodesics, Einstein field equations, black holes, cosmology, and gravitational waves. (Cross-listed with PHYS 8306)

**Prerequisite(s)/Corequisite(s):** PHYS 3750 and PHYS 4230, or permission of instructor.

**PHYS 4350 ASTROPHYSICS (3 credits)**

This course introduces the fundamentals of astrophysics to students with a prior knowledge of physics and mathematics. A review will be given of light and telescopes, classical and quantum mechanics and special relativity. Basic laws of physics will be applied to various topics such as: the sun, nuclear fusion and particle physics, evolution and end state of stars, interstellar medium, galaxies and cosmology. (Cross-listed with PHYS 8356)

**Prerequisite(s)/Corequisite(s):** PHYS 2130 or 4200 and MATH 1970.

Recommended: PHYS 1350.

**PHYS 4400 GEOPHYSICS (3 credits)**

A study of geophysical techniques used to understand the earth and in resource exploration. Seismic, gravity, heat flow, magnetic and other methods will be presented. The insights from these methods into earthquake events, stress distributions, rock, rheology, and plate tectonics will also be addressed. Interpretive skills will be emphasized.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, PHYS 1110 and MATH 1950, MATH 1960 or permission of instructor.

**PHYS 4500 BIOLOGICAL PHYSICS (3 credits)**

This course is designed primarily for students specializing in Biomedical Physics. As a part of Biomedical Physics program at the Department of Physics, the course introduces the fundamental principles of physics and the use of these principles for various biological applications. PHYS 4500/8506 covers various topics including cells, polymers, polyelectrolytes, membranes, mesoscopic forces, self-assembly, photonics, fluid mechanics, motility, chemical kinetics, enzyme kinetics, modern experimental techniques of biophysics. Each topic connects biomolecules with their functions and relevant biological phenomena from a physics perspective. This course will benefit students with interests in biological and medical physics, as well as chemistry, biology. (Cross-listed with PHYS 8506).

**Prerequisite(s)/Corequisite(s):** PHYS 2110 is required. PHYS 2120 and PHYS 3300 are recommended.

**PHYS 4550 PHYSICS IN MEDICINE (3 credits)**

This course is designed primarily for students desiring to specialize in Biomedical Physics. The course introduces principles and applications of various medical imaging modalities and medical physics based therapies. Topics include such imaging techniques as ultrasound, X-ray imaging, Computed Tomography (CT), MRI imaging, and positron emission tomography. The course discusses physical principles behind medical imaging and therapeutic applications and covers interaction of different kinds of radiation with biological matter. (Cross-listed with PHYS 8556).

**Prerequisite(s)/Corequisite(s):** PHYS 2110; PHYS 2120, and PHYS 2130 for Physics majors or permission of the instructor. PHYS 3300 and PHYS 4500 are recommended.

**PHYS 4800 INTERNSHIP (1-6 credits)**

Internship with agencies or corporations enabling students to gain knowledge and experience in practical applications of physics and/or environmental principles.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Permission.

**PHYS 4950 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4960, PHYS 8956, PHYS 8966)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

**PHYS 4960 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4950, PHYS 8956, PHYS 8966)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

## Physics, Bachelor of Arts

To obtain a B.A. with a major in Physics, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses  
Most commonly, Physics majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least three hours of fundamental academic skills, take courses that meet both the six hours of diversity requirements and six hours of distribution requirements, and meet 4 hours of the natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 33 or fewer.
- 16 hours of a foreign language
- 12-19 hours college breadth requirement
- 50 hours of major courses
- 0-9 hours of electives

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
<b>Introductory Physics and Math Courses</b>		
PHYS 1950	PHYSICS GATEWAY COURSE	1
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
PHYS 2130	MODERN PHYSICS	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS <sup>1</sup>	3
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
<b>Physics Core Courses</b>		
PHYS 3450	CLASSICAL MECHANICS	3
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
PHYS 3800	OPTICS	3
PHYS 4200	INTRODUCTION TO QUANTUM MECHANICS	3
<b>Advanced Laboratory</b>		
PHYS 3504	EXPERIMENTAL PHYSICS I	1
Select one of the following:		1
PHYS 3524	EXPERIMENTAL MATERIALS SCIENCE	
PHYS 3544	EXPERIMENTAL PHYSICS III	
PHYS 3564	EXPERIMENTAL PHYSICS IV	
<b>Senior Project</b>		
In addition to the above requirements, a senior project is required, for which students must register for PHYS 4950 or PHYS 4960. <sup>2</sup>		
PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS	1
<b>Total Credits</b>		<b>50</b>

<sup>1</sup> Students taking a number of 2000-level mathematics courses may be permitted to waive PHYS 3250 or PHYS 3260.

<sup>2</sup> Please see more details about the senior project in the "Other Information" portion of the physics section.

## For the B.A. degree, foreign language is required through the intermediate level.

### Freshman

Fall		Credits
Foreign Language Course 1110 <sup>^</sup>		5
ENGL 1150	ENGLISH COMPOSITION I (*)	3
MATH 1950	CALCULUS I	5
PHYS 1950	PHYSICS GATEWAY COURSE	1

<sup>^</sup>Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

\*ENGL 1150: Requires appropriate placement.

\*\*MATH 1950: Requires placement through the Accuplacer or ALEKS Exam or ACT or SAT scores OR grades of C- or better within the past 2 years in both Math 1320 and 1330 or Math 1340.

Credits		14
<b>Spring</b>		
Foreign Language Course 1120		5
MATH 1960	CALCULUS II	5
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (*)	5
*PHYS 2110: Requires MATH 1950.		

Credits		15
<b>Sophomore</b>		
<b>Fall</b>		
Foreign Language Course 2110		3
MATH 1970	CALCULUS III	4
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
*PHYS 2120: Requires PHYS 2110-1154 and MATH 1960.		
PHYS 2120-1164 counts as the A&S Additional Gen Ed Natural Science with Lab.		

Credits		15
<b>Spring</b>		
Foreign Language Course 2120		3
PHYS 2130	MODERN PHYSICS (*)	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS (**)	3
ENGL 1160	ENGLISH COMPOSITION II (***)	3
HIST 1000 or Course towards Minor/2nd Major <sup>^</sup>		3
*PHYS 2130: Requires PHYS 2110, PHYS 2120, MATH 1950, and MATH 1960.		
**PHYS 3250: Requires MATH 1950, 1960, 1970, and PHYS 2120.		
***ENGL 1160: Requires ENGL 1150 or placement via AP or EPPE.		
<sup>^</sup> A&S College Requirement Options		

Credits		16
<b>Junior</b>		
<b>Fall</b>		
PHYS 3750	ELECTRICITY AND MAGNETISM I (*)	3
PHYS 3504	EXPERIMENTAL PHYSICS I (**)	1

ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (***)	3
Social Science & US Diversity Course		3
HIST 1010 or Course towards Minor/2nd Major^		3
Humanities/Fine Arts Course		3
*PHYS 3750: Requires MATH 1950, 1960, 1970, and PHYS 3250.		
**PHYS 3504: Requires PHYS 2120.		
***ENGL 3980: Requires ENGL 1160		
^A&S College Requirement Options		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
PHYS 3800	OPTICS (*)	3
PHYS 3450	CLASSICAL MECHANICS (**)	3
Social Science		3
Natural/Physical Science no Lab***		3
Humanities/Fine Arts course#		3
*PHYS 3800: Requires PHYS 2120 and MATH 1970.		
**PHYS 3450: Requires MATH 1970 and PHYS 3250.		
***NPS Must be in a field other than PHYS.		
#HFA must be in a 2nd discipline.		
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS (*)	3
PHYS 4200	INTRODUCTION TO QUANTUM MECHANICS (**)	3
PHYS 3544 or PHYS 3524 or PHYS 3564	EXPERIMENTAL PHYSICS III (***) or EXPERIMENTAL MATERIALS SCIENCE or EXPERIMENTAL PHYSICS IV	1
Social Science#		3
Humanities and Fine Arts for A&S^ or Course towards Minor/2nd Major		3
*PHYS 3600: Requires PHYS 2120 and MATH 1970.		
**PHYS 4200: Requires PHYS 3250.		
***PHYS 3544: Requires PHYS 2120.		
#SS Must be in a 2nd discipline.		
^A&S College Requirement Options. HFA Must be in a 3rd discipline.		
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS (*) or PROBLEMS IN PHYSICS	1-3
Social Science Gen Ed for A&S** or Course towards Minor/2nd Major		3
Elective or Course towards Minor/2nd Major		3
Elective or Course towards Minor/2nd Major		3
Elective***		3
Elective		3
*PHYS 4950 and 4960: Requires PHYS 2120 and permission of instructor. See "Graduation Requirements" below for more information.		
**A&S College Requirement Options. SS Must be in a 3rd discipline		
***27 upper level credits throughout the entire degree are required. Electives may need to be taken at the 3000-4000 level to reach this minimum.		

120 total credits required for degree. Electives are used to reach that minimum amount.

**Credits** **16-18**

**Total Credits** **120-122**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

##### GPA Requirements: 2.0

**Graduation Requirements:** Physics majors must also take the two assessment tests (Major Field Test and Local test) and complete the exit interview.

The senior project must be approved and the department chair notified at least eight months prior to graduation as a Physics major and the student must register for either PHYS 4950 (<https://catalog.unomaha.edu/search/?P=PHYS%204950>) or PHYS 4960 (<https://catalog.unomaha.edu/search/?P=PHYS%204960>).

## Physics, Bachelor of Science Requirements

The Bachelor of Science (B.S.) degree in physics is offered with three different options for students to follow: Option I is for the student who intends to go on to graduate school in physics; Option II allows for the degree to be enhanced by a second discipline; and finally, the Bachelor of Science in physics with a concentration in education leads to a physics teaching certificate at the secondary-school level. To help the prospective physics majors make optimal decisions, they are encouraged to speak with a departmental adviser as early as possible.

To obtain a B.S. with a major in Physics, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses  
Most commonly, Physics majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least three hours of fundamental academic skills, take courses that meet both the six hours of diversity requirements and six hours of distribution requirements, and meet 4 hours of the natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 33 or fewer.

- 12-19 hours college breadth requirement
- 56 hours of major courses
- 0-19 hours of electives

TOTAL HOURS: 120

**Option I**

Code	Title	Credits
<b>Introductory Physics and Math Courses</b>		
PHYS 1950	PHYSICS GATEWAY COURSE	1
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
PHYS 2130	MODERN PHYSICS	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS <sup>1</sup>	3
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
<b>Physics Core Courses</b>		
PHYS 3450	CLASSICAL MECHANICS	3
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
PHYS 3800	OPTICS	3
PHYS 4200	INTRODUCTION TO QUANTUM MECHANICS	3
<b>Advanced Laboratory</b>		
PHYS 3504	EXPERIMENTAL PHYSICS I	1
Select one of the following:		1
PHYS 3524	EXPERIMENTAL MATERIALS SCIENCE	
PHYS 3544	EXPERIMENTAL PHYSICS III	
PHYS 3564	EXPERIMENTAL PHYSICS IV	
<b>Senior Project and Physics Electives</b>		
In addition to the above requirements, a senior project (1 credit) and two upper level (3000/4000) elective physics courses (6 credits) are required. <sup>2</sup>		
PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS	1
Two 3-credit PHYS 3000/4000 Level Electives		6
<b>Total Credits</b>		<b>56</b>

<sup>1</sup> Students taking a number of 2000-level mathematics courses may be permitted to waive PHYS 3250 or PHYS 3260.

<sup>2</sup> Please see more details about the senior project in the "Other Information" portion of the physics section.

**Option II**

Content will be a modification of the physics requirements for a **BA** together with a concentration of 20 credit hours in another discipline, as agreed upon by the student and his/her advisor. Examples are pre-medicine, business, computer science, geology, etc.

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3

MATH 1950	CALCULUS I (**)	5
PHYS 1950	PHYSICS GATEWAY COURSE	1
Humanity & Fine Arts Course #1		3
*ENGL 1150: Requires appropriate placement via EPPE or AP.		
**MATH 1950: Requires ALEKS Exam or ACT or SAT scores OR grades of C- or better within the past 2 years in both Math 1320 and 1330 or Math 1340.		

**Credits 15**

<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1960	CALCULUS II	5
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (**)	5
Social Science Course #1		3
*ENGL 1160: Requires ENGL 1150 or placement via EPPE or AP.		
**PHYS 2110: Requires MATH 1950.		

**Credits 16**

<b>Sophomore</b>		
<b>Fall</b>		
MATH 1970	CALCULUS III	4
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II (*)	5
Social Science #2		3
Humanities/Fine Arts Course #2 - Add U.S. Diversity		3
*PHYS 2120: Requires PHYS 2110-1154 and MATH 1960. Also counts as A&S Additional Gen Ed Natural Science with Lab.		

**Credits 15**

<b>Spring</b>		
PHYS 2130	MODERN PHYSICS (*)	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS (**)	3
Social Science #3 & US Diversity Course***		3
Humanities/Fine Arts Course #3 - Add Global Diversity#		3
Natural/Physical Science no Lab^		3
*PHYS 2130: Requires PHYS 2110, PHYS 2120, MATH 1950, and MATH 1960.		
**PHYS 3250: Requires MATH 1950, 1960, 1970, and PHYS 2120.		
***SS must be in a 2nd discipline.		
#HFA must be in a 2nd discipline.		
^NPS Must be in a field other than PHYS.		

**Credits 16**

<b>Junior</b>		
<b>Fall</b>		
PHYS 3750	ELECTRICITY AND MAGNETISM I (*)	3
PHYS 3504	EXPERIMENTAL PHYSICS I (**)	1
Upper Level PHYS Elective		3
HIST 1010 or Course towards Minor/2nd Major***		3
Social Science Gen Ed for A&S or Course towards Minor/2nd Major#		3
Elective		3
*PHYS 3750: Requires MATH 1950, 1960, 1970, and PHYS 3250.		
**PHYS 3504: Requires PHYS 2120.		
***A&S College Requirement Options.		

#A&S College Requirement Options. SS Must be in a 3rd discipline.		
Credits		16
<b>Spring</b>		
PHYS 3800	OPTICS (*)	3
PHYS 3450	CLASSICAL MECHANICS (**)	3
HFA Gen Ed for A&S or Course towards Minor/2nd Major***		3
HIST 1000 or Course towards Minor/2nd Major#		3
Elective		3
*PHYS 3800: Requires PHYS 2120 and MATH 1970.		
**PHYS 3450: Requires MATH 1970 and PHYS 3250.		
***A&S College Requirement Options. HFA Must be in a 3rd discipline.		
#A&S College Requirement Options		
Credits		15
<b>Senior</b>		
<b>Fall</b>		
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS (*)	3
PHYS 4200	INTRODUCTION TO QUANTUM MECHANICS (**)	3
PHYS 3544 or PHYS 3524 or PHYS 3564	EXPERIMENTAL PHYSICS III (***) or EXPERIMENTAL MATERIALS SCIENCE or EXPERIMENTAL PHYSICS IV	1
Elective or Course towards Minor/2nd Major		3
Elective or Course towards Minor/2nd Major		3
Elective		1
*PHYS 3600: Requires PHYS 2120 and MATH 1970.		
**PHYS 4200: Requires PHYS 3250.		
***PHYS 3544: Requires PHYS 2120.		
Credits		14
<b>Spring</b>		
PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS (*) or PROBLEMS IN PHYSICS	1
Upper Level PHYS Elective		3
Elective** or Course towards Minor/2nd Major		3
Elective** or Course towards Minor/2nd Major		3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (***)	3
*PHYS 4950 and 4960: Requires PHYS 2120 and permission of instructor. See "Graduation Requirements" below for more information.		
** 27 upper level credits throughout the entire degree are required. Electives may need to be taken at the 3000-4000 level to reach this minimum.		
***ENGL 3980: Requires ENGL 1160		
120 total credits required for degree. Electives are used to reach that minimum amount.		
Credits		13
Total Credits		120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

#### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

#### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements: 2.0

**Graduation Requirements:** Physics majors must also take the two assessment tests (Major Field Test and Local test) and complete the exit interview.

The senior project must be approved and the department chair notified at least eight months prior to graduation as a Physics major and the student must register for either PHYS 4950 (<https://catalog.unomaha.edu/search/?P=PHYS%204950>) or PHYS 4960 (<https://catalog.unomaha.edu/search/?P=PHYS%204960>).

## Physics, Bachelor of Science with a Concentration in Biomedical Physics

### Requirements

The Bachelor of Science (B.S.) degree in physics with concentration in biomedical physics is offered for students who intend to continue education in biological physics, medical physics or go to medical school. To help the prospective physics majors make optimal decisions, they are encouraged to speak with a departmental adviser as early as possible.

To obtain a B.S. with a major in Physics and a concentration in biomedical physics, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses  
Most commonly, Physics majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least three hours of fundamental academic skills, take courses that meet both the six hours of diversity requirements and six hours of distribution requirements, and meet 4 hours of the natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 33 or fewer.
- 12-19 hours college breadth requirement
- 56 hours of major courses
- 0-19 hours of electives

TOTAL HOURS: 120

Code	Title	Credits
<b>Introductory Physics and Math Courses</b>		
PHYS 1950	PHYSICS GATEWAY COURSE	1

PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
PHYS 2130	MODERN PHYSICS	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS <sup>1</sup>	3
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4

**Physics Core Courses**

PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
PHYS 3450	CLASSICAL MECHANICS	3
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
PHYS 3800	OPTICS	3

**Advanced Laboratory**

PHYS 3504	EXPERIMENTAL PHYSICS I	1
Select one of the following:		1
PHYS 3524	EXPERIMENTAL MATERIALS SCIENCE	
PHYS 3544	EXPERIMENTAL PHYSICS III	
PHYS 3564	EXPERIMENTAL PHYSICS IV	

**Senior Project and Physics Electives**

In addition to the above requirements, a senior project is mandatory, requiring 1 credit in either PHYS 4950 or PHYS 4960.<sup>2</sup>

PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS PROBLEMS IN PHYSICS	
The following two upper level electives are also required:		
PHYS 4500	BIOLOGICAL PHYSICS	3
PHYS 4550	PHYSICS IN MEDICINE	3

**Total Credits** **56**

<sup>1</sup> Students taking a number of 2000-level mathematics courses may be permitted to waive PHYS 3250 or PHYS 3260.

<sup>2</sup> Please see more details about the senior project in the "Other Information" portion of the physics section.

Code	Title	Credits
<b>Recommended Courses from other disciplines</b>		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
Select one of the following options:		
<b>Option I</b>		
CHEM 4610	BIOCHEMISTRY OF METABOLISM	4
<b>Option II</b>		
CHEM 4650 & CHEM 4654	BIOCHEMISTRY I and BIOCHEMISTRY I LABORATORY	4
CHEM 4660 & CHEM 4664	BIOCHEMISTRY II and BIOCHEMISTRY II LABORATORY	4

BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1950	CALCULUS I (**)	5
PHYS 1950	PHYSICS GATEWAY COURSE	1
Humanities & Fine Arts Course #1 – Add Global Diversity		3
*ENGL 1150: Requires appropriate placement.		
**MATH 1950: Requires ALEKS Exam or ACT or SAT scores OR grades of C- or better within the past 2 years in both Math 1320 and 1330 or Math 1340.		

**Credits** **15**

Spring		
ENGL 1160	ENGLISH COMPOSITION II (*)	3
MATH 1960	CALCULUS II	5
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (**)	5
Humanities & Fine Arts Course #2		3
*ENGL 1160: Requires ENGL 1150 or placement via AP or EPPE.		
**PHYS 2110: Requires MATH 1950.		

**Credits** **16**

**Sophomore**

Fall		
MATH 1970	CALCULUS III	4
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II (*)	5
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS (**)	3
Social Science Course #1 & US Diversity		3
*PHYS 2120: Requires PHYS 2110-1154 and MATH 1960.		
**PHYS 3300: Requires PHYS 2110.		

**Credits** **15**

Spring		
PHYS 2130	MODERN PHYSICS (*)	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS (**)	3
Natural/Physical Science no Lab***		3
Social Science #2		3
Humanities/Fine Arts Course #3^		3
*PHYS 2130: Requires PHYS 2110, PHYS 2120, MATH 1950, and MATH 1960.		
**PHYS 3250: Requires MATH 1950, 1960, 1970, and PHYS 2120.		
***NPS Must be in a field other than PHYS.		
^HFA Must be in a 2nd discipline.		

**Credits** **16**

**Junior**

Fall		
PHYS 3750	ELECTRICITY AND MAGNETISM I (*)	3
PHYS 3504	EXPERIMENTAL PHYSICS I (**)	1
PHYS 4500 or PHYS 4550	BIOLOGICAL PHYSICS (***) or PHYSICS IN MEDICINE	3

Social Science #3 <sup>^</sup>	3
HFA Gen Ed for A&S or Course towards Minor/2nd Major <sup>~</sup>	3
HIST 1000 or Course towards Minor/2nd Major <sup>#</sup>	3

\*PHYS 3750: Requires MATH 1950, 1960, 1970, and PHYS 3250.

\*\*PHYS 3504: Requires PHYS 2120.

\*\*\*PHYS 4500: Requires PHYS 2110. PHYS 2120 and 3300 recommended. PHYS 4550 Requires PHYS 2110 and 2120, and PHYS 2130 for PHYS majors. PHYS 3300 and PHYS 4500 are recommended.

\*\*\*Must take both PHYS 4500 and PHYS 4550. PHYS 4500 is offered only in Fall of odd-numbered years. PHYS 4550 is offered only in Fall of even-numbered years.

<sup>^</sup>SS Must be in a 2nd discipline.

<sup>~</sup>A&S College Requirement Options. HFA Must be in a 3rd discipline.

<sup>#</sup>A&S College Requirement Options

**Credits** **16**

#### Spring

PHYS 3800	OPTICS (*)	3
PHYS 3450	CLASSICAL MECHANICS (**)	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (***)	3

Social Science Gen Ed for A&S or Course towards Minor/2nd Major<sup>^</sup>

HIST 1010 or Course towards Minor/2nd Major<sup>#</sup>

\*PHYS 3800: Requires PHYS 2120 and MATH 1970.

\*\*PHYS 3450: Requires MATH 1970 and PHYS 3250.

\*\*\*ENGL 3980: Requires ENGL 1160.

<sup>^</sup>A&S College Requirement Options. SS must be in a 3rd discipline.

<sup>#</sup>A&S College Requirement Options

**Credits** **15**

#### Senior

##### Fall

PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS (*)	3
PHYS 4500 or PHYS 4550	BIOLOGICAL PHYSICS (**) or PHYSICS IN MEDICINE	3

Advanced Laboratory\*\*\*

Social Science for A&S or Course towards Minor/2nd Major<sup>^</sup>

Elective or Minor/2nd Major Course

Elective

\*PHYS 3600: Requires PHYS 2120 and MATH 1970.

\*\*PHYS 4500: Requires PHYS 2110. PHYS 2120 and 3300 recommended. PHYS 4550 Requires PHYS 2110 and 2120, and PHYS 2130 for PHYS majors. PHYS 3300 and PHYS 4500 are recommended.

\*\*Must take both PHYS 4500 and PHYS 4550. PHYS 4500 is offered only in Fall of odd-numbered years. PHYS 4550 is offered only in Fall of even-numbered years.

\*\*\*Advanced Laboratory: Requires PHYS 2120. Options: PHYS 3524, 3544, or 3564. Each is designed to compliment specific classes. See Catalog for details.

<sup>^</sup>A&S College Requirement Options. SS must be from 3rd discipline.

**Credits** **14**

#### Spring

PHYS 4950 or PHYS 4960	PROBLEMS IN PHYSICS or PROBLEMS IN PHYSICS	1
---------------------------	---	---

Upper Level PHYS Elective	3
Elective or Minor/2nd Major Course	3
Elective**	3
Elective**	3

\*PHYS 4950 and 4960: Requires PHYS 2120 and permission of instructor. See "Graduation Requirements" below for more information.

\*\*27 upper level credits throughout the entire degree are required. Electives may need to be taken at the 3000-4000 level to reach this minimum. 120 total credits are required for a bachelor's degree.

**Credits** **13**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

##### GPA Requirements: 2.0

**Graduation Requirements:** Physics majors must also take the two assessment tests (Major Field Test and Local test) and complete the exit interview.

The senior project must be approved and the department chair notified at least eight months prior to graduation as a Physics major and the student must register for either PHYS 4950 (<https://catalog.unomaha.edu/search/?P=PHYS%204950>) or PHYS 4960 (<https://catalog.unomaha.edu/search/?P=PHYS%204960>).

## Physics, Bachelor of Science with a Concentration in Physics Education

To obtain a B.S. with a major in Physics, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses  
*Most commonly, Physics majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least three hours of fundamental academic skills, take courses that meet both the six hours of diversity requirements and six hours of distribution requirements, and meet the 7 hour natural sciences distribution*

requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 30 or fewer.

- 62 hours of major courses
- Elective hours as required to total 120 hours

TOTAL HOURS: 120

## Requirements

A Bachelor of Science in physics with a concentration in education leads to a physics teaching certificate at the secondary-school level. In some cases, it is possible to earn both a B.S. in physics and a B.S. in secondary education.

Code	Title	Credits
<b>Physics Courses</b>		
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
PHYS 1950	PHYSICS GATEWAY COURSE	1
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
PHYS 2130	MODERN PHYSICS	4
PHYS 3250 or MATH 2350	MATHEMATICAL METHODS OF PHYSICS DIFFERENTIAL EQUATIONS	3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
PHYS 3450	CLASSICAL MECHANICS	3
PHYS 3504	EXPERIMENTAL PHYSICS I	1
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
<b>Additional Science Courses</b>		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
<b>Educator Preparation Program Requirements</b>		
Additional Requirements		
Major Field Test		
Local Test		
<b>Professional Core Requirements</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3

In addition, earning the grades 6-12 Nebraska Teaching Certificate requires a semester of Clinical Practice, which is 12 hours:		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Total Credits</b>		<b>96</b>

### Freshman

Fall		Credits
MATH 1950	CALCULUS I (*)	5
PHYS 1950	PHYSICS GATEWAY COURSE	1
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
Social Science Course #1		3
• MATH 1950: Requires placement exam		
• ENGL 1150: Requires placement exam		

Credits		15
<b>Spring</b>		
MATH 1960	CALCULUS II	5
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (*)	5
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities/Fine Arts Course #1 + Global Diversity Course		3
• PHYS 2110: Requires MATH 1950		

Credits		16
<b>Sophomore</b>		
<b>Fall</b>		
MATH 1970	CALCULUS III	4
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II (*)	5
TED 2100	EDUCATIONAL FOUNDATIONS (*)	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (*)	3

Required: Apply for Educator Preparation Program at this time.

Recommended but not required: Pass the Praxis CORE Academic Skills.

- TED 2100: Requires 2.50 GPA. Fulfills Advanced Writing Requirement.
- TED 2200: Requires 2.50 GPA.

\*PHYS 2120: Requires PHYS 2110 and MATH 1960

Credits		15
<b>Spring</b>		
TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
HUMANITIES/FINE ARTS COURSE #2		3
• TED 2400 and 2380 must be taken back-to-back, in either a Morning or Afternoon block.		

Required: Pass Praxis CORE Academic Skills by the end of this semester.

Required: Acceptance into Educator Preparation Program.  
Must have 2.75 GPA.

<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
PHYS 3250 or MATH 2350	MATHEMATICAL METHODS OF PHYSICS (*) or DIFFERENTIAL EQUATIONS	3
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
HUMANITIES/FINE ARTS COURSE #3*		3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
<ul style="list-style-type: none"> <li>PHYS 3250: Requires PHYS 2120 and MATH 1970. MATH 2350 requires MATH 1960</li> <li>PHYS 3600: Requires MATH 1970 and PHYS 2120.</li> <li>CHEM 1180: Requires MATH 1320 or higher with grade of C- or better in last 2 years or placement via ACT/SAT/ Math Placement Exam.</li> <li>HUMANITIES/FINE ARTS COURSE MUST BE IN A 2ND DISCIPLINE</li> <li>PHYS 3300: Requires PHYS 1110. PHYS 2110 and PHYS 2120 are recommended.</li> </ul>		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690	LITERACY AND LEARNING (*)	3
PHYS 3450	CLASSICAL MECHANICS (*)	3
PHYS 2130	MODERN PHYSICS (*)	4
Social Science Course #2		3
<ul style="list-style-type: none"> <li>TED 3550 and TED 3690 must be taken back-to-back, in either a Morning or Afternoon block.</li> <li>PHYS 3450: Requires MATH 1970 and PHYS 3250</li> <li>PHYS 2130: Requires PHYS 2110, PHYS 2120, MATH 1950 and MATH 1960</li> </ul>		
<b>Credits</b>		<b>16</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES (*)	3
PHYS 3750	ELECTRICITY AND MAGNETISM I (*)	3
PHYS 3504	EXPERIMENTAL PHYSICS I (*)	1
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Social Science Course #3*		3
<ul style="list-style-type: none"> <li>SPED 3800: Must be taken concurrently with TED 4000 or TED 3550</li> <li>PHYS 3750: Requires MATH 1970 and PHYS 3250</li> </ul>		

- PHYS 3504: Requires PHYS 2120. Complements PHYS 3750 and PHYS 4200

- Social Science Course: Must be in a 2nd discipline.

<b>Credits</b>		<b>17</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>123</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.75

**Graduation Requirements:** Major Field Test, Local Test. For Teaching Certificate: Completion of Praxis CORE

## Physics Minor

### Requirements

The physics minor requires 18 credit hours in physics coursework, as outlined below. Minimum grade required for each course is "C-".

<b>Code</b>	<b>Title</b>	<b>Credits</b>
<b>Required Courses:</b>		<b>9</b>
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL (4 cr)	
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL (4 cr)	
PHYS 1154 or PHYS 1164	GENERAL PHYSICS LABORATORY I (1 cr) GENERAL PHYSICS LABORATORY II	
<b>Students must select 9 credit hours of electives, with a minimum of 6 credits at the 3000/4000 level.</b>		
Select 6 credits from the following:		<b>6</b>
PHYS 3450	CLASSICAL MECHANICS (3 cr)	
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS (3 cr)	
PHYS 3750	ELECTRICITY AND MAGNETISM I (3 cr)	
PHYS 3800	OPTICS (3 cr)	
PHYS 4200	INTRODUCTION TO QUANTUM MECHANICS (3 cr)	

Select an additional 3 credits in physics from 1000-4000 level, excluding PHYS 1030, 1034, 1050, 1054, 1110 and 1120. 3

**Total Credits 18**

Note: PHYS 3250 is a common prereq to other physics courses and could be a helpful free elective. Additionally, MATH 1950 and 1960 are required for PHYS 2110 and 2120 respectively, with MATH 1970 being a common prereq to other physics courses.

## Political Science

A major in political science prepares students for a rich and rewarding career. Political science graduates are well equipped for professions both at home and abroad in the fields of law, business, criminal justice, education, journalism, and government service at the local, state, and federal levels. In fact, many political science graduates have reached the pinnacle of their respective professions.

Political science is a flexible major, with the curriculum available **on campus or entirely online**. Political science is among the most popular liberal arts majors and is highly suitable for combination as a **double major** with other disciplines such as business, economics, foreign languages, history, international studies, philosophy, psychology, and sociology, among others.

The Bachelor of Arts and Bachelor of Science degrees may be obtained with or without a concentration. Students may pursue concentrations in government affairs and civic engagement, foreign and national security affairs, law and the courts, political thought, and race, ethnicity and gender politics.

### Public Service

The political science major provides students with the tools to become effective and politically active citizens and leaders. Students learn to process the endless flow of ideas, rhetoric and data that are an inescapable feature of the information age. By polishing valuable skills in analysis, communication, research, and writing, political science classes challenge students to think independently, with an informed awareness of current affairs and tolerance for other points of view. With these skills political science graduates are always among the leaders in community organizations and electoral politics.

### Pre-Law

Political science continues to be the single most popular major among students who apply to law school. Law schools emphasize the importance of a course of study that develops the following skills: an understanding of human nature and human institutions, clarity in written and oral communication, and creative and critical thinking. Political science offers such an education, plus a number of courses that provide undergraduates with a rigorous introduction to legal concepts and arguments, as well as to the operation of the American legal system. Students who are interested in a majoring in political science as a preparation for law school are encouraged to pursue a concentration in law and the courts and they are invited to consult with the department's pre-law advisor.

### Other Information

A political science major or minor must earn at least a "C-" in all political science and cognate courses presented in satisfaction of the major or minor. While a minimum of 36 hours of political science is required of a major (B.A. or B.S.), up to 45 hours may be applied toward either the B.A. or B.S. degree.

For the political science minor, 9 credits must be taken in residence at UNO.

For the political science major, 15 credits must be taken in residence at UNO.

The Division of Continuing Studies offers the Bachelor of General Studies degree with an area of concentration in political science. Students interested in this degree program must meet with an adviser in the Division of Continuing Studies. The major consists of a minimum of **30** credit hours in political science, details of which are here. (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/division-of-continuing-studies/academics/areas-of-concentration/political-science.php>)

### Student Groups

Phi Alpha Delta, International Pre-law Fraternity  
Pi Gamma Mu, International Social Science Honor Society

### Option for Degree Completion Fast Track Program

The Department of Political Science has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing BA/BS in Political Science or BA in International Studies desiring to pursue a MS in Political Science.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

### Contact Information

275 Arts & Sciences Hall  
402.554.2624

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/political-science/>)

### Degrees Offered

- Political Science, Bachelor of Arts (p. 303)
- Political Science, Bachelor of Science (p. 305)

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. PSCI 2000 is required to satisfy the writing in the discipline course requirement for all Political Science Bachelor of Arts and Bachelor of Science students.

## Minors Offered

- Political Science Minor (p. 308)
- Leadership and Public Policy Minor (p. 308)

Political Science majors make great employees in any field because of their ability to communicate effectively, think critically and solve complex problems. These timeless skills make them attractive to employers in all walks of society. Specifically though, Political Science majors often pursue careers in:

- Government
- Public Sector Jobs
- National Security
- Journalism and Media
- Law
- Diplomacy & International Affairs
- Business
- Human Rights
- Education
- Military
- Nonprofit & International Organizations

### PSCI 1000 INTRODUCTION TO POLITICAL SCIENCE (3 credits)

This course introduces students to political ideas, behaviors, processes, institutions, and issues on a national and global level.

**Distribution:** Social Science General Education course and Global Diversity General Education course

### PSCI 1100 INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT (3 credits)

This course introduces students to the foundational principles, institutions, processes, and policies of national government in the United States.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

### PSCI 2000 INTRODUCTION TO POLITICAL INQUIRY AND WRITING (3 credits)

This course introduces students to how political scientists conduct inquiry into political questions and how they write about the results of their investigations for various kinds of audiences. Students will learn the basics of quantitative and qualitative research methods in political science, will learn how to use the library and other available sources of information, and will produce the various kinds of writings by which political scientists communicate their findings to the public, to other scholars, and to political and governmental actors.

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or PSCI 1000 preferred. ENGL 1150 required and ENGL 1160 recommended.

**Distribution:** Writing in the Discipline Single Course

### PSCI 2110 INTRODUCTION TO PUBLIC POLICY (3 credits)

An introduction to the formation and evaluation of public policy, with particular focus on the stages of public policy development.

**Distribution:** Social Science General Education course

### PSCI 2120 INTRODUCTION TO LEADERSHIP (3 credits)

This course introduces students to civic leadership in a public setting, including theories of leadership, models of leadership, cases of success and failure, and the inherent tensions among democracy, leadership, and administration.

**Distribution:** Social Science General Education course

### PSCI 2130 AFRICAN POLITICS (3 credits)

African Politics examines the socio-cultural and economic environments which characterize political life in contemporary Africa. This course examines contemporary African politics and government in post-independence Africa, and the pre-colonial political and economic systems which influence contemporary African politics. The course assesses the various approaches used to study the political development of the African continent; examines the processes, features, and institutions of the African states; addresses key and persistent issues about African politics; and examines dimensions of social change and political reform. (Cross-listed with BLST 2130).

**Distribution:** Global Diversity General Education course

### PSCI 2150 CAREERS IN LAW AND POLITICS (3 credits)

This course introduces students to a diversity of career paths in both the public and private sector that are available in the fields of law and politics, and the motivations, qualifications, and expertise necessary for each.

**Prerequisite(s)/Corequisite(s):** PSCI 1000 or PSCI 1100 is recommended. Not open to non-degree graduate students.

### PSCI 2180 INTRODUCTION TO LAW (3 credits)

This course introduces students to the foundations, principles, functions, institutions, processes, issues, and fields of law with a special emphasis on the American political and legal systems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### PSCI 2210 INTRODUCTION TO INTERNATIONAL RELATIONS (3 credits)

This course introduces students to historical and contemporary questions and major theoretical approaches to world affairs through examination of the international system in terms of the economic, military, and political forces between states, international organizations, and transnational actors.

**Distribution:** Global Diversity General Education course and Social Science General Education course

### PSCI 2310 INTRODUCTION TO POLITICAL THOUGHT (3 credits)

This course introduces students to the nature and scope of politics, the foundations of political thought, and competing traditions of political theory through the ideas of major political philosophers, the interpretation of their ideas, and the possible application of their ideas today.

**Distribution:** Humanities and Fine Arts General Education course

### PSCI 2500 INTRODUCTION TO COMPARATIVE POLITICS (3 credits)

This course introduces students to the fundamental concepts and theoretical approaches used to study political institutions, processes, and public policies in different country settings. This course also illustrates the rich diversity of political life and the importance of global political and economic change.

**Distribution:** Global Diversity General Education course and Social Science General Education course

### PSCI 3000 QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE (3 credits)

This course introduces students to the techniques that political scientists use to answer research questions with quantitative data, as well as issues of research design, hypothesis formation, and causation. The course emphasizes the methods used to collect, analyze, and extract information from data using statistical computer software. (Cross-listed with PSCI 8005)

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1530, MATH 1220 or MATH 1310 or permission of department.

### PSCI 3010 URBAN POLITICS (3 credits)

This course introduces students to the development, powers, forms of government, and functions of cities and their suburbs as well as the problems faced by elected officials, business and community leaders, and citizens in the urban setting. (Cross-listed with PSCI 8015)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3040 GOVERNMENT AND POLITICS OF NEBRASKA (3 credits)**

This course introduces students to the development, structures, functions and public policies of the government of the state of Nebraska. (Cross-listed with PSCI 8045)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor. .

**PSCI 3050 STATE GOVERNMENT AND POLITICS (3 credits)**

This course introduces students to the development, structures, functions and public policies of states. (Cross-listed with PSCI 8055)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3100 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 8105, WGST 3100, WGST 8105)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3120 THE AFRICAN AMERICAN EXPERIENCE IN POLITICS (3 credits)**

This course will provide a historical and contemporary survey of the African American political experience in the United States, from the passage of the 15th Amendment in the late 1800s, to the 1965 Voting Rights Act, and continuing into the 21st century. Students will examine the evolution of the Black political experience, with emphasis on the fight against enslavement, segregation, lynchings and mass incarceration, and the long struggle of African Americans against institutional and structural racism in the American political system. (Cross-listed with BLST 3120)

**Prerequisite(s)/Corequisite(s):** PSCI 1000 or PSCI 1100

**Distribution:** U.S. Diversity General Education course

**PSCI 3130 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 8135, WGST 3130, WGST 8135)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3140 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 8145, LLS 3140, LLS 8145)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3150 ASIAN PACIFIC AMERICANS AND THE NEW MINORITY POLITICS (3 credits)**

This course will be devoted to a broad discussion about the emergence of Asian Pacific Americans by birth and immigration, the fastest growing minority in the U.S., as a significant factor in American politics. (This course fulfills the department's American politics requirement).

**Prerequisite(s)/Corequisite(s):** Junior standing or by professor's permission.

**PSCI 3160 POLITICAL PARTIES (3 credits)**

This course introduces students to the origin, development, structure, and functions of political parties in the United States as political organizations, coalitions of voters, and governing coalitions that seek to hold office and influence public policy. (Cross-listed with PSCI 8165)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3170 INTEREST GROUPS (3 credits)**

This course introduces students to the theories, formation, organization, and activities of interest groups and their impact on public policy, particularly through their role in campaigns and elections and lobbying. (Cross-listed with PSCI 8175)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3180 CAMPAIGNS AND ELECTIONS (3 credits)**

This course introduces students to the evolution and modern application of campaigns and elections in the United States through examination of campaign management and campaign strategy in congressional and presidential elections. (Cross-listed with PSCI 8185)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3210 GEOPOLITICS OF CENTRAL ASIA AND SOUTH ASIA (3 credits)**

This course will focus on the geographic area of Central Asia-South Asia (CASA) and provide students with opportunity to understand the dynamics that made this region a traditional contest area between regional and global powers for centuries. Central Asia-South Asia region is home to successful democracies, a monarchy, and dictatorships. This course is designed to help students analytically assess the geopolitical variables concerning the CASA region and the players involved. Post 9/11 developments in Afghanistan have brought the whole region once again to the forefront of geopolitical struggle between global and regional players, thus reigniting the struggle of the New Great Game in the region. These multiple elements of regional, development, stability and instability will be discussed in in this course.

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor. Recommended: INST 2130: Introduction to International Studies.

**PSCI 3220 INTERNATIONAL ORGANIZATIONS (3 credits)**

This course introduces students to the history, principles, structures, and processes developed to organize and legitimize peaceful reconciliation of the differences of nation-states and to advance their mutual interests in the contemporary global political and economic system. (Cross-listed with PSCI 8225)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 3230 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 8235, WGST 3230, WGST 8235)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 is recommended.

**Distribution:** Global Diversity General Education course

**PSCI 3240 THE POLITICS AND PRACTICE OF HUMAN RIGHTS (3 credits)**

This course introduces students to human rights issues across the globe and explores the theoretical foundations of human rights as well as human rights institutions and transitional justice. (Cross-listed with PSCI 8245)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of the instructor.

**PSCI 3250 GLOBAL SECURITY ISSUES (3 credits)**

This course introduces students to issues of national and international security that cross boundaries and threaten all countries including issues such as climate change, environmental deterioration, population and demographics, gender issues, disease and public health, the media, asymmetrical warfare, drugs/organized crime, and cyberthreats. (Cross-listed with PSCI 8255)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 3260 UNITED STATES FOREIGN POLICY (3 credits)**

This course introduces students to the analysis of foreign and defense policy processes in the United States, including the role of the President, Congress, Departments of State and Defense, the intelligence community, and other actors/factors affecting policy formulation and implementation. (Cross-listed with PSCI 8265)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 3340 AMERICAN POLITICAL THOUGHT (3 credits)**

This course introduces students to the ideals, ideologies, identities, and institutions of American political thought from the country's origins to the present. Topics to be covered may include the political thought of the early American settlers and of the founding generation, the debates over the creation and implementation of the Constitution, the 19th century arguments over slavery, the rise of progressivism, the New Deal and its critics, and contemporary American conservatism and liberalism. (Cross-listed with PSCI 8345)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or PSCI 2310 or junior standing or permission of instructor.

**PSCI 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with BLST 3410, CRCJ 3410).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR Junior standing OR instructor permission.

**Distribution:** U.S. Diversity General Education course

**PSCI 3500 EUROPEAN POLITICS (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Europe, including the European Union. (Cross-listed with PSCI 8505)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3580 GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES (3 credits)**

This course introduces students to the political cultures, institutions, processes, and public policies of Russia and the states of the former Soviet Union. (Cross-listed with PSCI 8585)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3640 GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies, and other characteristics of China and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 8645)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3660 GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies and other characteristics of Japan and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 8665)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3680 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with PSCI 8685, LLS 3680, LLS 8685)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3700 GOVERNMENT AND POLITICS OF THE MIDDLE EAST (3 credits)**

This course introduces students to government and politics in the contemporary Middle East, including considerations of state formation, authoritarianism and democratization, state-society relations, religion, culture, gender, and economy. (Cross-listed with PSCI 8705)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3920 SPECIAL TOPICS IN POLITICAL SCIENCE (3 credits)**

This course introduces students to a specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours.

**PSCI 4030 THE PRESIDENCY (3 credits)**

This course introduces students to the development and modern application of presidential leadership through examination of presidential selection, presidential decision-making, the relationship of the presidency with other governmental and non-governmental actors, and the role of the presidency in making public policy. (Cross-listed with PSCI 8036)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4040 CONGRESS AND THE LEGISLATIVE PROCESS (3 credits)**

This course introduces students to the development of the Congress and modern application of the legislative process through examination of congressional elections, congressional leadership, congressional decision-making, legislative rules and procedures, the relationship of the Congress with other governmental and non-governmental actors, and the role of the Congress in making public policy. (Cross-listed with PSCI 8046)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4050 THE JUDICIAL PROCESS (3 credits)**

This course introduces students to the administration of law in federal and state courts with respect to the organization of the courts, judicial selection, judicial powers, judicial decision-making, judicial policy-making, the bar, and reform movements in the pursuit of justice. (Cross-listed with PSCI 8056)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4110 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 8116, PSYC 4110, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4120 PUBLIC OPINION AND POLLING (3 credits)**

This course introduces students to the origins, nature, measurement, and consequences of public opinion on policymaking. (Cross-listed with PSCI 8126)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of the instructor.

**PSCI 4140 CONSTITUTIONAL LAW: CIVIL RIGHTS (3 credits)**

This course introduces students to the history, principles, and judicial interpretation of key constitutional provisions and federal statutes regarding civil rights in the United States. (Cross-listed with PSCI 8146)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4150 LAW AND THE COURTS: MOCK TRIAL (3 credits)**

This course introduces students to the American legal system, including its courtroom aspects, through preparation of and participation in a mock trial case.

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor. Not open to non-degree graduate students.

**PSCI 4160 LAW AND THE COURTS: MOCK TRIAL PRACTICUM (1-3 credits)**

This course introduces students to the American legal system through participation in mock trial competition.

**Prerequisite(s)/Corequisite(s):** PSCI 4150 or junior standing or permission of instructor. Not open to non-degree graduate students.

**PSCI 4170 CONSTITUTIONAL LAW: FOUNDATIONS (3 credits)**

This course introduces students to the principles, design and operation of the American constitutional system with emphasis on analysis of the Declaration of Independence, the Articles of Confederation, the proceedings of the Constitutional Convention, and the Federalist Papers. (Cross-listed with PSCI 8176)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor

**PSCI 4180 CONSTITUTIONAL LAW: THE FEDERAL SYSTEM (3 credits)**

This course introduces students to American constitutional law as it relates to issues of federalism, the relation of the nation and the states, and separation of powers, the relation of the three branches of the national government. (Cross-listed with PSCI 8186)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4190 CONSTITUTIONAL LAW: CIVIL LIBERTIES (3 credits)**

This course introduces students to the philosophy, history, and development of the personal liberties guaranteed by the Constitution including freedom of speech, religion, assembly, petition, and the right of privacy, primarily through examination of Supreme Court decisions. (Cross-listed with PSCI 8196)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4200 INTERNATIONAL RELATIONS OF EAST ASIA (3 credits)**

This course introduces students to the international politics of East Asia with an emphasis on the contemporary relations among major East Asian states (China, Japan, the Korean peninsula) and the United States. (Cross-listed with PSCI 8206)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4210 INTERNATIONAL RELATIONS OF THE MIDDLE EAST (3 credits)**

This course focuses on the international politics of the Middle East region, specifically looking at conditions for peace and causes of war. It examines how the international system, domestic politics, ideologies, and leaders influence international politics in the Middle East. (Cross-listed with PSCI 8216)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4240 INTERNATIONAL CONFLICT RESOLUTION (3 credits)**

This course introduces students to different approaches to peace, their basic assumptions, and their application to current conflicts. (Cross-listed with PSCI 8246)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 4250 INTELLIGENCE AND NATIONAL SECURITY (3 credits)**

This course introduces students to the United States intelligence services, and their relation to broader U.S. national security policy. (Cross-listed with PSCI 8256)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor

**PSCI 4260 INTERNATIONAL LAW (3 credits)**

The course introduces students to the general principles of international law, including the key actors, the creation and sources of international law, the interpretation of international law by courts and tribunals, and its enforcement. (Cross-listed with PSCI 8266)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 4270 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with ENVN 4270, PSCI 8276)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 4280 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with PSCI 8286, LLS 4280, LLS 8286)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4290 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 8296, CACT 8306)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 4310 CLASSICAL POLITICAL THOUGHT (3 credits)**

This course introduces students to key works representative of premodern political thought. Authors examined may include Plato, Aristotle, Xenophon, Cicero, Augustine, and Aquinas. (Cross-listed with PSCI 8316).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4320 EARLY MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key works of the 16th through mid-18th centuries. Authors examined may include Machiavelli, Hobbes, Hume, Smith and Montesquieu. (Cross-listed with PSCI 8326)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor

**PSCI 4330 LATE MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key texts of the mid-18th through 19th centuries. Authors to be examined may include Rousseau, Burke, Mill, Tocqueville, Marx, and Nietzsche. (Cross-listed with PSCI 8336)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4340 CONTEMPORARY POLITICAL THOUGHT (3 credits)**

This course introduces students to leading works of contemporary political thought, including Marx, Spencer, Dahl, Rawls, feminism, and rational choice. The theories, their interrelationships, the theorists, and the manifestations of these works will be discussed and analyzed. (Cross-listed with PSCI 8346)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4350 DEMOCRACY (3 credits)**

A basic study of theory, practice and practitioners of political democracy, its roots, development, present application and problems and future. (Cross-listed with PSCI 8356)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor is required.

**PSCI 4360 AUTHORITARIAN REGIMES (3 credits)**

An analysis of various types of authoritarian regimes, their differences from democratic governments, and the causes of their establishment, maintenance, and failure. (Cross-listed with PSCI 8366).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 4370 GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS (3 credits)**

This course introduces students to civil-military relations and military politics across the globe. (Cross-listed with PSCI 8376).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**PSCI 4380 TOPICS IN POLITICAL THEORY (3 credits)**

This course will conduct an in-depth exploration of an important issue, movement, thinker, or work in political theory. The particular subject matter will vary and will be chosen by the instructor.

**Prerequisite(s)/Corequisite(s):** Junior, or permission of instructor. Junior, or permission of instructor. Not open to non-degree graduate students.

**PSCI 4500 GOVERNMENT AND POLITICS OF GREAT BRITAIN (3 credits)**

A comprehensive study of British politics and government. Emphasis will be focused on the formal institutions and informal customs and practices of the British political system. (This course satisfies the department's comparative politics requirement). (Cross-listed with PSCI 8506)

**Prerequisite(s)/Corequisite(s):** Junior

**PSCI 4520 POLITICS OF FRANCE (3 credits)**

This course introduces students to the political heritage of France, contemporary political institutions and problems, and political and policy responses to these problems. (Cross-listed with PSCI 8526)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4550 POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM (3 credits)**

This course is a survey on the types of violence used within a political context, focusing on its causes, forms and consequences. Specifically, this course details why and how violence occurs, and its impact on institutions and the people operating within that system. (Cross-listed with PSCI 8556).

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or PSCI 2500

**PSCI 4620 ISLAM AND POLITICS (3 credits)**

This course introduces students to the interaction between religion and politics in the Muslim world, covering various political ideologies in the Muslim world and different experiences of Muslim-majority countries such as Saudi Arabia, Pakistan, Iran, Turkey, Indonesia, and Egypt. It will also analyze mainstream and radical transnational Islamic movements. (Cross-listed with PSCI 8626)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or 2500 is recommended.

**Distribution:** Global Diversity General Education course

**PSCI 4710 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with PSCI 8716, ENTR 4710, ENTR 8716).

**PSCI 4770 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 8776, SOC 4770, SOC 8776).

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing or permission of instructor

**PSCI 4820 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with JMC 4820, JMC 8826, PSCI 8826)

**PSCI 4900 READINGS IN POLITICAL SCIENCE (1-3 credits)**

This course provides students an opportunity to study an advanced and specialized subject matter in the field of political science not covered in existing courses. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 4910 POLITICAL SCIENCE INTERNSHIP (1-6 credits)**

This course offers students an opportunity to experience the resolution of public issues through direct involvement in career-oriented policy organizations. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 4920 ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours. (Cross-listed with PSCI 8926)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**PSCI 4950 SENIOR ASSESSMENT IN POLITICAL SCIENCE (0 credits)**

This zero-credit-hour course is used to assess the knowledge and skills that are imparted by the Political Science program to its students. Seniors must enroll in the class, take the major field test, and submit a writing assignment from one of their upper level political science courses. Because this is a 0 credit course, these items will not be graded, but they will be scored for purposes of program assessment.

**Prerequisite(s)/Corequisite(s):** Senior standing. Permission of Department Chair required.

**Distribution:** Writing in the Discipline Single Course

## Political Science, Bachelor of Arts

To obtain a B.A. with a major in Political Science, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign languages
- 12-19 hours college breadth requirement
- 36 hours of major courses
- 3-10 hours of electives

TOTAL HOURS: 120

### Requirements

The major consists of a minimum of 36 credit hours in political science. At least 18 hours of political science courses must be taken at the 3000 and 4000 levels.

Code	Title	Credits
<b>B.A. Requirements</b>		
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT	3
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	3
PSCI 4950	SENIOR ASSESSMENT IN POLITICAL SCIENCE	0
<b>Electives</b>		
Remaining hours in political science shall be elected by students in accordance with their interests.		21
<b>Total Credits</b>		<b>36</b>

For the B.A., a **foreign language** through the intermediate level is required.

### Optional Concentrations

The Bachelor of Arts and Bachelor of Science degrees are available with or without a concentration. If students choose, a concentration may be pursued in government affairs and civic engagement, foreign and national security affairs, law and the courts, political thought, or race, ethnicity and gender politics.

### Concentration in Government Affairs and Civic Engagement

Code	Title	Credits
Select 12 credit hours from the following:		12
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	
PSCI 2120	INTRODUCTION TO LEADERSHIP	
PSCI 3010	URBAN POLITICS	
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 3050	STATE GOVERNMENT AND POLITICS	
PSCI 3160	POLITICAL PARTIES	
PSCI 3170	INTEREST GROUPS	
PSCI 3180	CAMPAIGNS AND ELECTIONS	
PSCI 4030	THE PRESIDENCY	
PSCI 4040	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 4050	THE JUDICIAL PROCESS	
PSCI/PSYC 4110	POLITICAL PSYCHOLOGY	
PSCI 4120	PUBLIC OPINION AND POLLING	
PSCI 4910	POLITICAL SCIENCE INTERNSHIP	
<b>Total Credits</b>		<b>12</b>

### Concentration in Foreign and National Security Affairs

Code	Title	Credits
Select 12 credit hours from the following:		12
BLST 1340	INTRODUCTION TO CONTEMPORARY AFRICA	
BLST/PSCI 2130	AFRICAN POLITICS	
PSCI 3220	INTERNATIONAL ORGANIZATIONS	
PSCI/WGST 3230	GENDER AND GLOBAL POLITICS	
PSCI 3240	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
PSCI 3260	UNITED STATES FOREIGN POLICY	
PSCI 3500	EUROPEAN POLITICS	
PSCI 3580	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES	
PSCI 3640	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA	
PSCI/LLS 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	
PSCI 3700	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	
PSCI 4200	INTERNATIONAL RELATIONS OF EAST ASIA	
PSCI 4210	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION	
PSCI 4250	INTELLIGENCE AND NATIONAL SECURITY	
PSCI 4260	INTERNATIONAL LAW	
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS	
PSCI/LLS 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
PSCI 4350	DEMOCRACY	
PSCI 4360	AUTHORITARIAN REGIMES	

PSCI 4500	GOVERNMENT AND POLITICS OF GREAT BRITAIN	
PSCI 4520	POLITICS OF FRANCE	
PSCI 4550	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM	
PSCI 4620	ISLAM AND POLITICS	
PSCI 4710	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	
<b>Total Credits</b>		<b>12</b>

### Concentration in Law and the Courts

Code	Title	Credits
Select 12 credit hours from the following:		12
PSCI 2180	INTRODUCTION TO LAW	
BLST/PSCI 3410	LAW AND THE BLACK COMMUNITY	
PSCI 4050	THE JUDICIAL PROCESS	
PSCI 4140	CONSTITUTIONAL LAW: CIVIL RIGHTS	
PSCI 4150	LAW AND THE COURTS: MOCK TRIAL	
PSCI 4160	LAW AND THE COURTS: MOCK TRIAL PRACTICUM	
PSCI 4170	CONSTITUTIONAL LAW: FOUNDATIONS	
PSCI 4180	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM	
PSCI 4190	CONSTITUTIONAL LAW: CIVIL LIBERTIES	
PSCI 4260	INTERNATIONAL LAW	
PSCI 4910	POLITICAL SCIENCE INTERNSHIP	
<b>Total Credits</b>		<b>12</b>

### Concentration in Race, Ethnicity and Gender Politics

Code	Title	Credits
Select 12 credit hours from the following:		12
BLST 1340	INTRODUCTION TO CONTEMPORARY AFRICA	
BLST/PSCI 2130	AFRICAN POLITICS	
PSCI/WGST 3100	LGBT POLITICS	
PSCI/BLST 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS	
PSCI/WGST 3130	WOMEN AND POLITICS	
PSCI/LLS 3140	LATINO/-A POLITICS	
PSCI 3150	ASIAN PACIFIC AMERICANS AND THE NEW MINORITY POLITICS	
PSCI/WGST 3230	GENDER AND GLOBAL POLITICS	
BLST/PSCI 3410	LAW AND THE BLACK COMMUNITY	
<b>Total Credits</b>		<b>12</b>

### Concentration in Political Thought

Code	Title	Credits
Select 12 credit hours from the following:		12
PSCI 3340	AMERICAN POLITICAL THOUGHT	
PSCI 4310	CLASSICAL POLITICAL THOUGHT	
PSCI 4320	EARLY MODERN POLITICAL THOUGHT	
PSCI 4330	LATE MODERN POLITICAL THOUGHT	
PSCI 4340	CONTEMPORARY POLITICAL THOUGHT	
<b>Total Credits</b>		<b>12</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT (**)	3
MATH 1220	COLLEGE ALGEBRA (***)	3
or MATH 1120	or INTRODUCTION TO	
or MATH 1130	MATHEMATICAL AND	
or STAT 1100	COMPUTATIONAL THINKING	
or STAT 1530	or QUANTITATIVE LITERACY	
	or DATA LITERACY AND	
	VISUALIZATION	
	or ELEMENTARY STATISTICS	

Foreign Language 1110^ 5

\*ENGL 1150: requires appropriate placement via EPPE or AP.

\*\*PSCI 1100: This course counts as a Social Science and U.S. Diversity course, as well as major requirement.

\*\*MATH 1220 and STAT 1530: require placement via Math Placement Exam, ACT/SAT scores.

^Level 1110 foreign language courses count as a Humanities/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits 14**

### Spring

ENGL 1160	ENGLISH COMPOSITION II (*)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS (**)	3

Foreign Language 1120 5

\*ENGL 1160: requires ENGL 1150 with grade of C- or better or placement via EPPE or AP.

\*\*PSCI 2210: Counts as a Social Science and Global Diversity, as well as major requirement.

**Credits 14**

### Sophomore

Fall		Credits
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING (#)	3
Foreign Language 2110		3
Natural/Physical Science w/ Lab		4
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT (*)	3
Non-PSCI Social Science		3

#PSCI 2000: requires PSCI 1100 or PSCI 1000. ENGL 1150 required and ENGL 1160 strongly recommended. This course also counts for the Writing in the Discipline requirement.

\*PSCI 2310: Counts as a Humanities/Fine Arts course and major requirement.

**Credits 16**

### Spring

Foreign Language 2120		3
Natural/Physical Science*		3
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	3
PSCI 3000+ Elective		3
Humanities/Fine Arts Course		3

*NPS must be from 2nd discipline	
<b>Credits</b>	<b>15</b>
<b>Junior</b>	
<b>Fall</b>	
PSCI 3000+ Elective	3
PSCI 3000+ Elective	3
HIST 1000 or Minor/2nd Major Course*	3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course	3
*A&S College Requirement Options	
**A&S College Requirement Options. Additional HFA must be in a 3rd discipline.	
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
PSCI 3000+ Elective	3
PSCI 3000+ Elective	3
HIST 1010 or Minor/2nd Major Course*	3
Additional Social Science for A&S or Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course	3
Elective or Minor/2nd Major Course	1
*A&S College Requirement Options	
**A&S College Requirement Options. Additional SS must be in a 3rd discipline.	
<b>Credits</b>	<b>16</b>
<b>Senior</b>	
<b>Fall</b>	
PSCI 3000+ Elective	3
Additional Natural/Physical Science with Lab for A&S or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course**	3
Elective or Minor/2nd Major Course**	3
*A&S College Requirement Options	
**Students need a minimum of 120 total credits with no less than 27 upper level credits throughout the entire degree. Students may need to select 3000/4000 level free electives or may earn minors or second majors to reach these specific minimums.	
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
Elective or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course*	3
Elective or Minor/2nd Major Course*	3
PSCI 4950 SENIOR ASSESSMENT IN POLITICAL SCIENCE (**)	0
*Students need a minimum of 120 total credits with no less than 27 upper level credits throughout the entire degree. Students may need to select 3000/4000 level free electives or may earn minors or second majors to reach these specific minimums.	
**PSCI 4950: Senior standing required, as well as permission of political science department chair.	
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Political Science, Bachelor of Science

To obtain a B.S. with a major in Political Science, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 12-19 hours college breadth requirement
- 51 hours of major courses
- 4-11 hours of electives

TOTAL HOURS: 120

### Requirements

The major consists of a minimum of 36 credit hours in political science. At least 18 hours of political science courses must be taken at the 3000 and 4000 levels.

Code	Title	Credits
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT	3
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	3
PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	3
PSCI 4950	SENIOR ASSESSMENT IN POLITICAL SCIENCE	0

#### Electives

Remaining hours in political science shall be elected by students in accordance with their interests. 18

#### Cognate Courses

Select a minimum of 15 credit hours of cognate course work in other disciplines. 15

**Total Credits** **51**

## Cognate Courses

**A minimum of 15 credit hours of cognate course work in other disciplines must also be taken to support the student's work in the major.** This requirement is the same as that of the College of Arts and Sciences.

Students should consult with departmental advisers and the department chair to determine which courses are suitable for inclusion in the cognate. Students should be aware that some courses require pre-requisites. In addition, no more than six hours of courses at the 1000 level nor courses used to satisfy general education requirements will be credited as cognate course work.

## Optional Concentrations

The Bachelor of Arts and Bachelor of Science degrees are available with or without a concentration. If students choose, a concentration may be pursued in government affairs and civic engagement, foreign and national security affairs, law and the courts, political thought, or race, ethnicity and gender politics.

### Concentration in Government Affairs and Civic Engagement

Code	Title	Credits
Select 12 credit hours from the following:		12
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	
PSCI 2120	INTRODUCTION TO LEADERSHIP	
PSCI 3010	URBAN POLITICS	
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 3050	STATE GOVERNMENT AND POLITICS	
PSCI 3160	POLITICAL PARTIES	
PSCI 3170	INTEREST GROUPS	
PSCI 3180	CAMPAIGNS AND ELECTIONS	
PSCI 4030	THE PRESIDENCY	
PSCI 4040	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 4050	THE JUDICIAL PROCESS	
PSCI/PSYC 4110	POLITICAL PSYCHOLOGY	
PSCI 4120	PUBLIC OPINION AND POLLING	
PSCI 4910	POLITICAL SCIENCE INTERNSHIP	
<b>Total Credits</b>		<b>12</b>

### Concentration in Foreign and National Security Affairs

Code	Title	Credits
Select 12 credit hours from the following:		
BLST 1340	INTRODUCTION TO CONTEMPORARY AFRICA	
BLST/PSCI 2130	AFRICAN POLITICS	
PSCI 3220	INTERNATIONAL ORGANIZATIONS	
PSCI/WGST 3230	GENDER AND GLOBAL POLITICS	
PSCI 3240	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
PSCI 3260	UNITED STATES FOREIGN POLICY	
PSCI 3500	EUROPEAN POLITICS	
PSCI 3580	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES	
PSCI 3640	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA	
PSCI/LLS 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA	

PSCI 3700	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	
PSCI 4200	INTERNATIONAL RELATIONS OF EAST ASIA	
PSCI 4210	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION	
PSCI 4250	INTELLIGENCE AND NATIONAL SECURITY	
PSCI 4260	INTERNATIONAL LAW	
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS	
PSCI/LLS 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
PSCI 4350	DEMOCRACY	
PSCI 4360	AUTHORITARIAN REGIMES	
PSCI 4500	GOVERNMENT AND POLITICS OF GREAT BRITAIN	
PSCI 4520	POLITICS OF FRANCE	
PSCI 4550	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM	
PSCI 4620	ISLAM AND POLITICS	
PSCI 4710	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	
Total concentration credits		12

### Concentration in Law and the Courts

Code	Title	Credits
Select 12 credit hours from the following:		12
PSCI 2180	INTRODUCTION TO LAW	
BLST/PSCI 3410	LAW AND THE BLACK COMMUNITY	
PSCI 4050	THE JUDICIAL PROCESS	
PSCI 4140	CONSTITUTIONAL LAW: CIVIL RIGHTS	
PSCI 4150	LAW AND THE COURTS: MOCK TRIAL	
PSCI 4160	LAW AND THE COURTS: MOCK TRIAL PRACTICUM	
PSCI 4170	CONSTITUTIONAL LAW: FOUNDATIONS	
PSCI 4180	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM	
PSCI 4190	CONSTITUTIONAL LAW: CIVIL LIBERTIES	
PSCI 4260	INTERNATIONAL LAW	
PSCI 4910	POLITICAL SCIENCE INTERNSHIP	
<b>Total Credits</b>		<b>12</b>

### Concentration in Race, Ethnicity and Gender Politics

Code	Title	Credits
Select 12 credit hours from the following:		12
BLST 1340	INTRODUCTION TO CONTEMPORARY AFRICA	
BLST/PSCI 2130	AFRICAN POLITICS	
PSCI/WGST 3100	LGBT POLITICS	
PSCI/BLST 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS	
PSCI/WGST 3130	WOMEN AND POLITICS	
PSCI/LLS 3140	LATINO/-A POLITICS	
PSCI 3150	ASIAN PACIFIC AMERICANS AND THE NEW MINORITY POLITICS	

PSCI/WGST 3230	GENDER AND GLOBAL POLITICS
BLST/PSCI 3410	LAW AND THE BLACK COMMUNITY
<b>Total Credits</b>	
<b>12</b>	

### Concentration in Political Thought

Code	Title	Credits
Select 12 credit hours from the following:		
PSCI 3340	AMERICAN POLITICAL THOUGHT	
PSCI 4310	CLASSICAL POLITICAL THOUGHT	
PSCI 4320	EARLY MODERN POLITICAL THOUGHT	
PSCI 4330	LATE MODERN POLITICAL THOUGHT	
PSCI 4340	CONTEMPORARY POLITICAL THOUGHT	
<b>Total Credits</b>		<b>12</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT (**)	3
MATH 1220 or MATH 1120 or MATH 1130 or STAT 1100 or STAT 1530	COLLEGE ALGEBRA (***) or INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or QUANTITATIVE LITERACY or DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Humanities/Fine Arts		3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS (#)	3
*ENGL 1150: requires placement via EPPE or AP		
**PSCI 1100: counts as a Social Science and U.S. Diversity requirement, as well as major requirement.		
***MATH 1220 and STAT 1530: require placement.		
#PSCI 2210: counts as a Social Science and Global Diversity requirement, as well as major requirement.		
<b>Credits</b>		<b>15</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT (*)	3
Natural/Physical Science w/ Lab		4
Humanities/Fine Arts		3
*PSCI 2310: counts as a Humanities/Fine Arts course and major requirement.		
<b>Credits</b>		<b>16</b>

### Sophomore

Fall		Credits
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING (*)	3
Natural/Physical Science without lab**		3
Non-PSCI Social Science		3
HIST 1000 or Minor/2nd Major Course***		3
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	3

\*PSCI 2000: requires PSCI 1100 or PSCI 1000. ENGL 1150 required and ENGL 1160 strongly recommended. This course also counts for the Writing in the Discipline requirement.

\*\*NPS must come from 2nd discipline.

\*\*\*A&S College Requirement Options.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE (*)	3
PSCI-3000/4000 Level Elective		3
HIST 1010 or Minor/2nd Major Course**		3
Cognate Course		3
PSCI-1000-4000 Level Elective***		3
*PSCI 3000: requires MATH 1120, MATH 1130, STAT 1530, MATH 1220 or permission of the department.		
**A&S College Requirement Options.		
***PSCI major requires 36 credits of PSCI, with a minimum of 18 credits at the 3000/4000 level.		

<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
PSCI-3000/4000 Level Elective		3
PSCI-3000/4000 Level Elective		3
Additional Social Science for A&S or Minor/2nd Major Course*		3
Cognate Course		3
Elective		3
*A&S College Requirement Options. Additional SS must be from 3rd discipline.		

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
PSCI-3000/4000 Level Elective		3
Cognate Course		3
Additional Natural/Physical Science Course with Lab for A&S or Minor/2nd Major Course*		3-4
Elective		3
Elective		3
*A&S College Requirement Options.		

<b>Credits</b>		<b>15-16</b>
<b>Senior</b>		
<b>Fall</b>		
PSCI-3000/4000 Level Elective		3
Additional Humanities/Fine Arts Course for A&S or Minor/2nd Major Course*		3
Cognate Course		3
Elective/Minor/2nd Major Course		3
Elective/Minor/2nd Major Course		3
*A&S College Requirement Options. Additional HFA must be in a 3rd discipline.		

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Cognate Course		3
Elective/Minor/2nd Major Course		3
Elective/Minor/2nd Major Course		3
Elective/Minor/2nd Major Course		3
Elective/Minor/2nd Major Course		1-2
PSCI 4950	SENIOR ASSESSMENT IN POLITICAL SCIENCE	0

NOTE: \*Students need a minimum of 120 total credits with no less than 27 upper level credits throughout the entire degree. Students may need to select 3000/4000 level free electives, cognate courses, or may earn minors or second majors to reach these specific minimums.

Credits	13-14
Total Credits	119-121

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**  
**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.  
**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Political Science Minor Requirements

An undergraduate minor in political science may be earned by completing 15 hours of political science, 12 of which must be at the 3000 to 4000 level. All of these courses must be completed with a grade of "C-" or better.

The political science minor is offered on campus, entirely online, or a combination of the two.

## Leadership and Public Policy Minor Description

The leadership and public policy minor is designed to appeal to students in a wide variety of majors that desire to complement their primary field of study with practical knowledge that will enable them to serve as public leaders. The minor will direct students to think critically about the viable solutions needed to solve problems that require effective leadership for the public good. It will engage students in learning about leadership for the public good and effective citizenship.

Students in the minor will learn the role of leadership in public policy. Specifically, they will learn how people in positions of both public responsibility (such as government officials) and private influence (such as the heads of for-profit and non-profit organizations) act in the realm of public policy: how demands for changes to public policy are organized and communicated, how social problems are identified and policies to address them are developed, how such policies are formally enacted, how they are implemented, and how they are evaluated.

This minor will offer students a substantive qualification in public policy leadership and will give them a way to demonstrate a specific commitment in this area of expertise to potential employers and graduate programs. It will prepare students for work in public organizations, as well as private for-profit and non-profit organizations, involved in the policy-making process.

It will also prepare them for graduate studies in fields such as political science, public administration, and law.

## Other Information

All coursework taken for the leadership and public policy minor must be completed with a grade of "C-" or better.

The leadership and public policy minor is intended for majors outside of political science. Should a political science major choose to also minor in leadership and public policy, minor requirements will not double-count within the political science major.

## Contact

Dr. Carson Holloway, Political Science Chairperson  
275 Arts & Sciences Hall  
402-554-2624  
[cholloway@unomaha.edu](mailto:cholloway@unomaha.edu)

## Requirements

The minor in leadership and public policy minor requires a total of 15 credit hours. Students will be required to take the following courses:

Code	Title	Credits
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	3
PSCI 2120 or PA 2000	INTRODUCTION TO LEADERSHIP LEADERSHIP & ADMINISTRATION	3
Select three upper division courses in leadership or public policy from the following: <sup>1</sup>		9
PSCI 3010	URBAN POLITICS	
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 3050	STATE GOVERNMENT AND POLITICS	
BLST/PSCI 3410	LAW AND THE BLACK COMMUNITY	
PSCI 4030	THE PRESIDENCY	
PSCI 4040	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 4050	THE JUDICIAL PROCESS	
PA 3200	PROGRAM PLANNING AND EVALUATION	
PA 4300	SEMINAR IN PUBLIC POLICY	
PA 4390	PUBLIC BUDGETING	
Total Credits		15

<sup>1</sup> Other appropriate upper-division courses may also be used with the permission of an advisor.

## Psychology

The Department of Psychology offers the Bachelor of Arts and the Bachelor of Science degrees. The psychology course requirements are identical in these two degree programs, emphasizing training and hands-on experience in the research process centered on a four-course sequence capped by a laboratory in one of six areas of psychology: learning, cognition, development, sensation and perception, behavioral neuroscience, or animal behavior. The B.A. and B.S. degree programs differ in additional course requirements, as described below. Both programs prepare the student for graduate study in psychology.

Psychology majors may declare a concentration in any one of the following seven areas: cognitive science, developmental psychology, forensic psychology, industrial/organizational psychology, mental health, neuroscience and behavior, and school psychology. Each concentration is

a minimum of 12 credit hours. A concentration is optional, and only one concentration may be declared.

## Other Information

All coursework taken for the psychology major or minor must be completed with a grade of "C-" or better.

For the psychology minor, 9 credits must be taken in residence at UNO.

Permission of the Department must be obtained to substitute another course for one in which a grade of less than "C-" is earned.

Students who come from community colleges with psychology courses that are taught at the upper division level here: The courses will count toward the psychology major, but will not count toward the 27-credit upper division psychology requirement

One of the required non-psychology courses for the B.S. degree may be taken CR/NC.

For psychology courses that are cross-listed with another discipline, (biology, sociology, gerontology) only one course per discipline may count toward the cross-listed discipline and the psychology major or minor.

### Note for Double Majors in Neuroscience and Psychology:

Beyond the neuroscience fundamentals courses, students cannot use a 3000/4000 level course to count toward both majors. Students may overlap 3000/4000 level PSYC courses between the PSYC Neuroscience and Behavior Concentration and the Neuroscience major.

### Note for Students Completing a Neuroscience Major and Psychology Minor:

No upper-level (3000/4000 level) PSYC courses will be allowed to count toward both programs.

## Student Groups

Psi Chi - Local (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/student-opportunities/psi-chi.php>); National Honor Society in Psychology (<https://www.psichi.org/default.aspx>)

Nu Rho Psi – National Honor Society in Neuroscience (<https://nurhopsi.org/>)

Psychology Student Interest Group – Canvas Page where students can learn about events, activities, meetings, or opportunities related to psychology happening on campus or in the Omaha community! Psychology students will automatically receive an invitation to join the canvas page near the start of the semester from the Canvas portal. Students can also request to be added to this group by submitting their email address here ([https://unomaha.az1.qualtrics.com/jfe/form/SV\\_1SUVaqjKEDZGIYd/](https://unomaha.az1.qualtrics.com/jfe/form/SV_1SUVaqjKEDZGIYd/)).

## Contact

347 Arts and Sciences Hall  
402.554.2592

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/psychology/>)

## Degrees Offered

- Psychology, Bachelor of Arts (p. 312)
- Psychology, Bachelor of Science (p. 316)

## Writing in the Discipline

PSYC 3140 fulfills the requirement for a writing in the discipline course within the Psychology major.

## Minors Offered

- Psychology Minor (p. 320)

As most people know, a primary focus in psychology is in the diagnosis and treatment of mental health issues. But that's just one of many specialties within the field. In addition to Clinical and Counseling Psychology, other popular subdisciplines include Industrial-Organizational Psychology, School psychology, Applied Behavior Analysis, Behavioral Neuroscience, Developmental Psychology, Social Psychology, and Cognitive Psychology.

Because Psychology is so diverse in its focus and research, a Bachelor's degree in Psychology prepares students for a wide variety of careers. This major helps students develop universally useful skills like communication, critical-thinking, an understanding of the scientific process, and a proficiency with statistics and data. A Bachelor's degree in Psychology is also a great choice for those interested in pursuing a graduate degree in Psychology, Counseling, Law and Criminal Justice, Social Work, or Medicine and Health Sciences. So if you're curious about why we do the things that we do and ready for a rewarding career, join us in Psychology.

Psychology majors who have completed a Bachelor's degree often pursue careers in the following fields:

- Mental health services
- Social services
- Human resources
- Case management
- Physical Health and wellness
- Crisis work
- Rehabilitation services
- Testing and assessment
- Business administration
- Research and data analysis
- Nonprofit and charitable organizations

### PSYC 1010 INTRODUCTION TO PSYCHOLOGY I (3 credits)

An overview of scientific understanding of the human mind and behavior. Theories and empirical tests of explanations for how we think, feel, and act. This course is a prerequisite to all subsequent, more specialized courses in Psychology.

**Distribution:** Social Science General Education course

### PSYC 1020 INTRODUCTION TO PSYCHOLOGY II (3 credits)

Provides students who have completed a course in introductory psychology with an opportunity for in-depth study of selected areas of psychology along with related laboratory experiences. Research methodology is emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. The proposed course is designed to build upon the content knowledge gained in a first introductory psychology course.

### PSYC 2000 CAREER PATHS IN PSYCHOLOGY (1 credit)

A course that introduces the student to the different career paths available to psychology majors, both within and outside of the psychology field and those including graduate or professional school as well as career paths for those with bachelor's degrees. Required of psychology majors. This is a one (1) hour credit course.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

### PSYC 2024 EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY (2 credits)

This course explores the scientific foundation of psychology representing several topic areas such as Learning, Developmental, Cognitive, and Physiological Psychology. Basic application of statistics and APA manuscript writing will build a solid background for upper-level courses in Psychology.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 2100 LEARNING ASSISTANT SEMINAR (0 credits)**

This course focuses on effective methods of college teaching and instructional strategies. Students participate in activities designed to increase their understanding of the role of a Learning Assistant.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and permission of instructor. Not open to non-degree graduate students.

**PSYC 2500 LIFESPAN PSYCHOLOGY (3 credits)**

A life span approach to development focusing on the biological, cognitive, and social emotional changes in development occurring from infancy through old age. The impact of these changes on the individual's behavior and interactions with society will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3130 STATISTICS FOR THE BEHAVIORAL SCIENCES (3 credits)**

An introduction to statistics with particular emphasis on models and hypothesis testing covering analysis of variance, chi-square, F and t-tests, first-order regression and correlation.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1530, MATH 1310 or MATH 1220. Psychology Majors Only: PSYC 2024 (prior to, or concurrent with).

**PSYC 3140 RESEARCH METHODS IN PSYCHOLOGY (4 credits)**

An introduction to the methods by which psychologists attempt to create, disseminate and integrate knowledge about behavior. PSYC 3140 fulfills the Writing in the Discipline Requirement for Psychology and Neuroscience majors.

**Prerequisite(s)/Corequisite(s):** Psychology majors require PSYC 2000, PSYC 3130 and ENGL 1160. Neuroscience majors require PSYC 3130 and ENGL 1160

**Distribution:** Writing in the Discipline Single Course

**PSYC 3410 CLINICAL PSYCHOLOGY (3 credits)**

A broad survey of problems and practices in the diagnosis and treatment of emotional and behavioral disorders.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3430 PERSONALITY AND ADJUSTMENT (3 credits)**

The study of persons in a social context and their resultant effective and ineffective behavior, with emphasis on types of adjustment.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3450 SOCIAL PSYCHOLOGY (3 credits)**

Social interaction studied in situations of (1) social influences on individuals, (2) dyads or face-to-face groups, and (3) larger social systems. The concepts, theories, data, research methods and applications of varied substantive topics are examined. (Cross-listed with SOC 3450)

**Prerequisite(s)/Corequisite(s):** SOC 1010 or PSYC 1010

**PSYC 3510 EDUCATIONAL PSYCHOLOGY (3 credits)**

A study of the capacities and interests of children and their individual differences. Factors that influence learning and an evaluation of learning and classroom procedures are included.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3520 CHILD PSYCHOLOGY (3 credits)**

A study of the biological, social, emotional and cognitive development of the child emphasizing infancy and childhood.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3540 ADOLESCENT PSYCHOLOGY (3 credits)**

A review of theory and available evidence useful in understanding changes and problems in the physical, intellectual, social and emotional adjustment of individuals in adolescence.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 4010 HISTORY OF PSYCHOLOGY (3 credits)**

A study of the origins, development and nature of psychology and its relation to external events; emphasis on the period since 1875. (Cross-listed with PSYC 8016)

**Prerequisite(s)/Corequisite(s):** at least 15 hours of Psychology credits including PSYC 1010 or approval of instructor. Not open to non-degree students or students in other departments or programs.

**PSYC 4020 LEARNING (3 credits)**

A comprehensive coverage of the experimental literature and theories on human and animal learning.

**Prerequisite(s)/Corequisite(s):** PSYC 1020

**PSYC 4024 LABORATORY IN PSYCHOLOGY: LEARNING (3 credits)**

Classical experiments and a service-learning research project designed to apply general learning principles. Systematic techniques used to assess behavior changes associated with the learning process, research design, and scientific report writing will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4020. Not open to nondegree students.

**PSYC 4070 COGNITIVE PSYCHOLOGY (3 credits)**

An exploration of historical and contemporary research and theory concerned with cognitive processes including attention, memory, problem solving and concept formation.

**Prerequisite(s)/Corequisite(s):** PSYC 1020.

**PSYC 4074 LABORATORY IN PSYCHOLOGY: COGNITION (3 credits)**

Laboratory work coordinated with PSYC 4070, emphasizing a presentation of methods of research assessing human attention, memory and problem-solving processes. Research design, data analysis and research report writing are also emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4070 or PSYC 4090 or PSYC 4210.

**PSYC 4090 COGNITIVE NEUROSCIENCE (3 credits)**

This course is concerned with the relationship between cognition and the brain. Special attention will be devoted to the techniques used to study specific relationships and the theoretical perspectives that have guided research in the area. Topics for the course include history, neural mechanisms, methods, lateralization of function, sensation and perception, memory, language, action and movement, executive processes, computer models, and the social brain.

**Prerequisite(s)/Corequisite(s):** PSYC 1020 or NEUR 1520 or NEUR 1540. Not open to non-degree graduate students.

**PSYC 4110 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 4110, PSCI 8116, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSYC 4150 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with PSYC 8156, BLST 4150, BLST 8156).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and Junior standing or Instructor permission

**PSYC 4210 SENSATION AND PERCEPTION (3 credits)**

Reading and discussion concerning psychophysical methods, sensory physiology, phenomenology of various sensory systems and theories of the perceptual process.

**Prerequisite(s)/Corequisite(s):** PSYC 1020 or NEUR 1520 or NEUR 1540.

**PSYC 4214 LABORATORY IN PSYCHOLOGY: SENSATION AND PERCEPTION (3 credits)**

Laboratory work coordinated with PSYC 4210 which is designed to increase comprehension of psychology as a laboratory science in general and the experimental study of the perceptual process in particular. Emphasis will be placed on the development of skills involved in the design of experiments, data collection, data analysis, reasoning about experimental results and scientific report writing.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4210 or PSYC 4070 or PSYC 4090.

**PSYC 4230 BEHAVIORAL NEUROSCIENCE (3 credits)**

A comprehensive study of the relationship of the nervous and other organ systems to behavior. Research on both human and other animal species is considered. (Cross-listed with NEUR 4230).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 OR BIOL 1450

**PSYC 4234 LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE (3 credits)**

Laboratory course designed to introduce the students to the techniques and procedures of physiological psychology. Scientific report writing, problems of research design and data analysis also will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140. Psych majors PSYC 4230; Neuroscience majors NEUR 1520 or NEUR 1540.

**PSYC 4250 LIMITS OF CONSCIOUSNESS (3 credits)**

A course focusing on the scientific study of the psychology, neurology and philosophy of mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 8256, PHIL 3250)

**Prerequisite(s)/Corequisite(s):** PSYC 1010; or 6 hours in Philosophy.

**PSYC 4270 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with PSYC 8276, BIOL 4270, BIOL 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**PSYC 4280 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with PSYC 8286, BIOL 4280, BIOL 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**PSYC 4310 PSYCHOLOGICAL AND EDUCATIONAL TESTING (3 credits)**

The use of standardized tests in psychology and education is considered with special regard to their construction, reliability and validity. (Cross-listed with PSYC 8316)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior. Not open to non-degree graduate students.

**PSYC 4320 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provided students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with PSYC 8326, BIOL 4320, BIOL 8326)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and either BIOL 1020 or 1750. Not open to non-degree graduate students.

**PSYC 4440 ABNORMAL PSYCHOLOGY (3 credits)**

A course designed to examine the aberrant behavior of individuals. Symptoms, dynamics, therapy and prognosis of syndromes are considered. (Cross-listed with PSYC 8446)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4450 PERSONALITY THEORIES (3 credits)**

A comparative approach to the understanding and appreciation of personality theories considering history, assertions, applications, validations and prospects. (Cross-listed with PSYC 8456)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students students.

**PSYC 4460 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)**

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with GERO 4460, GERO 8466).

**Prerequisite(s)/Corequisite(s):** Junior or Senior.

**PSYC 4470 MENTAL HEALTH AND AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with PSYC 8476, GERO 4470, GERO 8476)

**Prerequisite(s)/Corequisite(s):** Junior or senior

**PSYC 4510 PSYCHOLOGY IN THE SCHOOLS (3 credits)**

This course introduces students to the academic and mental health needs of children and youth in schools, as well as how those needs are addressed individually and systemically. A service learning experience enables students to work directly with school-age children.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4520 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with PSYC 8526)

**Prerequisite(s)/Corequisite(s):** Senior or graduate or permission of instructor. Not open to non-degree graduate students.

**PSYC 4530 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 8536, CACT 8106).

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 4544 LABORATORY IN DEVELOPMENTAL PSYCHOLOGY (3 credits)**

Laboratory work coordinated with PSYC 3520 and PSYC 3540 emphasizing the methods of research and statistical analyses used in the study of human development. Emphasis will be placed on the development of skills involved in the design of experiments, data collection, data analysis, reasoning about results, and scientific report writing.

**Prerequisite(s)/Corequisite(s):** PSYC 3140, PSYC 3520, and PSYC 3540 or permission of instructor. Not open to non-degree graduate students.

**PSYC 4560 FORENSIC PSYCHOLOGY (3 credits)**

The roles and functions of forensic psychologists, as participants in the legal system, are studied, with special emphasis on the relevance of theories and principles from social psychology. Psychological concepts, theories, data, research methods and applications to varied substantive topics are examined (e.g., forensic careers, police psychology, violence, criminal profiling, sociopathy and psychopathy, risk assessment, expert testimony, and corrections).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 or SOC 1010 and PSYC 3450 or SOC 3450.

**PSYC 4570 BEHAVIOR ANALYSIS AND INTERVENTIONS (3 credits)**

Introduction to experimental methodology, rationale and research literature of changing behavior through behavior modification techniques. Particular attention will be paid to methodological concerns regarding single subject design, ethical considerations and ramifications of behavior intervention with children and youth. (Cross-listed with PSYC 8576)

**Prerequisite(s)/Corequisite(s):** PSYC 1010, PSYC 4020 and permission of instructor. Not open to non-degree graduate students.

**PSYC 4590 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3 credits)**

A study of exceptional children and adolescents with sensory or motor impairments, intellectual retardations or superiorities, talented or gifted abilities, language or speech discrepancies, emotional or behavioral maladjustments, social or cultural differences, or major specific learning disabilities.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior.

**PSYC 4630 ORGANIZATIONAL PSYCHOLOGY (3 credits)**

This is a survey course which will cover the major concepts, theories and empirical research related to organizational psychology. Specific topics will include: work motivation, leadership, decision making and job satisfaction as well as more recent trends such as cultural diversity, work teams, work-family and quality issues. (Cross-listed with PSYC 8636)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4640 PERSONNEL PSYCHOLOGY (3 credits)**

A survey of psychological principles, theories and research related to personnel issues. Course includes discussion of personnel selection, performance appraisal, recruitment, training and health and safety. (Cross-listed with PSYC 8646)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4644 LABORATORY IN PSYCHOLOGY: SOCIAL/INDUSTRIAL-ORGANIZATIONAL (3 credits)**

Laboratory work coordinated with PSYC 3450 and PSYC 4630 or PSYC 4640, emphasizing a presentation of methods of research assessing human social behavior and applied psychological processes. Research design, data analysis and research report writing are also emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140, PSYC 3450 and PSYC 4630 or PSYC 4640.

**PSYC 4650 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 8656, CACT 8506)

**PSYC 4800 LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE (3 credits)**

This course presents legal principles relevant to all psychological specialties, with special reference to mental health services. Ethical reasoning and the APA ethics code are considered. (Cross-listed with PSYC 8806)

**Prerequisite(s)/Corequisite(s):** 15 hours of Psychology credits including PSYC 1010 or approval of the instructor. Not open to non-degree graduate students.

**PSYC 4920 SPECIAL TOPICS IN PSYCHOLOGY (1-3 credits)**

A discussion of specific topics which will be announced whenever the course is offered. May be repeated as topics change, but six hours is the maximum that may be applied toward a psychology major.

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**PSYC 4960 INDEPENDENT STUDY IN PSYCHOLOGY (1-6 credits)**

A faculty-supervised special research project and or directed readings involving empirical research and appropriate oral and written reports arranged individually with students on topics not explored in other offerings. If students do not complete the work during the semester they enroll in the course, they must complete all the work within an academic year of their enrollment.

**Prerequisite(s)/Corequisite(s):** A minimum of 10 hours of Psychology including PSYC 1010 & PSYC 1020 and 1 additional course. Completion of the Independent Study Form and permission from the Undergraduate Program Committee (UPC).

**PSYC 4990 SENIOR THESIS (3-6 credits)**

The course is designed to provide the student with the opportunity to initiate, design, analyze, and write-up an original experimental study in an area of interest to the student. Although the course is intended primarily for students who need to satisfy the requirement of a second experimental/laboratory course in the Bachelor of Science degree program, all students interested in this course will be considered on an individual basis.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 with a 'B' or better, 'B' average in major; signed statement from faculty member of Psychology Department who is willing to serve as adviser; written approval from chair of undergraduate program committee. Must be a 2nd semester junior or later.

## Psychology, Bachelor of Arts

To obtain a B.A. with a major in Psychology, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 16 hours foreign language requirement
- 12-19 hours college breadth requirement
- 37 hours of major courses
- 2-9 hours of electives

TOTAL HOURS: 120

### Requirements

The psychology major requires 37 psychology credits, 27 credits of which must be upper-division. There are additional B.A. requirements, as detailed below.

Code	Title	Credits
<b>Core Courses <sup>1</sup></b>		
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II	3
PSYC 2000	CAREER PATHS IN PSYCHOLOGY	1
PSYC 2024	EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY	2
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY	4
<b>Psychology Distribution Requirements</b>		
Select four courses from the Psychology Distribution Areas as outlined below.		12
<b>Upper-Level Psychology Laboratory Courses</b>		
Select one of the following:		3
PSYC 4024	LABORATORY IN PSYCHOLOGY: LEARNING	
PSYC 4074	LABORATORY IN PSYCHOLOGY: COGNITION	
PSYC 4214	LABORATORY IN PSYCHOLOGY: SENSATION AND PERCEPTION	

PSYC 4234	LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE
PSYC/BIOL 4280	ANIMAL BEHAVIOR LABORATORY
PSYC 4544	LABORATORY IN DEVELOPMENTAL PSYCHOLOGY
PSYC 4644	LABORATORY IN PSYCHOLOGY: SOCIAL/ INDUSTRIAL-ORGANIZATIONAL
PSYC 4990	SENIOR THESIS <sup>2</sup>

### Upper-Level Psychology Electives

Two additional 3-credit hour 3000- or 4000-level Psychology courses are required. These may be selected from the Psychology Distribution Requirements, the Labs, or any other 3000- or 4000- level Psychology courses offered.

### Additional B.A. Requirement

Foreign Language: The B.A. degree program requires completion of a foreign language through the intermediate level.

**Total Credits** **37**

<sup>1</sup> These six courses should be taken early in the student's degree program. Concepts learned in these courses will benefit the student in upper-level Psychology classes.

<sup>2</sup> PSYC 4990 –Senior Thesis Part II: Data Analysis, Interpretations and Conclusions. Requires special permission from a faculty member and the student must meet the Psychology Senior Thesis criteria.

## Psychology Distribution Areas

Four courses (**12 credit hours**) are required, one course (**3 credit hours**) each from four of the following five areas.

### Applied Psychology

Code	Title	Credits
PSYC 3510	EDUCATIONAL PSYCHOLOGY	3
PSYC 4020	LEARNING	3
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	3
PSYC 4510	PSYCHOLOGY IN THE SCHOOLS	3
PSYC 4560	FORENSIC PSYCHOLOGY	3
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 4640	PERSONNEL PSYCHOLOGY	3

### Social/Personality/Developmental Psychology

Code	Title	Credits
PSYC/SOC 3450	SOCIAL PSYCHOLOGY	3
PSYC 3520	CHILD PSYCHOLOGY	3
PSYC 3540	ADOLESCENT PSYCHOLOGY	3
PSYC 4450	PERSONALITY THEORIES	3
PSYC 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3

### Mental Health

Code	Title	Credits
PSYC 3410	CLINICAL PSYCHOLOGY	3
PSYC 3430	PERSONALITY AND ADJUSTMENT	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
PSYC/GERO 4470	MENTAL HEALTH AND AGING	3
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3

## Cognitive/Neuroscience

Code	Title	Credits
PSYC 4070	COGNITIVE PSYCHOLOGY	3
PSYC 4090	COGNITIVE NEUROSCIENCE	3
PSYC 4210	SENSATION AND PERCEPTION	3
PSYC 4230	BEHAVIORAL NEUROSCIENCE	3
PSYC/BIOL 4270	ANIMAL BEHAVIOR	3
PSYC/BIOL 4320	HORMONES & BEHAVIOR	3
PSYC 4520	PSYCHOLINGUISTICS	3

## Additional Perspectives

Code	Title	Credits
PSYC 4010	HISTORY OF PSYCHOLOGY	3
PSYC/PSCI 4110	POLITICAL PSYCHOLOGY	3
PSYC/BLST 4150	AFRICAN AMERICAN PSYCHOLOGY	3
PSYC 4250/PHIL 3250	LIMITS OF CONSCIOUSNESS	3
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	3
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY <sup>1</sup>	1-6
PSYC 4990	SENIOR THESIS <sup>2</sup>	3
PHIL 3650	PHILOSOPHY OF MIND	3

<sup>1</sup> PSYC 4960 requires special permission from a faculty mentor, approval of the UPC, and a final paper, project or conference presentation.

<sup>2</sup> PSYC 4990–Senior Thesis Part I: Thesis Proposal (**3 credit hours**). Requires special permission from a faculty member and the student must meet the Psychology Senior Thesis criteria.

## Optional Concentrations

Psychology majors may declare a concentration in any one of the following seven areas. Each concentration is a minimum of 12 credit hours. A concentration is optional, and only one concentration may be declared. The concentration will be noted on the student's transcript.

### Concentration in Cognitive Science

Code	Title	Credits
PSYC 4070	COGNITIVE PSYCHOLOGY	3
or PSYC 4090	COGNITIVE NEUROSCIENCE	
Select three of the following:		9
PSYC 4210	SENSATION AND PERCEPTION	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4250/ PHIL 3250	LIMITS OF CONSCIOUSNESS	
PSYC 4520	PSYCHOLINGUISTICS	
PHIL 3650	PHILOSOPHY OF MIND	
PHIL 4610	PHILOSOPHY OF LANGUAGE	
ENGL 3610	INTRODUCTION TO LINGUISTICS	

**Total Credits** **12**

### Concentration in Developmental Psychology

Code	Title	Credits
PSYC 3520	CHILD PSYCHOLOGY	3
PSYC 3540	ADOLESCENT PSYCHOLOGY	3
Select two of the following:		6
PSYC 2500	LIFESPAN PSYCHOLOGY	
PSYC 3510	EDUCATIONAL PSYCHOLOGY	
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	

PSYC 4520	PSYCHOLINGUISTICS	
PSYC 4544	LABORATORY IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Developmental Psychology topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Developmental Psychology topic)	
PSYC 4990	SENIOR THESIS (Developmental Psychology topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Forensic Psychology

Code	Title	Credits
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3
PSYC 4560	FORENSIC PSYCHOLOGY	3
Select two of the following:		6
PSYC/SOC 3450	SOCIAL PSYCHOLOGY	
PSYC 4440	ABNORMAL PSYCHOLOGY	
Courses in Criminal Justice approved by the advisor		
<b>Total Credits</b>		<b>12</b>

### Concentration in Industrial/Organizational Psychology

Code	Title	Credits
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 4640	PERSONNEL PSYCHOLOGY	3
Select two of the following:		6
PSYC 3450	SOCIAL PSYCHOLOGY	
PSYC 4070	COGNITIVE PSYCHOLOGY	
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Industrial/Organizational Psychology topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Industrial/Organizational Psychology topic)	
PSYC 4990	SENIOR THESIS (Industrial/Organizational Psychology topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Mental Health

Code	Title	Credits
PSYC 3410	CLINICAL PSYCHOLOGY	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
Select two of the following:		6
PSYC 3430	PERSONALITY AND ADJUSTMENT	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4450	PERSONALITY THEORIES	
PSYC/GERO 4470	MENTAL HEALTH AND AGING	
PSYC 4560	FORENSIC PSYCHOLOGY	
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Mental Health topic)	

PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Mental Health topic)	
PSYC 4990	SENIOR THESIS (Mental Health topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Neuroscience and Behavior

Code	Title	Credits
Select two of the following:		6
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC/BIOL 4270	ANIMAL BEHAVIOR	
PSYC/BIOL 4320	HORMONES & BEHAVIOR	
Select two of the following not fulfilled above:		6
PSYC 4020	LEARNING	
PSYC 4024	LABORATORY IN PSYCHOLOGY: LEARNING	
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4210	SENSATION AND PERCEPTION	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4234	LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE	
PSYC 4250/ PHIL 3250	LIMITS OF CONSCIOUSNESS	
PSYC/BIOL 4270	ANIMAL BEHAVIOR	
PSYC/BIOL 4280	ANIMAL BEHAVIOR LABORATORY	
PSYC/BIOL 4320	HORMONES & BEHAVIOR	
PSYC 4440	ABNORMAL PSYCHOLOGY	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Neuroscience topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Neuroscience topic)	
PSYC 4990	SENIOR THESIS (Neuroscience topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in School Psychology

Code	Title	Credits
PSYC 3510	EDUCATIONAL PSYCHOLOGY	3
PSYC 4510	PSYCHOLOGY IN THE SCHOOLS	3
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
Select one of the following:		3
PSYC 3410	CLINICAL PSYCHOLOGY	
PSYC 3520	CHILD PSYCHOLOGY	
PSYC 3540	ADOLESCENT PSYCHOLOGY	
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
<b>Total Credits</b>		<b>12</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
Foreign Language 1110**		5
MATH 1120 or MATH 1220 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (***) or COLLEGE ALGEBRA or ELEMENTARY STATISTICS	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I (#)	3

\*ENGL 1150: requires appropriate placement

\*\* Foreign Language course 1110 will satisfy a Humanity/ Fine Arts course and Global Diversity. If satisfying the BA language requirement differently, please consult with your advisor, as you'll need to add a HFA, global diversity course, and some electives.

\*\*\*MATH 1220 and STAT 1530: require appropriate placement

#PSYC 1010 counts as a Social Science and Major requirement.

**Credits 14**

### Spring

ENGL 1160	ENGLISH COMPOSITION II (*)	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II (**)	3
PSYC 2000	CAREER PATHS IN PSYCHOLOGY (***)	1
PSYC 2024	EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY (#)	2

Foreign Language 1120 5

\*ENGL 1160: requires ENGL 1150 with grade of C- or better or placement.

\*\*PSYC 1020: Requires Psyc 1010. Recommended to take PSYC 2024 concurrently.

\*\*\*PSYC 2000: requires PSYC 1010

#PSYC 2024: requires PSYC 1010, required prior to or concurrent with PSYC 3130. Recommended to take concurrently with PSYC 1020.

**Credits 14**

### Sophomore

#### Fall

CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Humanities & Fine Arts		3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES (*)	3
Natural & Physical Sciences/LAB		4
Foreign Language 2110		3

\*PSYC 3130: requires MATH 1120 or MATH 1220 or STAT 1530. Also requires PSYC 2024 prior to or concurrent with PSYC 3130.

**Credits 16**

### Spring

Natural & Physical Sciences*		3
U.S. Diversity/Social Sciences		3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY (#)	4
Psychology Distribution/Upper-Level		3
Foreign Language 2120		3

\*NPS must come from 2nd discipline.

#PSYC 3140: requires PSYC 2000 and PSYC 3130 and ENGL 1160.

**Credits 16**

### Junior

#### Fall

Humanities & Fine Arts*		3
Psychology Distribution/Upper-Level		3
Psychology Distribution/Upper-Level		3
Elective/Minor/Concentration		3
Elective/Minor/Concentration		3

\*HFA must come from 2nd discipline.

**Credits 15**

### Spring

Social Sciences*	3
Psychology Distribution/Upper-Level	3
Psychology Distribution/Upper-Level	3
HIST 1000 or Minor/2nd Major Course**	3
Additional HFA for A&S or Minor/2nd Major Course***	3

\*SS must come from 2nd discipline

\*\*A&S College Requirement Options.

\*\*\*A&S College Requirement Options. Additional HFA must come from 3rd discipline

**Credits 15**

### Senior

#### Fall

HIST 1010 or Minor/2nd Major Course*	3
Additional Social Science for A&S or Minor/2nd Major Course**	3
Psychology Distribution/Upper-Level/LAB	3
Elective/Minor/Concentration	3
Elective/Minor/Concentration	3

\*A&S College Requirement Options.

\*\*A&S College Requirement Options. Additional SS must come from 3rd discipline.

NOTE: An Advanced Psychology Lab will be required for the Psychology major. Students must have already taken a corresponding lecture, and all core major requirements prior to taking the lab. Students must work closely with their major advisor to plan effectively for this requirement and to discuss the best options for their interests and future plans.

**Credits 15**

### Spring

Additional HFA for A&S or Minor/2nd Major Course*	3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course	3-4
Psychology Distribution/Upper-Level/LAB	3
Elective/Minor/Concentration	3
Elective	1-2

\*A&S College Requirement Option. Additional HFA must come from 3rd discipline.

\*\*A&S College Requirement Options.

NOTE: An Advanced Psychology Lab will be required for the Psychology major. Students must have already taken a corresponding lecture, and all core major requirements prior to taking the lab. Students must work closely with their major advisor to plan effectively for this requirement and to discuss the best options for their interests and future plans.

**Credits 13-15**

**Total Credits 118-120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Psychology, Bachelor of Science

To obtain a B.S. with a major in Psychology, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 12-19 hours college breadth requirement
- 52 hours of major courses
- 3-10 hours of electives

TOTAL HOURS: 120

### Requirements

The psychology major requires 37 psychology credits, 27 credits of which must be upper-division. Additional B.S. requirements include completion of 15 hours of cognate coursework, as detailed below.

Code	Title	Credits
<b>Core Courses</b> <sup>1</sup>		
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II	3
PSYC 2000	CAREER PATHS IN PSYCHOLOGY	1
PSYC 2024	EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY	2
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY	4

### Psychology Distribution Requirements

Select four courses from the Psychology Distribution Areas as outlined below. 12

### Upper-Level Psychology Laboratory Courses

Select one of the following: 3		
PSYC 4024	LABORATORY IN PSYCHOLOGY: LEARNING	
PSYC 4074	LABORATORY IN PSYCHOLOGY: COGNITION	
PSYC 4214	LABORATORY IN PSYCHOLOGY: SENSATION AND PERCEPTION	
PSYC 4234	LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE	
PSYC/BIOL 4280	ANIMAL BEHAVIOR LABORATORY	
PSYC 4544	LABORATORY IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 4644	LABORATORY IN PSYCHOLOGY: SOCIAL/ INDUSTRIAL-ORGANIZATIONAL	
PSYC 4990	SENIOR THESIS <sup>2</sup>	

### Upper-Level Psychology Electives

Two additional 3-credit hour 3000- or 4000-level Psychology courses are required. These may be selected from the Psychology Distribution Requirements, the Labs, or any other 3000- or 4000- level Psychology courses offered. 6

<b>Additional B.S. Requirements (Cognate) Courses listed below.</b>	<b>15</b>
---	-----------

<b>Total Credits</b>	<b>52</b>
----------------------	-----------

- <sup>1</sup> These six courses should be taken early in the student's degree program. Concepts learned in these courses will benefit the student in upper-level Psychology classes.
- <sup>2</sup> PSYC 4990 –Senior Thesis Part II: Data Analysis, Interpretations and Conclusions. Requires special permission from a faculty member and the student must meet the Psychology Senior Thesis criteria.

### Psychology Distribution Areas

Four courses (**12 credit hours**) are required, one course (**3 credit hours**) each from four of the following five areas.

#### Applied Psychology

Code	Title	Credits
PSYC 3510	EDUCATIONAL PSYCHOLOGY	3
PSYC 4020	LEARNING	3
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	3
PSYC 4510	PSYCHOLOGY IN THE SCHOOLS	3
PSYC 4560	FORENSIC PSYCHOLOGY	3
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 4640	PERSONNEL PSYCHOLOGY	3

#### Social/Personality/Developmental Psychology

Code	Title	Credits
PSYC/SOC 3450	SOCIAL PSYCHOLOGY	3
PSYC 3520	CHILD PSYCHOLOGY	3
PSYC 3540	ADOLESCENT PSYCHOLOGY	3
PSYC 4450	PERSONALITY THEORIES	3
PSYC 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3

#### Mental Health

Code	Title	Credits
PSYC 3410	CLINICAL PSYCHOLOGY	3
PSYC 3430	PERSONALITY AND ADJUSTMENT	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
PSYC/GERO 4470	MENTAL HEALTH AND AGING	3
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3

#### Cognitive/Neuroscience

Code	Title	Credits
PSYC 4070	COGNITIVE PSYCHOLOGY	3
PSYC 4090	COGNITIVE NEUROSCIENCE	3
PSYC 4210	SENSATION AND PERCEPTION	3
PSYC 4230	BEHAVIORAL NEUROSCIENCE	3
PSYC/BIOL 4270	ANIMAL BEHAVIOR	3
PSYC/BIOL 4320	HORMONES & BEHAVIOR	3
PSYC 4520	PSYCHOLINGUISTICS	3

#### Additional Perspectives

Code	Title	Credits
PSYC 4010	HISTORY OF PSYCHOLOGY	3
PSYC/PSCI 4110	POLITICAL PSYCHOLOGY	3

PSYC 4150	AFRICAN AMERICAN PSYCHOLOGY	3
PSYC 4250/PHIL 3250	LIMITS OF CONSCIOUSNESS	3
PSYC 4680	POSITIVE PSYCHOLOGY, HEALTH, & WELL-BEING	3
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY <sup>1</sup>	1-6
PSYC 4990	SENIOR THESIS <sup>2</sup>	3
PHIL 3650	PHILOSOPHY OF MIND	3

<sup>1</sup> PSYC 4960 requires special permission from a faculty mentor, approval of the UPC, and a final paper, project or conference presentation.

<sup>2</sup> PSYC 4990–Senior Thesis Part I: Thesis Proposal (**3 credit hours**). Requires special permission from a faculty member and the student must meet the Psychology Senior Thesis criteria.

Code	Title	Credits
------	-------	---------

**Cognate Coursework**

Students pursuing a BS in psychology must complete 15 credit hours of a cognate set of courses. Students will select one of the five cognate sets below. Course selection must include at least three different departments or programs. No more than 6 hours of courses may be at the 1000 level, with the remaining 9 hours taken at the 2000 level or above. Six (6) hours of cognate coursework may double count with General Education requirements. Students may take a minor in place of the cognate under the following circumstances:  
1) Students pursuing Option 1 College Requirements, which requires a minor, must take a second minor to satisfy the cognate requirement; OR 2) Students pursuing Option 2 College Requirements, which require additional general education courses, may add a minor to satisfy the cognate requirement.

**Advocacy, Ethics, Social Justice & Law**

BSAD 3600	BUSINESS ETHICS	
CMST 1110	PUBLIC SPEAKING FUNDS	
CMST 2120	ARGUMENTATION AND DEBATE	
CMST 3120	PERSUASIVE SPEAKING	
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	
CRCJ 3010	PHILOSOPHY OF CRIMINAL JUSTICE	
CRCJ 3310	CRIMINAL LAW	
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 3390	WOMEN, CRIME AND JUSTICE	
GEOG 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
HIST 4340	U.S. CONSTITUTIONAL HISTORY SINCE 1860	
PHIL 1210	CRITICAL REASONING	
PHIL 2030	INTRODUCTION TO ETHICS	
PHIL 3040	PHILOSOPHY OF LAW	
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	
PSCI 2180	INTRODUCTION TO LAW	
PSCI 4140	CONSTITUTIONAL LAW: CIVIL RIGHTS	
PSCI 4190	CONSTITUTIONAL LAW: CIVIL LIBERTIES	
RELU 3460	REAL ESTATE LAW	
SOC 1010	INTRODUCTORY SOCIOLOGY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 4740	SOCIAL JUSTICE AND SOCIAL CHANGE	

Code	Title	Credits
------	-------	---------

**Artistic and Literary Perspectives**

ART 1010	ART APPRECIATION	
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
ART 3870	GENDER & SEXUALITY IN MODERN ART	
BLST 1260	SURVEY OF BLACK LITERATURE	
BLST 2510	MUSIC AND THE BLACK EXPERIENCE	
BLST 2830	CONTEMPORARY NOVEL (EMPHASIS ON BLACK WRITERS)	
ENGL 2110	INTRODUCTION TO CREATIVE NONFICTION WRITING	
ENGL 2280	INTRODUCTION TO LANGUAGE	
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 2450	AMERICAN LITERATURE I	
ENGL 2460	AMERICAN LITERATURE II	
ENGL 3130	AMERICAN NONFICTION	
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
PHIL 3060	VALUES AND VIRTUES	
PHIL 3220	PHILOSOPHY OF ART	
KINS 3110	INTRODUCTION TO DANCE	
RELI 1010	INTRODUCTION TO WORLD RELIGIONS	
RELI 2010	RELIGION AND CRITICAL THOUGHT	
THEA 1050	FILM HISTORY AND APPRECIATION	
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
WRWS 3500	CREATIVE WRITING FOR THE ARTS	

Code	Title	Credits
------	-------	---------

**Global Culture & Diverse Populations**

ART 1040	CROSS-CULTURAL SURVEY OF ART	
BLST 1000	INTRODUCTION TO BLACK STUDIES	
BLST 2420	AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN	
BLST 2430	AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY	
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
CMST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 4750	INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE	
ENGL 2230	ETHNIC LITERATURE	
ENGL 2260	BLACK SHORT STORY	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
ENGL 3280	IRISH LITERATURE I	
ENGL 3290	IRISH LITERATURE II	
EMGT 1150	INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES	
PHHB 4650	GLOBAL HEALTH	
LLS 1000	LATIN AMERICA: AN INTRODUCTION	

LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD
RELI 2020	RELIGION AND HUMAN RIGHTS
SOC 3700	INTRODUCTION TO LGBTQ STUDIES
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.
SOWK 2120	RACE, CLASS AND GENDER IN THE UNITED STATES
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION

Code	Title	Credits
------	-------	---------

### Health and Science Explorations

BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS	
BIOL 1450	BIOLOGY I	
BIOL 1750	BIOLOGY II	
BIOL 2060	ART AND SCIENCE OF MEDICAL DECISION-MAKING	
BIOL 2140	GENETICS	
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	
BIOL 4890	GENES, BRAIN, AND BEHAVIOR	
CMST 3750	GENDER AND COMMUNICATION	
CMST 4220	HEALTH COMMUNICATION	
GERO 2000	INTRODUCTION TO GERONTOLOGY	
GERO 3500	BIOLOGICAL PRINCIPLES OF AGING	
GERO 4550	HEALTH ASPECTS OF AGING	
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	
PHHB 2310	HEALTHFUL LIVING	
PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
PHHB 4880	PUBLIC HEALTH POLICY	
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	

May choose only 1 of the following MATH courses:

MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES
MATH 1940	CALCULUS FOR BIOMEDICINE
MATH 1950	CALCULUS I
NEUR 1520	INTRODUCTION TO NEUROSCIENCE I
NEUR 1540	INTRODUCTION TO NEUROSCIENCE II
PHIL 2300	HUMAN VALUES IN MEDICINE
PHIL 3400	PHILOSOPHY OF NATURAL SCIENCE
PHIL 4220	NEUROETHICS
RELI 2500	SPIRITUALITY AND WELLNESS

Code	Title	Credits
------	-------	---------

### Work Technology & Communication

CMST 2010	INTERPERSONAL COMMUNICATION	
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	
CMST 4220	HEALTH COMMUNICATION	
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	
CSCI 4260	USER EXPERIENCE DESIGN	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
ECON 4340	ECONOMICS OF TECHNOLOGY	
ENGL 3050	WRITING FOR THE WORKPLACE	

ENGL 4830	TECHNICAL COMMUNICATION
MGMT 1500	INTRODUCTION TO BUSINESS
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS
MGMT 4090	PRINCIPLES OF COLLABORATION
MKT 3200	BUSINESS COMMUNICATIONS
MKT 3370	SOCIAL MEDIA MARKETING
SOC 1010	INTRODUCTORY SOCIOLOGY
SOC 3610	APPLIED ORGANIZATIONAL SOCIOLOGY
SOC 3800	WORK AND SOCIETY

## Optional Concentrations

Psychology majors may declare a concentration in any one of the following seven areas. Each concentration is a minimum of 12 credit hours. A concentration is optional, and only one concentration may be declared. The concentration will be noted on the student's transcript.

### Concentration in Cognitive Science

Code	Title	Credits
PSYC 4070	COGNITIVE PSYCHOLOGY	3
or PSYC 4090	COGNITIVE NEUROSCIENCE	
Select three of the following:		9
PSYC 4210	SENSATION AND PERCEPTION	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4250/ PHIL 3250	LIMITS OF CONSCIOUSNESS	
PSYC 4520	PSYCHOLINGUISTICS	
PHIL 3650	PHILOSOPHY OF MIND	
PHIL 4610	PHILOSOPHY OF LANGUAGE	
ENGL 3610	INTRODUCTION TO LINGUISTICS	
<b>Total Credits</b>		<b>12</b>

### Concentration in Developmental Psychology

Code	Title	Credits
PSYC 3520	CHILD PSYCHOLOGY	3
PSYC 3540	ADOLESCENT PSYCHOLOGY	3
Select two of the following:		6
PSYC 2500	LIFESPAN PSYCHOLOGY	
PSYC 3510	EDUCATIONAL PSYCHOLOGY	
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4520	PSYCHOLINGUISTICS	
PSYC 4544	LABORATORY IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Developmental Psychology topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Developmental Psychology topic)	
PSYC 4990	SENIOR THESIS (Developmental Psychology topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Forensic Psychology

Code	Title	Credits
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE	3
PSYC 4560	FORENSIC PSYCHOLOGY	3
Select two of the following:		6

PSYC/SOC 3450	SOCIAL PSYCHOLOGY
PSYC 4440	ABNORMAL PSYCHOLOGY
<hr/>	
<b>Total Credits</b>	<b>12</b>

### Concentration in Industrial/Organizational Psychology

Code	Title	Credits
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 4640	PERSONNEL PSYCHOLOGY	3
Select two of the following:		6
PSYC 3450	SOCIAL PSYCHOLOGY	
PSYC 4070	COGNITIVE PSYCHOLOGY	
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Industrial/Organizational Psychology topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Industrial/Organizational Psychology topic)	
PSYC 4990	SENIOR THESIS (Industrial/Organizational Psychology topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Mental Health

Code	Title	Credits
PSYC 3410	CLINICAL PSYCHOLOGY	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
Select two of the following:		6
PSYC 3430	PERSONALITY AND ADJUSTMENT	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4450	PERSONALITY THEORIES	
PSYC/GERO 4470	MENTAL HEALTH AND AGING	
PSYC 4560	FORENSIC PSYCHOLOGY	
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Mental Health topic)	
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Mental Health topic)	
PSYC 4990	SENIOR THESIS (Mental Health topic)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Neuroscience and Behavior

Code	Title	Credits
Select two of the following:		6
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC/BIOL 4270	ANIMAL BEHAVIOR	
PSYC/BIOL 4320	HORMONES & BEHAVIOR	
Select two of the following not fulfilled above:		6
PSYC 4020	LEARNING	
PSYC 4024	LABORATORY IN PSYCHOLOGY: LEARNING	
PSYC 4090	COGNITIVE NEUROSCIENCE	
PSYC 4210	SENSATION AND PERCEPTION	
PSYC 4230	BEHAVIORAL NEUROSCIENCE	
PSYC 4234	LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE	

PSYC 4250/ PHIL 3250	LIMITS OF CONSCIOUSNESS
PSYC/BIOL 4270	ANIMAL BEHAVIOR
PSYC/BIOL 4280	ANIMAL BEHAVIOR LABORATORY
PSYC/BIOL 4320	HORMONES & BEHAVIOR
PSYC 4440	ABNORMAL PSYCHOLOGY (Neuroscience topic)
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY (Neuroscience topic)
PSYC 4960	INDEPENDENT STUDY IN PSYCHOLOGY (Neuroscience topic)
PSYC 4990	SENIOR THESIS
<b>Total Credits</b>	
<b>12</b>	

### Concentration in School Psychology

Code	Title	Credits
PSYC 3510	EDUCATIONAL PSYCHOLOGY	3
PSYC 4510	PSYCHOLOGY IN THE SCHOOLS	3
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
Select one of the following:		3
PSYC 3410	CLINICAL PSYCHOLOGY	
PSYC 3520	CHILD PSYCHOLOGY	
PSYC 3540	ADOLESCENT PSYCHOLOGY	
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
<b>Total Credits</b>		<b>12</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I (*)	3
or ENGL 1154	or ENGLISH COMPOSITION I	
U.S. OR Global Diversity/Humanities & Fine Arts		3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I (**)	3
Social Sciences		3
Psychology Cognate Course***		3
*ENGL 1150: requires appropriate placement		
**PSYC 1010 counts as a Social Science and Major requirement		
***Please see cognate course options listed in the catalog		

### Spring

ENGL 1160 or	ENGLISH COMPOSITION II (*) or EXERCISE FOR SPECIAL POPULATIONS	3
MATH 1120 or STAT 1530 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (**) or ELEMENTARY STATISTICS or COLLEGE ALGEBRA	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II (***)	3
PSYC 2000	CAREER PATHS IN PSYCHOLOGY (^)	1
PSYC 2024	EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY (#)	2
Psychology Cognate~		3
*ENGL 1160: requires ENGL 1150 with grade of C- or better or placement		
**MATH 1220 and STAT 1530 require appropriate placement		
**PSYC 1020: requires PSYC 1010. Recommended to take PSYC 2024 concurrently		

^PSYC 2000: requires PSYC 1010

#PSYC 2024: requires PSYC 1010, required prior to or concurrent with PSYC 3130. Recommended to take concurrently with PSYC 1020.

~Please see cognate course options listed in the catalog

<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Humanities & Fine Arts		3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES (*)	3
Natural & Physical Sciences/LAB		4
Psychology Cognate		3
*PSYC 3130: requires MATH 1120 or MATH 1220 or STAT 1530. Also requires PSYC 2024 prior to or concurrent with PSYC 3130		
***Please see cognate course options listed in the catalog		

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
Natural & Physical Sciences*		3
U.S. OR Global Diversity/Social Sciences**		3
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY (#)	4
Psychology Distribution/Upper-Level		3
Psychology Cognate***		3
*NPS must come from 2nd discipline		
**Students need one U.S. Diversity course and one Global Diversity course. Take the one you haven't yet fulfilled. SS must be from a 2nd discipline.		
#PSYC 3140: requires PSYC 2000 and PSYC 3130 and ENGL 1160.		
***Please see cognate course options listed in the catalog		

<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
Humanities & Fine Arts*		3
Psychology Distribution/Upper-Level		3
Psychology Distribution/Upper-Level		3
HIST 1000 or Minor/2nd Major Course**		3
Psychology Cognate***		3
*HFA must come from 2nd discipline		
**A&S College Requirement Options		
***Please see cognate course options listed in the catalog		

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Additional Social Science for A&S or Minor/2nd Major Course*		3
Psychology Distribution/Upper-Level		3
Psychology Distribution/Upper-Level		3
HIST 1010 or Minor/2nd Major Course**		3
Elective/Minor/Concentration		3
*A&S College Requirement. Additional SS must come from 3rd discipline		
**A&S College Requirement Options		
<b>Credits</b>		<b>15</b>

## Senior

### Fall

Psychology Distribution/Upper-Level/LAB	3
Additional HFA for A&S or Minor/2nd Major Course*	3
Elective/Minor/Concentration	3
Elective/Minor/Concentration	3
Elective/Minor/Concentration	3

\*A&S College Requirement Options. Additional HFA must come from 3rd discipline.

NOTE: An Advanced Psychology Lab will be required for the Psychology major. Students must have already taken a corresponding lecture, and all core major requirements prior to taking the lab. Students must work closely with their major advisor to plan effectively for this requirement and to discuss the best options for their interests future plans.

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
Additional Natural Science with Lab for A&S or Minor/2nd Major Course*	3-4	
Psychology Distribution/Upper-Level/LAB	3	
Elective/Minor/Concentration	3	
Elective/Minor/Concentration	3	
Elective/Minor/Concentration	1-3	
*A&S College Requirement Options		

NOTE: An Advanced Psychology Lab will be required for the Psychology major. Students must have already taken a corresponding lecture, and all core major requirements prior to taking the lab. Students must work closely with their major advisor to plan effectively for this requirement and to discuss the best options for their interests future plans.

<b>Credits</b>		<b>13-16</b>
<b>Total Credits</b>		<b>120-123</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

# Psychology Minor

## Requirements

An undergraduate minor in psychology may be earned by completing the following:

Code	Title	Credits
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Select 12 hours of upper division (3000 or 4000 level)		12
Psychology courses.		
<b>Total Credits</b>		<b>15</b>

A grade of "C-" or better must be earned in all courses submitted for a minor in Psychology.

## Religious Studies

"Religious studies" introduces students both to the academic study of religion and spirituality and also to the variety of religious traditions around the world (e.g., Hinduism and Buddhism; Judaism, Christianity, and Islam; Chinese religious traditions; indigenous religious traditions in North America and in Africa; atheism and agnosticism, pagan and other nature-based traditions). In addition, students with a particular thematic interest may pursue the study of "religion and film," "spirituality and wellness," and/or "religion and human rights." Because religion is deeply implicated in history, culture, politics, literature, and medicine the study of religion is critical to understanding and explaining complex global issues in both the past and the present. One does not have to be "religious" or "spiritual" to study religion, nor is the study of religion directed toward establishing the truth of one religion over another.

To major in religion (i.e., religious studies) means to engage some of the most profound questions people ask themselves: What does it mean to be human? How are we part of a world of animals and plants, water and earth? What are our responsibilities to other persons and the earth? How do we decide? Is there a world of invisible agents (e.g., ancestors, spirits, gods, and God) or ultimate meaning and value? If so, what difference does it make? With these questions in mind, we pursue the academic study of religion and spirituality from a variety of theoretical and methodological perspectives, including anthropology, archaeology, cognitive sciences, fine arts, history, philosophy, psychology, sociology, and textual analysis.

Because religious studies is an interdisciplinary field of study, students may use the major in religion in many different ways: as preparation for graduate school; as a stand-alone or second major in a program of study leading to a career in business, healthcare, public service, social services, or teaching; or, simply and most profoundly, to enrich personal knowledge and skills and understanding of others.

Consistent with this interdisciplinary emphasis, religious studies faculty teach courses supporting a variety of major and minor programs, including Ancient Mediterranean Studies, International Studies, Islamic Studies, Medieval and Renaissance Studies, Latino/a Latin American Studies, Native American Studies, Women's and Gender Studies, Medical Humanities, and Human Rights Studies.

Underlying the practical applications in different fields and professions, the basic intellectual purpose of religious studies is to develop an appreciation for, an understanding of, and a critical insight into the rich variety of the world's religious and spiritual traditions in the complex global realities (cultural, social, economic, political, and environmental) of the twenty-first century.

## Other Information

All coursework taken for the Religion major or minor must be completed with a grade of "C-" or better.

## Online Option

The Religion major and minor are both flexible programs, offering students the option to earn either while taking courses in-person on UNO's campus, entirely online, or as a combination of the two.

## Contact

205 Arts and Sciences Hall  
402.554.2628

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/religion/>)

## Degrees Offered

- Religion, Bachelor of Arts (p. 325)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Religion major, this is the "Senior Seminar in Religion" (REL 4010) course.

## Minors Offered

- Religion Minor (p. 326)

Religious Studies majors graduate with valuable knowledge and skills, including opportunities to gain experience through service learning classes and internships. A major in Religious Studies at UNO cultivates skills that employers say are particularly important: written and verbal communication, problem-solving, teamwork, and leadership. In diverse professional roles, Religious Studies alums find their knowledge of religious, spiritual, and other cultural traditions extremely helpful in their ability to communicate clearly and respectfully with diverse coworkers, managers, patients, clients, family, and friends.

These advantages can propel students into a number of different careers:

- business
- counseling
- education
- healthcare
- public service
- social services
- writer and/or poet.

UNO Religious Studies graduates may move into masters and doctoral level work in any one of many different fields (e.g., history, political science, sociology/anthropology, social work, etc.). The majority of our graduates have taken their knowledge and experience into a spectrum of careers and professions. Some of these careers currently pursued by graduates, and other former students, of Religious Studies at UNO include:

- accountant
- business owner
- chaplain
- farmer
- musician
- librarian
- non-profit administrator
- physician
- poet and writer
- and university professor

## REL 1000 TOPICS IN RELIGION AND SPIRITUALITY (1 credit)

As a first year topics course, the main purpose is to introduce students to some aspect of the academic study of religion and spirituality. The specific topics will vary considerably; however, the objectives include training students in study methods generally and how to study religion as a scholarly subject in particular.

**RELI 1010 INTRODUCTION TO WORLD RELIGIONS (3 credits)**

A introductory course in religious studies, designed both to introduce students to ways of understanding religion as a phenomenon in human culture and history and also to survey a wide variety of the religions of the world.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 1050 FIRST YEAR SEMINAR IN RELIGION (3 credits)**

The purpose of this course is to introduce students to a particular topic in the study of religion. Although the topic for this course will vary from semester to semester, students will be expected to read, to write, and to discuss the assigned texts and the ideas they contain. Students will learn basic skills in reading academic literature, writing about significant issues, and speaking articulately about the questions and issues. These skills will be helpful in other university and professional work.

**RELI 2000 ARCHAEOLOGY OF BIBLICAL LANDS (3 credits)**

This course introduces students to the purpose and methods of biblical archaeology and includes a survey of the material culture of the land of the Bible from the Chalcolithic (5th - 4th millennia BCE) to the Persian periods (4th century BCE). Special emphasis will be placed on the relationship between biblical narratives and the archaeological reconstruction of ancient social and natural environments.

**RELI 2010 RELIGION AND CRITICAL THOUGHT (3 credits)**

This class introduces students to critical approaches to the study of religion. Students are exposed to a variety of social scientific, scientific, philosophical, indigenous, and critical literary approaches to the study of wide-ranging religious beliefs and practices. The course is required for majors and recommended for minors in Religion as well as others with high interest in the field of Religious Studies.

**Prerequisite(s)/Corequisite(s):** 3 hours in Religion or permission of instructor.

**RELI 2020 RELIGION AND HUMAN RIGHTS (3 credits)**

This course introduces students to the intersection of religion and human rights. It takes human rights as a moral tradition and asks how it impacts and is impacted by religious moral thought.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2060 THE RELIGION OF ANCIENT EGYPT AND MESOPOTAMIA (3 credits)**

This course is designed to familiarize the student with the religions of ancient Egypt and Mesopotamia. The course will use archaeological discoveries together with ancient Egyptian and Mesopotamian texts to explore the religions of these two civilizations. It will deal with Mesopotamian and Egyptian beliefs surrounding issues such as creation, afterlife, ethics, morality and rituals.

**Prerequisite(s)/Corequisite(s):** Intro to World Religion is recommended but not necessary.

**RELI 2120 HINDU SCRIPTURES (3 credits)**

An introduction to some of the foundational scriptures of Hinduism (Sanatana Dharma) from traditional and modern perspectives, including the Vedas, the Upanishads, and the Bhagavad-Gita.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 2150 HEBREW SCRIPTURES (3 credits)**

A historical introduction to the study of the Hebrew Scriptures from the Biblical to Talmudic period in the light of recent scholarship.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 2160 NEW TESTAMENT: HISTORY, LITERATURE, AND SOCIETY (3 credits)**

Who were Jesus, Peter, Mary, and Paul in the Roman empire of the early first century? How did these Jews of the Second Temple Period become the earliest generation of a 2,000 year history of Christianity? How did early Christian understandings of God and humanity shape or constrain their interpretations of and responses to affliction, healing, and death, both conceptually and in practice? Finding answers to these questions requires students to study the literature of the New Testament and other early Christian literature, along with scholarly analyses of key issues related to authorship, dating, textual analysis, literary genres, historical contexts, and varying interpretations. The purpose of the course is to train students in the content of the texts as well as critical tools related to documentary analysis, archaeological methods, and various literary and social scientific approaches, interdisciplinary tools which also enhance one's skills in a variety of careers and professions.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2170 QUR'AN (3 credits)**

This course provides an introduction to the academic study of the Qur'an, its uses, interpretations, and applications in society from its earliest appearance up to the present.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 2190 THE MODERN MIDDLE EAST (3 credits)**

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with HIST 2190, SOC 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2200 GLOBAL RELIGIOUS ETHICS: THE BASICS (3 credits)**

An introduction to the main types of ethical thought in religious traditions worldwide. The course will consider both historical and contemporary approaches and will relate ideas and practices of religious ethics to contemporary moral problems.

**RELI 2400 RELIGION IN AMERICA (3 credits)**

The role of religion in American culture, seen in the interaction between the inherited religious traditions and the crucial events in American experience and how this affects American identity - past and present.

**Prerequisite(s)/Corequisite(s):** Sophomore or permission of instructor.

**RELI 2500 SPIRITUALITY AND WELLNESS (3 credits)**

This course provides an introduction to the emerging field of spirituality and wellness. Utilizing perspectives from multiple disciplines and incorporating both third-person (research, theory) and first-person (experiential, reflective) approaches, students will explore topics such as: the nature of spirituality; mindfulness, meditation and wellness; spirituality and public health; spiritual wellness on campuses; and ecospirituality.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 3020 NATIVE AMERICAN RELIGIONS (3 credits)**

This course examines the life-ways, oral narratives, ceremonies, and philosophies of selected Native American tribal nations and communities from the major cultural regions of North America, utilizing historical, anthropological, and literary approaches. No single Native spiritual tradition or culture represents all Native North American beliefs and customs. Thus, attention will be given both to similarities among different tribal groups, and also the great diversity among the hundreds of indigenous ways of life on the North American continent, both ancient and modern. Particular topics addressed include the following: healing traditions and maintaining personal and communal balance, pilgrimages to sacred sites, and, critically, Native American creation stories inform the manner in which Native communities approach the natural world, including plants and animals as "other-than-human" persons.

**RELI 3030 SHAMANISM (3 credits)**

Study of the forms and techniques of shamanic experience from its Paleolithic and Neolithic origins to its contemporary practice among indigenous peoples, including its role in the development of human religious traditions and systems of healing.

**RELI 3050 RELIGIONS OF THE EAST (3 credits)**

A study of the major religions that originate in South, Southeast, and East Asia, considering their origins, foundational doctrines, practices, beliefs, rituals and contemporary expressions. Included are the religions of Hinduism, Buddhism, Jainism, Sikhism, Daoism, Confucianism and Shintoism. Knowledge of the religious and spiritual traditions of South, Southeast, and East Asia will help students who intend to travel or work in those regions or who may have friends and colleagues from those regions of the world. A broad grasp of these critical cultural traditions will enhance international, cross-cultural understanding for any career or professional track.

**RELI 3060 RELIGIONS OF THE WEST (3 credits)**

A study of Judaism, Christianity and Islam, with an introduction to their ancient predecessors.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3130 WOMEN AND THE BIBLE (3 credits)**

This course explores the characterization of women in Hebrew and Christian scriptures as well as what we can learn about the lives of women in the ancient world from these and other sources. Attention is also given to the reception and use of these texts in later historical periods including contemporary religious contexts. (Cross-listed with WGST 3120).

**RELI 3180 MODERN CHRISTIAN THOUGHT (3 credits)**

The history of Christian thought from the Enlightenment to Vatican II.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3200 ISLAM AND MUSLIMS (3 credits)**

What do Muslims believe? How do they practice their faith? What role does Islam and what roles do Muslims play in the 21st century? This course provides an introduction to the history, beliefs, and practices of Islam and Muslim communities, including both Sunni and Shi'i traditions, Sufis and Salafis, from the time of Muhammad ibn Abdullah to the 21st century. Students will examine the ways in which we come to 'know' about Islam and how to approach mediated sources with a critical lens. Thus, in addition to highlighting the many important cultural, scientific, medical, artistic, and architectural contributions of Muslim societies throughout the past millennium, critical contemporary issues will also be addressed, including the role of women in Islam, the meaning of jihad, the legal traditions (shari'a and fiqh), the relationship between religion and politics in Islam, and issues of law, gender, myth, violence, colonialism, modernity, and Islamophobia.

**RELI 3330 ROMAN CATHOLIC THEOLOGY TODAY (3 credits)**

An investigation of differences and developments in Roman Catholic theology in last decades of the 20th century, with consideration of the bases in the tradition for the progressive and conservative theologies of today.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3400 RELIGION AND FILM (3 credits)**

This course will examine the various ways in which religion and film connect, including the representations of religious groups in films, ways in which films replicate or alter religious concepts, and ways in which film as an aspect of popular culture functions analogously to religions in society. Methods used will include the analysis of film technique, auteur criticism, and audience reception analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 3500 SPECIAL TOPICS IN RELIGION (3 credits)**

The content of this course varies from semester to semester, giving instructor and students an opportunity to investigate various subjects of interest in religious studies. (May be repeated for credit as long as the topic is different.)

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3960 READINGS IN RELIGION (1-6 credits)**

Individual research in selected areas or particular questions in religious studies.

**Prerequisite(s)/Corequisite(s):** Nine hours in religion and permission of instructor.

**RELI 4000 RELIGIOUS STUDIES INTERNSHIP (1-6 credits)**

A supervised internship enabling students to develop and apply knowledge and gain expertise related to the field of Religious Studies while working at a non-profit, educational, non-governmental or related organization. The host organization for the student must be approved in advance in consultation with the internship coordinator and the Chair of Religious Studies. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Junior or senior. Religious Studies major, Religious Studies minor, or concentration in Religious Studies. Permission of internship coordinator. Not open to non-degree graduate students.

**RELI 4010 SENIOR SEMINAR IN RELIGION (3 credits)**

This course provides a capstone experience in religious studies. It serves as the third writing course and is required for Religious Studies majors. The readings will deepen students' understanding of the field of Religious Studies and how it relates to social concerns, as well as guide students through developing a research project. Students will present research both in writing and verbally, in ways that address scholarship in Religious Studies and that are accessible to a general audience. Student will also have opportunities to reflect on experiential learning and career goals.

**Prerequisite(s)/Corequisite(s):** Five courses in Religion, or permission of instructor.

**RELI 4020 BUDDHIST TRADITIONS (3 credits)**

This course is an exploration of Buddhist history, thought and practices. It begins with the origins, cultural context, and development of Buddhism in South Asia and then traces the path of Buddhism through Southeast Asia, Tibet, China, Korea, Japan and North America.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**RELI 4030 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 8036, BLST 8036, BLST 4030).

**RELI 4050 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 4010; HIST 8016).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Not open to non-degree graduate students.

**RELI 4150 JUDAISM IN THE MODERN AGE (3 credits)**

A critical investigation of Judaism since the Enlightenment emphasizing historical, intellectual and religious-legal developments. Pivotal movements (e.g., Hassidism, Reform, Historical Conservative Judaism, Modern Orthodoxy, Zionism) and major historical events (e.g., the American and French Revolutions, Tsarist oppression, the Holocaust and the establishment of the State of Israel) will be analyzed for their ongoing impact. (Cross-listed with RELI 8156)

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 4160 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with RELI 8166, HIST 4720, HIST 8726)

**Prerequisite(s)/Corequisite(s):** Junior or instructor permission.

**RELI 4170 HISTORY OF CHRISTIANITY I (3 credits)**

The development of Christian theological, ritual, and social practice from the beginnings of Christianity through the Reformation. History of Christianity from its origins in the first century through the sixteenth century movements for reform. (Cross-listed with RELI 8176).

**RELI 4200 COMPARATIVE RELIGIOUS ETHICS (3 credits)**

An introduction to historical and contemporary approaches to comparative religious ethics, with special focus on specific case studies as encountered in societies and religious communities across the globe. In addition to reading authors from a variety of perspectives (Aristotelians, natural law theorists, philosophers of law, pragmatists, theologians, and historians of religion), students will be introduced to special topics in the field, e.g., religion and public life, religion and law, syncretism, the secular/non-secular divide, etc. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 8206, CACT 8206)

**RELI 4220 VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION (3 credits)**

This course is designed to familiarize the student with the nature of violent conflict, including terrorism, and a variety of the mechanisms for peacebuilding. The course will also explore human rights and the ethics of intervention. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 8226, CACT 8226)

**RELI 4250 WAR, RELIGION, AND HUMAN RIGHTS (3 credits)**

What is the connection between human rights, religion, conflict, and peacebuilding? Does religion cause war or help to stop it? How can human rights violations be prevented or stopped, and can religious actors be engaged in this work? Is the use of force ever appropriate to protect human rights? This course engages all of these questions by examining the ethical thought of multiple religious traditions; the work of human rights organizations; the just war tradition; and questions about sovereignty, peacebuilding, and the use of force worldwide. It includes discussion of historical issues and contemporary case studies. (Cross-listed with RELI 8256).

**RELI 4260 THE END OF THE WORLD: RELIGION AND APOCALYPSE (3 credits)**

This course introduces students to sacred texts and their interpretation by "end of the world" groups across world history. Several ancient, medieval, and contemporary groups are discussed. Special attention is paid to the connections between apocalyptic and political movements, as well as religion and violence. (Cross-listed with RELI 8266).

**RELI 4400 WOMEN IN ISLAM (3 credits)**

This course examines the religious, political and cultural assignments ascribed to Muslim women. Starting with the Qur'an, social, legal, and scriptural norms will be explored through the voices of Muslim women around the world. Passages of the Qur'an, hadiths and the commentaries that lead to the elevation and/ or demise of Muslim women and their rights are studied. Examining the role of the female body, sexuality and seclusion within a historical context will lead to an understanding of the gendering of women in Islam. (Cross-listed with RELI 8406)

**Prerequisite(s)/Corequisite(s):** RELI 3200

**RELI 4420 MUSLIMS IN AMERICA (3 credits)**

This course is designed to familiarize the student with the multiplicity of Muslim voices in the United States and to examine the myths created through stereotyping and orienting. The course will also investigate how Muslims in America form identities as hybrids and transnationals and follows the chronological development of American Muslims including their identity construction, religious issues, and politics. (Cross-listed with RELI 8426)

**Prerequisite(s)/Corequisite(s):** RELI 3200 or permission.

**RELI 4500 ANCIENT ISRAEL (3 credits)**

Who were the Israelites? Where did they come from? This is one of the most debated topics in biblical studies. This course examines biblical texts, historical documents, archaeological discoveries, and sociological studies.

**RELI 4550 JESUS IN FILM (3 credits)**

This course is a study of how the life of Jesus of Nazareth has been portrayed in cinema over the past century. Emphasis will be placed upon knowledge of the principal written sources (the canonical gospels), how films emphasize certain themes and offer their own interpretations, the motives or intentions of the actors, and the reception by audiences of some of the main portrayals of Jesus in film. (Cross-listed with RELI 8556).

**RELI 4600 WOMEN AND RELIGION (3 credits)**

This course on women and religion will focus on the intersections of power and oppression that women experience in four of the major world religions - Judaism, Christianity, Buddhism, and Islam. Students will examine the historical, cultural and religious contexts that highlight women's involvement or exclusion from activity and power within each religion. Students will research case studies from around the world to examine tensions within and between religious and secular societies through the lens of gender. (Cross-listed with RELI 8606).

**RELI 4830 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 8836, HIST 4830, RELI 8836).

**RELI 4850 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 8856, HIST 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

# Religion, Bachelor of Arts

To obtain a B.A. with a major in Religious Studies, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign languages
- 12-19 hours college breadth requirement
- 30 hours of major courses
- 6-16 hours of electives

TOTAL HOURS: 120

## Requirements

A Bachelor of Arts in religion consists of a minimum of 30 credit hours in the field, of which at least 18 hours must be in upper division (3000-4000 level) courses.

The B.A. degree requires completion of a **foreign language** through the intermediate level.

Code	Title	Credits
<b>Required Courses</b>		
RELI 1010	INTRODUCTION TO WORLD RELIGIONS	3
Select one course about scriptural traditions in the following range: (RELI 2100 - RELI 2189).		3
RELI 2010	RELIGION AND CRITICAL THOUGHT	3
RELI 4010	SENIOR SEMINAR IN RELIGION	3
<b>Electives</b>		
Remaining hours in religion shall be elected by students in accordance with their interests.		18
<b>Total Credits</b>		<b>30</b>

At least 18 hours of religion courses must be taken at the 3000 and 4000 levels.

### Freshman

Fall	Credits
Foreign Language Course I*	5
MATH 1220 COLLEGE ALGEBRA (**) or MATH 1120 or MATH 1130 or STAT 1100 or STAT 1530	3
ENGL 1150 ENGLISH COMPOSITION I (***)	3
RELI 1010 INTRODUCTION TO WORLD RELIGIONS (#)	3

\*Level 1110 foreign language courses count as a Humanity/ Fine Arts course and toward the BA requirement. If student is satisfying the BA requirement in an alternate way, then 16 credits will need to be added, with a Humanity/Fine Arts course included, in this plan.

\*\*MATH 1220 and STAT 1530 require appropriate placement.

\*\*\*ENGL 1150: Appropriate English placement required.

#RELI 1010 satisfies a Humanity/Fine Arts course and Global Diversity requirement, while also counting toward the Religion major.

**Credits 14**

### Spring

Foreign Language Course II	5
CMST 1110 PUBLIC SPEAKING FUNDS or CMST 2120 or ARGUMENTATION AND DEBATE	3
Scriptural Traditions Course RELI 2100-2189*	3
ENGL 1160 ENGLISH COMPOSITION II (**)	3
*May not be offered every semester. Offered most regularly in Summer and Fall.	
**ENGL 1160: requires ENGL 1150 with grade of C- or better or placement.	

**Credits 14**

### Sophomore

Fall	Credits
RELI 2010 RELIGION AND CRITICAL THOUGHT (*)	3
Foreign Language Course III	3
Social Science	3
Natural/Physical Science Gen Ed with Lab	4
Humanities/Fine Arts course	3
*RELI 2010: Requires 3 credit hours in RELI courses or permission. May not be offered every semester. Offered most regularly in Summer and Fall.	

**Credits 16**

### Spring

Foreign Language Course IV	3
Natural/Physical Science*	3
HIST 1000 or Minor/2nd Major Course**	3
Additional QL course or Minor/2nd Major course***	3
Social Science Gen Ed	3
*Natural/Physical Science must be in a 2nd discipline.	
**A&S College Requirement Options	
***A&S College Requirement Options	

**Credits 15**

### Junior

Fall	Credits
HIST 1010 or Minor/2nd Major course*	3
Additional Natural Science with Lab for A&S or Minor/2nd Major course*	3-4
Additional Humanities/Fine Arts course for A&S or course for Minor/2nd Major**	3
Social Science Gen Ed# – Add U.S. Diversity	3
RELI course 3000-4000 Level	3
*A&S College Requirement Option.	
**A&S College Requirement Options. Additional Humanities/ Fine Arts course must be in a 3rd discipline.	
#SS must come from 2nd discipline.	

**Credits 15-16**

### Spring

RELI course 3000-4000 Level	3
RELI course 3000-4000 Level	3
Additional Social Science for A&S or Minor/2nd Major course*	3
Elective**	3
Elective	3

\*A&S College Requirement Options. Additional SS must be in a 3rd discipline.

**\*\*Students need 27 upper level credits throughout the degree with at least 18 upper level credits within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.**

<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
RELI course 3000-4000 Level		3
RELI course 3000-4000 Level		3
Elective/Minor/2nd Major Course		3
Elective/Minor/2nd Major Course		3
Elective**		3
<b>**Students need 27 upper level credits throughout the degree with at least 18 upper level credits within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.</b>		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
RELI 4010	SENIOR SEMINAR IN RELIGION	3
RELI course 3000-4000 Level		3
Elective**		3
Elective		3
Elective		3
<b>*RELI 4010: Requires 15 credit hours in RELI courses.</b>		
<b>**Students need 27 upper level credits throughout the degree with at least 18 upper level credits within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.</b>		
<b>120 credits minimally needed for a degree. Take as many electives as is needed to reach this minimum, while considering whether those credits can be best used toward a minor or 2nd major.</b>		
<b>NOTE: 120 minimum credits are required for a bachelor's degree.</b>		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>119-120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### **Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

**GPA Requirements: 2.0**

## Religion Minor

### Requirements

An undergraduate minor in religion will consist of at least 15 hours in religion, of which at least nine must be upper division (3000-level or above). RELI 1010 is strongly recommended for the minor in religion.

The religion minor may be earned on campus or entirely online.

## Sociology & Anthropology

Sociology and Anthropology are the broadest of the social sciences. Sociology is the scientific study of human relationships. Sociologists seek to understand the ways that often unseen social forces shape our lives. Anthropology is the holistic study of human biology and culture across time and place. Anthropologists typically work within one of four sub-disciplines: archaeology, biological anthropology, linguistic anthropology, and socio-cultural anthropology.

These disciplines are particularly useful to graduates entering the 21st century labor force. Our rapidly changing and increasingly diverse world offers both opportunities and monumental challenges. Sociology and Anthropology give students the analytical skills to understand such challenges and the tools to improve our society at all levels – from the neighborhood to the world community.

### Other Information

All coursework taken for the Sociology major, minor, and Anthropology minor must be completed with a grade of "C" or better.

UNO Sociology Club – open to all students interested in discussing all things sociological!

UNO Student Anthropology Society – bring yourself, your lunch, and your interest in Anthropology!

Alpha Kappa Delta (AKD) – the Alpha Chapter of Nebraska of the International Sociological Honor Society for students who meet certain academic requirements.

For more information visit our Student Organizations (<https://www.unomaha.edu/college-of-arts-and-sciences/sociology-and-anthropology/student-opportunities/student-organizations.php>) page.

### Option for Degree Completion Fast Track Program

The Department of Sociology & Anthropology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing a Sociology BA/BS major who desire to pursue a Sociology MA degree.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0 and a GPA of 3.3 in SOC and ANTH courses.
- Students must complete the Fast Track Approval form, obtain all signatures, and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.

- ANTH 1050, SOC 1010, SOC 2120, SOC 2130, SOC 2134 should be completed before enrolling in the first graduate course.
- SOC 3510 and SOC 3514 should be taken before or concurrently with enrollment in the first graduate course.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status, including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Contact

383 Arts and Sciences Hall  
402.554.2626

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/sociology-and-anthropology/>)

## Degrees Offered

- Sociology, Bachelor of Arts (p. 332)
- Sociology, Bachelor of Science (p. 335)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the sociology major this is SOC 4900.

## Bachelor of Arts (BA) and Bachelor of Science (BS) in Sociology

Students are required to complete 33 hours of coursework for the Sociology BA or BS degree: 21 hours of core required courses and 12 hours of additional sociology or anthropology courses. The department offers five optional concentrations that fulfill the 12 hours of additional coursework: anthropology, families and inequality, health and society, inequality and social justice, and work and organizations.

Students in the BA degree program are required to complete foreign language through the intermediate level.

Students in the BS degree program are required to complete 15 hours of cognate coursework, a field of specialization outside of sociology based on their interests and/or career aspirations. Cognates are designed by the student in consultation with the undergraduate adviser.

## Online option

The Sociology BA/BS is available on campus or entirely online. Earning a concentration is not required, but online majors do have the option to select the health and society concentration.

## Minors Offered

- Sociology Minor (p. 338)
- Anthropology Minor (p. 338)

Both the sociology and anthropology minors are available on campus or entirely online.

Sociology is the scientific study of social life that reveals the ways that often unseen social forces shape our lives. Anthropology is the holistic study of human biology and culture across time and place. At a fundamental

level, both sociology and anthropology invite us to break through our common sense ideas about the world, allowing us to better understand and potentially improve society. Students who study sociology and anthropology will gain a distinct perspective on social inequality, patterns of behavior, forces for social change and resistance, and how social systems work.

Sociology majors learn the analytical skills needed to understand the challenges of a rapidly changing and increasingly diverse world. And they graduate with the tools to improve our societies at all levels – from the neighborhood to the global community. That's because a degree in sociology provides students with a well-rounded liberal arts education that emphasizes critical thinking, decision-making skills, and the ability to make connections across disciplines, leading to potential careers in:

- Family and Social Services Program Support
- Business Management and Leadership
- Marketing Analysis and Research
- Survey Research
- Health and Human Services
- Health Care Administration
- Nonprofit Organizational Administration
- Criminal Justice

## Sociology

### SOC 1010 INTRODUCTORY SOCIOLOGY (3 credits)

An introduction to the study of human societies. The course presents the fundamental concepts and theories that make up the sociological perspective. These serve as tools for the analysis of social inequality, social institutions and social change.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### SOC 2100 SOCIAL PROBLEMS (3 credits)

An analysis of the origins of social problems in American society. Attention is given to the nature, consequences and solutions of selected social problems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### SOC 2120 SOCIOLOGICAL THEORY (3 credits)

SOC 2120 is an intellectual history of sociology as an academic discipline surveying outstanding contributions to its body of theory. The social contexts in which a variety of classical and contemporary theoretical traditions have arisen will be considered. Stress is placed on understanding and applying different approaches to sociological analysis through detailed textual interpretation of theoretical writings.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Sociology major or permission of instructor. Not open to non-degree graduate students.

### SOC 2130 SOCIAL STATISTICS (3 credits)

An introduction to the fundamental statistical techniques used in the analysis of social data, including descriptive and inferential statistics. The focus is on the production and interpretation of statistical information in the study of social life.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1220, MATH 1310, or MATH 1530 or permission of instructor.

**SOC 2134 SOCIAL STATISTICS LAB (1 credit)**

A computer-based laboratory course to be taken in conjunction with SOC 2130. The focus is on using computer software to produce and interpret statistical information in the study of social life.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1220, MATH 1310, or MATH 1530 and SOC 2130 (taken previously or concurrently) or permission of instructor. Not open to non-degree graduate students.

**SOC 2150 SOCIOLOGY OF FAMILIES (3 credits)**

This course provides a description and analysis of contemporary families from a sociological perspective. A life course perspective traces the development of family life, with special attention to change, choice, and diversity. Topics such as family structure, the functions of the family as an institution, family comparisons across culture and time, and difficulties faced by families in contemporary society will also be explored.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**SOC 2190 THE MODERN MIDDLE EAST (3 credits)**

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with RELI 2190, HIST 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**SOC 2300 SPORT & SOCIETY (3 credits)**

This course provides a sociological examination of the contemporary sports world and the ways that the institution of sport both reflects and shapes society. The importance of sports to culture and socialization, the interaction between sports and other social institutions, and the unique role that sports plays in both perpetuating and contesting inequalities of race, gender, class, identity, and ability will be explored.

**Distribution:** Social Science General Education course

**SOC 2400 SOCIOLOGY ON FILM (3 credits)**

This course applies the sociological perspective to feature and documentary movies to critically explore social issues presented on film. Students will develop their sociological imaginations as they are introduced to essential sociological concepts such as culture, society, the social construction of reality, socialization, power and inequality, social institutions, and social problems as depicted in classic, contemporary, and foreign film. As social issues are serious and often controversial, the films examined may also be controversial and contain mature themes.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**SOC 2800 MAJOR SOCIAL ISSUES (3 credits)**

The course examines a major social issue from a sociological perspective with content and materials designed for non-majors. The topics will vary from semester to semester, so the course can be taken more than once.

**SOC 3300 SOCIOLOGY OF GENDER (3 credits)**

This course critically examines the meaning, purpose, and consequences of gender, by using sociological methods and theories to explore the institutions that structure gender relationships and identities, and form the contexts that shape social life in the United States. Particular attention will be given to how social institutions like the state, the economy, family and the mass media shape the definitions of femininity and masculinity, as well as how the gender system intersects with other structures of inequality - race, class, and sexual orientation.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3450 SOCIAL PSYCHOLOGY (3 credits)**

Social interaction studied in situations of (1) social influences on individuals, (2) dyads or face-to-face groups, and (3) larger social systems. The concepts, theories, data, research methods and applications of varied substantive topics are examined. (Cross-listed with PSYC 3450).

**Prerequisite(s)/Corequisite(s):** SOC 1010 or PSYC 1010

**SOC 3510 RESEARCH METHODS (3 credits)**

This course is a basic introduction to the principles, methods and techniques of empirical social research. The common methods used by sociologists and anthropologists are addressed such as surveys, interviews, and observation.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor

**SOC 3514 RESEARCH METHODS LAB (1 credit)**

This is a laboratory course to be taken in conjunction with SOC 3510. The focus is on applying methodology and basic data analysis learned in SOC 3510 and the development of a sociological research proposal.

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing, and SOC 3510 (taken previously or concurrently); or permission of instructor.

**SOC 3610 APPLIED ORGANIZATIONAL SOCIOLOGY (3 credits)**

A foundational applied organizational sociology course that focuses on the understanding, analysis, and applications of basic knowledge of organizational structures and systems for solving organizational problems, enhancing organizational performance, and preparing students for leadership roles in organizations.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3690 SOCIAL INEQUALITY (3 credits)**

Considers social inequality from a sociological vantage point, introducing students to the structure of inequality, power, and privilege. Attention is paid to the intersections of various forms of inequality, including an examination of class, race, ethnicity, gender, sexuality and sexual orientation, immigration, age, ability, etc. The consequences of social inequality for life chances and social mobility are examined.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3700 INTRODUCTION TO LGBTQ STUDIES (3 credits)**

Introduces key themes and critical frameworks in Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) Studies. This course examines scholarly contributions from a range of academic disciplines and traces some of the ways that LGBTQ Studies has influenced cultural and social theory more broadly. Topics include LGBTQ histories and social movements; forms of oppression including heterosexism, homophobia, and transphobia; resistance to oppression; queer activism; intersecting identities; and representations in literature, art, and popular media.

**Prerequisite(s)/Corequisite(s):** SOC 1010 or WGST 2010 or WGST 2020; or permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3800 WORK AND SOCIETY (3 credits)**

This course explores the social organization of work in the United States, from pre-industrial times to the present. It addresses how and why current work structures and practices emerged historically within a global context, and the social implications of these structures for various groups (based on race/ethnicity, immigration status, sexuality, and social class). The course grapples with the big questions: "How work is organized the way it is right now, how did we get here, and what might it look like in the future?"

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3820 MEDICAL SOCIOLOGY (3 credits)**

The study of the social patterning of health and illness, including inequalities in health by stratifying elements such as race, class, and gender. Examines the social definition of health, illness, and the social position of being a sick person in society. Also examines the interaction individuals have with health care providers and the structure of medicine in the U.S. and around the world. Offers a critical examination of the social institution of medicine.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3840 WORLD POPULATION AND SOCIAL ISSUES (3 credits)**

This course introduces students to the scientific study of populations across the world and the social issues derived from population change. It includes basic training on demographic methods and the use of data sources. It covers concepts and theories that connect population dynamics to world economic development, global inequality, refugee and immigration issues, the status of women, intergenerational competition, and population pressure on food and the environment.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing, or permission of instructor. Six hours of social science, or permission of instructor.

**Distribution:** Global Diversity General Education course

**SOC 3900 RACE AND ETHNIC RELATIONS IN THE U.S. (3 credits)**

The course explores historical and contemporary meanings of race and ethnicity and introduces students to the ways sociologists think about 'race,' race relations and racism. It views current theoretical issues, and focuses on the recent histories and the current position of several major racial-ethnic populations in the U.S.: African Americans, Latino/a Americans, Native Americans, Asian Americans, and white/European ethnics. Emphasis is on how race/ethnicity has structured groups' experiences in relation to social institutions like health, education, culture and media, the legal system, and the economy.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4130 SOCIOLOGY OF DEVIANCE (3 credits)**

This course introduces students to the sociological study of behaviors that have been labeled as "deviant" because they presumably violate social norms. The course takes a constructionist approach, critically analyzing how deviance is socially defined, organized, and managed. Students will be challenged to see the diversity and pervasiveness of deviance in society and to question the labelling of behaviors, individuals, and powerless groups as deviant. We will explore the social processes, powerful actors, and social institutions that create deviance as well as efforts to resist definitions of deviance. (Cross-listed with SOC 8136).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4140 URBAN SOCIOLOGY (3 credits)**

This course examines classical and contemporary sociological theories on city formation, the urbanization process, and the interaction of society and the built environment. Topics covered include suburbanization, gentrification, residential segregation, social networks, crime, housing, city culture, and public policy. The focus is on U.S. cities with selected comparisons to other world regions. Students will also get basic knowledge and exposure to research methods to study urban areas locally. (Cross-listed with SOC 8146).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission from the instructor.

**SOC 4150 AMERICAN FAMILY PROBLEMS (3 credits)**

This course explores the problems and issues faced by contemporary American families, such as racism and sexism; the challenges of childhood and adolescence; divorce and remarriage; work and family conflict; and family violence. The difficulty of defining both "family" and "problems" is addressed throughout the course. (Cross-listed with SOC 8156)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Junior standing, or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4170 SOCIOLOGY OF FATHERHOOD (3 credits)**

This course examines the existing social science research on fatherhood, exploring topics such as the evolution, history, demography, and politics of fatherhood; father involvement and its relationship to both children's and men's well-being; the effects of diversity and family structure on fatherhood; and public policy surrounding fatherhood. (Cross-listed with SOC 8176)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission of instructor. Not open to non-degree graduate students.

**SOC 4180 OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK (3 credits)**

This course examines what makes individuals and groups happy and satisfied with their jobs, and the factors that can turn "a dead-end job" into a meaningful pursuit that lasts decades. The course utilizes a life course approach and covers early socialization experiences to retirement transitions. It also employs a sociological lens to explore how individual experiences in the work realm are affected by stratification (such as race/ethnicity, gender, sexuality, social class, and parental status) and as well as by occupational norms and structures, workplace relationships, and culture and practices at the organizational and societal levels. (Cross-listed with SOC 8186).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission of instructor

**SOC 4200 SOCIOLOGY OF THE BODY (3 credits)**

This course offers an overview of contemporary sociological theories of the body and uses these theories to explore substantive issues pertaining to the discourses, practices, and politics of the body in modern societies.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 4210 DISABILITY AND SOCIETY (3 credits)**

This course takes a sociologically grounded but interdisciplinary look at the past, present, and potential future of disability. Along the way, competing models and theories of disability are critically explored and substantive issues pertaining to the social experiences and social responses to people with disabilities are discussed. (Cross-listed with SOC 8216)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 4240 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 8246, LLS 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**Distribution:** Global Diversity General Education course

**SOC 4250 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 8256, LLS 4250, LLS 8256).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**Distribution:** Global Diversity General Education course

**SOC 4310 SOCIOLOGY OF SEXUALITIES (3 credits)**

This class focuses on the social construction of sexualities - especially heterosexual sexualities, bisexual sexualities, and homosexual sexualities. A primary focus of the class will be LGBT/Queer Studies. The class examines how sexual desires/identities/orientations vary or remain the same in different places and times, and how they interact with other social and cultural phenomenon such as government, family, popular culture, scientific inquiry, and race, gender, and class. (Cross-listed with SOC 8316)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Junior standing; or permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4350 WORK & FAMILY (3 credits)**

This course examines the contemporary problems that individuals, families and communities in the U.S. have in integrating work and family/personal life. (Cross-listed with SOC 8356)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor.

**SOC 4440 HUMAN CONNECTION, LONELINESS, & HEALTH (3 credits)**

This course examines the "loneliness epidemic" through a sociological perspective and is based on the premise that loneliness is a public health issue, as research consistently shows it is associated with a vast array of physical and mental health outcomes. After discussing the extent of loneliness and how to define it by distinguishing it from other types of social pain, the course covers: 1) the extent and nature of loneliness and its cultural/social sources; 2) the pathways from loneliness to health outcomes; and 3) possible interventions to reduce loneliness and improve public health. (Cross-listed with SOC 8446).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of the instructor.

**SOC 4550 ORGANIZATIONAL DIVERSITY AND INCLUSION (3 credits)**

This course provides advanced-level knowledge of the structural understanding, assessment, analysis, and management of social diversity as well as successful inclusion strategies in the workplace. Concepts and theories dealing with structural basis of the creation of difference, consequences of difference, inclusion, affirmative action, and diversity consulting skills are fully examined in this course. This course will prepare students for successful leadership in diverse organizational environments. (Cross-listed with SOC 8556)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4620 APPLIED FORMAL ORGANIZATIONS (3 credits)**

An advanced-level applied organizational sociology course that uses organizational theory, concepts, research, and practice to examine the structural bases of organizational effectiveness, efficiency, survival, and actions of organizational members. The course is designed to prepare students for organizational leadership using advanced knowledge and skills of organizational sociology. (Cross-listed with SOC 8626).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4700 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with SOC 8706, PHHB 4700, PHHB 8706)

**Prerequisite(s)/Corequisite(s):** Junior Standing or permission of the instructor.

**Distribution:** U.S. Diversity General Education course

**SOC 4740 SOCIAL JUSTICE AND SOCIAL CHANGE (3 credits)**

This course investigates the economic, political and social constraints on equality present in local, national and global arrangements. Students will gain a theoretical understanding of these conditions as well as those that lead to social change, spanning from day-to-day resistance techniques to large scale social movements. Students will participate in a service learning or applied project as they explore contemporary social justice issues and learn both theoretical and practical tools needed to become successful change makers, activists, or community organizers. Examples of social justice movements or campaigns form the basis for understanding injustice at a local, national, and global level. (Cross-listed with SOC 8746)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4760 ENVIRONMENTAL SOCIOLOGY (3 credits)**

This course is an introduction to environmental sociology, a field of sociology that explores the interaction between the environment and society. Environmental sociologists consider how political, social, and economic factors have come to shape our patterns of interaction with the natural and built environment. Students will be expected to use the sociological perspective to understand the landscape of environmental problems, focusing on such issues as environment and health, disaster, environmental policy, climate change, environmental risk, human and animal interactions, sustainability, environmental justice and social movements. (Cross-listed with SOC 8766).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**SOC 4770 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, PSCI 8776, SOC 8776).

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing or permission from instructor

**SOC 4780 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 8786, LLS 4780, LLS 8786).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**Distribution:** Global Diversity General Education course

**SOC 4800 CONTEMPORARY TOPICS IN SOCIOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8806)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4830 SOCIOLOGY OF MENTAL HEALTH & ILLNESS (3 credits)**

This course will apply the sociological perspective to various topics regarding mental health and illness. The course will cover topics such as the social construction of mental illness, the social epidemiology of mental illness, labeling and stigma of those with a mental illness, and mental health policy/treatment. (Cross-listed with SOC 8836)

**Prerequisite(s)/Corequisite(s):** SOC 1010, and junior standing; or permission of the instructor.

**SOC 4850 SOCIOLOGY OF RELIGION (3 credits)**

This course looks at religion as a social and cultural phenomenon, examining how religious beliefs, practices, institutions and movements shape and are shaped by their social context. Topics include: sociological theories and explanations of religion and spirituality; definitions of religion and the distinction between religion and other ideologies or worldviews; the measurement of religiosity and the scientific study of religion; trends in religiosity, spirituality, and the religious landscape historically and globally; sociological insights gained from the study of new religions, secularization, fundamentalism, and other issues related to contemporary religious experience. (Cross-listed with SOC 8856)

**Prerequisite(s)/Corequisite(s):** SOC 1010 or permission of instructor.

**SOC 4880 CONTEMPORARY TOPICS IN SOCIOLOGY (ONE CREDIT HOUR) (1 credit)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8886).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4890 CONTEMPORARY TOPICS IN SOCIOLOGY (TWO CREDIT HOURS) (2 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8896).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4900 SENIOR THESIS (4 credits)**

This is a capstone research and writing course designed for Sociology majors who are in their senior year. The major purpose of the course is to produce an original thesis of 20-25 pages, which will be developed through a series of assignments. Students will choose their own thesis topics with the purpose of reflecting on and synthesizing knowledge about sociological concepts, theories, and research methods. This course meets the University requirement of a third writing course.

**Prerequisite(s)/Corequisite(s):** SOC 1010, 2120, 2130, 2134, 3510, 3514, Sociology major, and senior standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**SOC 4910 INTERNSHIP IN SOCIOLOGY (1-3 credits)**

This course offers students an opportunity to experience sociology and/or anthropology through direct involvement in non-profit, for profit, government, or other organization. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Senior standing and permission of instructor.

**SOC 4990 INDEPENDENT STUDY IN SOCIOLOGY (1-3 credits)**

Guided readings and/or independent research in a special sociological topic under the supervision of a Sociology faculty member. A formal contract specifying the nature of the work to be completed must be signed before enrolling in the course. May be taken for a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

## Anthropology

**ANTH 1050 INTRODUCTION TO ANTHROPOLOGY (3 credits)**

Anthropology is the humanistic and scientific study of humans, past and present. This course will present an overview of the four subdisciplines of anthropology: sociocultural, archaeological, biological, and linguistic.

**Distribution:** Social Science General Education course

**ANTH 2000 ETHNOGRAPHY (1-4 credits)**

This is a self-paced course in which the student views films and reads books and articles regarding a specific culture. Each culture will be a one (1) credit hour module. The intent is to acquaint the student in some depth with other cultures in the world.

**Prerequisite(s)/Corequisite(s):** One course in the social sciences and the instructor's permission.

**ANTH 2990 GUIDED READING (1-6 credits)**

The course is designed to allow the student enrolled in an anthropology course to pursue a specialized interest or topic in greater depth than is or was possible for the other course as a whole.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in an anthropology course or enrollment in an anthropology course in the immediately preceding semester and permission of instructor.

**ANTH 3210 CULTURES OF AFRICAN PEOPLE (3 credits)**

An introduction to cultures and societies of Africa. Analysis of kinship systems; political, economic and religious institutions; social change. Emphasis on the dynamics of social organization of African people.

**Prerequisite(s)/Corequisite(s):** Sophomore or above with one three-hour introductory social science course

**ANTH 3220 PEOPLES AND CULTURES OF NATIVE NORTH AMERICA (3 credits)**

A survey of the Native peoples and cultures of North America, past and present. Topics covered include: economics, religion, social organization, kinship, political organization, material culture, gender and culture change through time.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of Instructor

**ANTH 3260 WORLD CULTURES AND PEOPLES (3 credits)**

This course utilizes ethnography to examine human cultures in a specific geographic context. The area approach in cultural anthropology reveals how the physical environment shapes culture and how those cultures, in turn, shape their environments. This course will also examine the larger social milieu and cultural change over time. The specific area will be announced each time the course is offered.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor.

**ANTH 3910 INTRODUCTION TO PHYSICAL ANTHROPOLOGY (3 credits)**

An introduction to physical anthropology through an examination of theories and techniques used to investigate human origins; the relationship between humans and their physical environment; human variation, growth and development; and the evolution of human diseases.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or High School Biology recommended.

**Distribution:** Natural/Physical Science General Education course

**ANTH 3920 ESSENTIALS OF ARCHAEOLOGY (3 credits)**

This course introduces students to the essentials of scientific archaeology. Topics addressed include the history of archaeology, site survey, mapping, testing, excavation, laboratory methods, analysis, interpretation, and documentation. Scientific archaeology focuses upon the use of empirical data to test or evaluate our interpretations of past human behavior.

**Prerequisite(s)/Corequisite(s):** Anthropology 1050 or permission of instructor.

**ANTH 4210 CULTURAL ANTHROPOLOGY (3 credits)**

Cultural Anthropology is the sub-discipline of Anthropology that systematically considers cultural diversity (similarities and differences) in all known human societies. The scope of cultural anthropology is one of the broadest in the social sciences and includes the study of subsistence strategies and economies, kinship and social organization, political organization, religion, gender, language, expressive arts, human-environment relationships, and globalization. (Cross-listed with ANTH 8216).

**Prerequisite(s)/Corequisite(s):** Junior or senior with a minimum of six hours of social science.

**ANTH 4220 NORTH AMERICAN ARCHAEOLOGY (3 credits)**

This course explores more than 20,000 years of Native American culture and lifeways in North America. Indigenous peoples faced numerous challenges throughout this vast and diverse continent. Hunters, gatherers, fishers, and horticulturalists adapted to all regions of North America. Students will be introduced to a range of archaeological concepts, methods and theoretical perspectives central to learning about this rich heritage of American archaeology. (Cross-listed with ANTH 8226).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or ANTH 4210.

**ANTH 4230 ETHNOMEDICINES OF THE AMERICAS (3 credits)**

An anthropological approach to the study of the cultural systems of specific American ethnomedicines (traditional medicines) of North, Central and South America. For each ethnomedicine, the historical context, philosophy, practice, therapeutics, and utilization will be examined to understand how and why each ethnomedicine has survived despite tremendous extermination pressure. (Cross-listed with ANTH 8236).

**Prerequisite(s)/Corequisite(s):** ANTH 1050

**ANTH 4240 MEDICAL ANTHROPOLOGY (3 credits)**

Medical anthropology is the cross-cultural study of human culture, health and illness. Using multiple theoretical perspectives, this course examines how cultural, social, environmental, and biological factors interact to produce patterns of health and illness in past and present human societies. (Cross-listed with ANTH 8246)

**Prerequisite(s)/Corequisite(s):** ANTH1050 and junior or senior standing; or permission of the instructor.

**ANTH 4250 ENVIRONMENTAL ANTHROPOLOGY AND NATIVE PEOPLES OF THE GREAT PLAINS (3 credits)**

Environmental anthropology seeks to understand the interrelationships between human societies and their biophysical and social environments. This course introduces students to basic concepts and theories used by anthropologists to study environmental influences upon both past and present Native American societies on the North American Great Plains. Particular attention will be given to the rapid and dramatic environmental changes that continue to challenge Native Americans in the Great Plains today. (Cross-listed with ANTH 8256)

**Prerequisite(s)/Corequisite(s):** Anthropology 1050 and junior standing; or permission of instructor.

**ANTH 4260 TOPICS IN CULTURAL ANTHROPOLOGY (3 credits)**

Cultural Anthropology (Ethnology) is the comparative study of cultures. Each semester the course is offered, one topic will be selected from the subfield of Cultural Anthropology, such as: Applied Anthropology, Economic Anthropology, Political Anthropology, Visual Anthropology, Anthropology of Gender and Sexualities, Comparative Analysis of Kinship, or the Anthropology of Religion. Since the topic will vary, students may elect to take this course more than once.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor.

**ANTH 4920 SEMINAR IN ANTHROPOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of anthropology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with ANTH 8926).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor

**ANTH 4940 ARCHAEOLOGICAL FIELD METHODS (3 credits)**

This course introduces students to the field methods of scientific archaeology. These field methods include map reading, use of satellite and aerial photographs, instrument survey and mapping, pedestrian survey or reconnaissance, site survey data collection, identification of artifacts (stone tools, ceramics, etc.) and ecofacts (animal remains, macrobotanicals, etc.), systematic artifact collection and documentation, soil probes and coring methods, GPS-based mapping, excavation methods, and data recording. Additional topics include laboratory methods (artifact and ecofact analysis, interpretation, and documentation). This field course ultimately focuses upon the use of empirical data to test or evaluate our interpretations of past human behavior.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 and Junior standing. Not open to non-degree graduate students.

**ANTH 4990 INDEPENDENT STUDY IN ANTHROPOLOGY (1-3 credits)**

Guided readings and/or independent research in a special anthropological topic under the supervision of an Anthropology faculty member. A formal contract specifying the nature of the work to be completed must be signed before enrolling in the course. May be taken for a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Sociology, Bachelor of Arts

To obtain a BA with a major in Sociology, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 16 hours of foreign languages
- 12-19 hours college breadth requirement

- 33 hours of major courses
- 3-13 hours of electives

TOTAL HOURS: 120

## Requirements

Code	Title	Credits
<b>Core Required Courses</b>		
SOC 1010	INTRODUCTORY SOCIOLOGY	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
SOC 2120	SOCIOLOGICAL THEORY	3
SOC 2130	SOCIAL STATISTICS	3
SOC 2134	SOCIAL STATISTICS LAB	1
SOC 3510	RESEARCH METHODS	3
SOC 3514	RESEARCH METHODS LAB	1
SOC 4900	SENIOR THESIS	4
<b>Additional Courses</b>		
Select one of the following options:		12
<b>Option 1:</b>		
Select one upper-level ANTH course (3 credits)		
Select three upper-level SOC courses (9 credits)		
<b>Option 2:</b>		
Select a Concentration (12 credits)		
<b>Additional Requirements for the BA Degree</b>		
Students in the BA degree program are required to complete foreign language through the intermediate level.		
<b>Total Credits</b>		<b>33</b>

## Concentration in Anthropology

Code	Title	Credits
<b>Required Courses</b>		
ANTH 3910	INTRODUCTION TO PHYSICAL ANTHROPOLOGY	3
ANTH 3920	ESSENTIALS OF ARCHAEOLOGY	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3
<b>Additional Course</b>		
Select one of the following:		3
ANTH 3210	AFRICAN PEOPLES AND CULTURES	
ANTH 3220	PEOPLES AND CULTURES OF NATIVE NORTH AMERICA	
ANTH 3260	WORLD CULTURES AND PEOPLES	
ANTH 4220	NORTH AMERICAN ARCHAEOLOGY	
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	
ANTH 4240	MEDICAL ANTHROPOLOGY	
ANTH 4250	ENVIRONMENTAL ANTHROPOLOGY AND NATIVE PEOPLES OF THE GREAT PLAINS	
ANTH 4260	TOPICS IN CULTURAL ANTHROPOLOGY	
ANTH 4900	ANTHROPOLOGICAL RESEARCH	
ANTH 4920	SEMINAR IN ANTHROPOLOGY	
ANTH 4940	ARCHAEOLOGICAL FIELD METHODS	
<b>Total Credits</b>		<b>12</b>

## Concentration in Families and Inequality

Code	Title	Credits
<b>Required Courses</b>		
SOC 4150	AMERICAN FAMILY PROBLEMS	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3

<b>Additional Courses</b>		
Select two of the following:		6
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4170	SOCIOLOGY OF FATHERHOOD	
SOC 4350	WORK & FAMILY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>12</b>

## Concentration in Health and Society

Code	Title	Credits
<b>Required Courses</b>		
ANTH 4240	MEDICAL ANTHROPOLOGY	3
SOC 3820	MEDICAL SOCIOLOGY	3
<b>Additional Courses</b>		
Select two of the following:		6
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4200	SOCIOLOGY OF THE BODY	
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	
SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>12</b>

## Concentration in Inequality and Social Justice

Code	Title	Credits
<b>Required Course</b>		
SOC 4740	SOCIAL JUSTICE AND SOCIAL CHANGE	3
<b>Additional Courses</b>		

Select three of the following: 9

SOC 3300	SOCIOLOGY OF GENDER
SOC 3690	SOCIAL INEQUALITY
SOC 3700	INTRODUCTION TO LGBTQ STUDIES
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.

One of the following courses may be substituted for one of the "additional courses" listed above:

SOC 3840	WORLD POPULATION AND SOCIAL ISSUES
SOC 4140	URBAN SOCIOLOGY
SOC 4210	DISABILITY AND SOCIETY
SOC 4240	SOCIAL TRANSFORMATIONS IN LATIN AMERICA
SOC 4250	CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS
SOC 4310	SOCIOLOGY OF SEXUALITIES
SOC 4760	ENVIRONMENTAL SOCIOLOGY
SOC 4770	POLITICAL SOCIOLOGY
SOC 4780	URBAN LATIN AMERICA
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)
ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)

**Total Credits** 12

### Concentration in Work and Organizations

Code	Title	Credits
<b>Required Courses</b>		

SOC 3610	APPLIED ORGANIZATIONAL SOCIOLOGY	3
SOC 3800	WORK AND SOCIETY	3

**Additional Courses**

Select two of the following: 6

SOC 3840	WORLD POPULATION AND SOCIAL ISSUES
SOC 4180	OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK
SOC 4350	WORK & FAMILY
SOC 4550	ORGANIZATIONAL DIVERSITY AND INCLUSION
SOC 4620	APPLIED FORMAL ORGANIZATIONS
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)
ANTH 4210	CULTURAL ANTHROPOLOGY

One of the following courses may be substituted for one of the "additional courses" listed above:

SOC 3300	SOCIOLOGY OF GENDER
SOC 3690	SOCIAL INEQUALITY
SOC 3700	INTRODUCTION TO LGBTQ STUDIES
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.

**Total Credits** 12

### Freshman

Fall		Credits
SOC 1010	INTRODUCTORY SOCIOLOGY (#)	3
MATH 1220	COLLEGE ALGEBRA (**)	3
or MATH 1120	or INTRODUCTION TO	
or MATH 1130	MATHEMATICAL AND	
or STAT 1530	COMPUTATIONAL THINKING	
	or QUANTITATIVE LITERACY	
	or ELEMENTARY STATISTICS	
ENGL 1150	ENGLISH COMPOSITION I (***)	3
Foreign Language 1110*		5

#SOC 1010 counts toward the major and as a Social Science course

\*\*MATH 1220 and STAT 1530 require appropriate placement.

\*\*\*ENGL 1150: requires appropriate placement

\*Level 1110 foreign language courses count as a Humanity/ Fine Arts course, Global Diversity, and toward the students BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits** 14

### Spring

ANTH 1050	INTRODUCTION TO ANTHROPOLOGY (*)	3
Foreign Language 1120		5
ENGL 1160	ENGLISH COMPOSITION II (**)	3
Natural/Physical Science w/ lab		4

\*ANTH 1050 counts toward the major and as a Social Science

\*\*ENGL 1160: requires ENGL 1150 with grade of C- or better or placement.

**Credits** 15

### Sophomore

Fall		
SOC 2120	SOCIOLOGICAL THEORY (*)	3
Social Science		3
Humanities/Fine Arts		3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Foreign Language 2110		3
*SOC 2120: requires SOC 1010 and Sociology major		

**Credits** 15

### Spring

SOC 2130	SOCIAL STATISTICS (*)	3
SOC 2134	SOCIAL STATISTICS LAB	1
Foreign Language 2120		3
Natural/Physical Science**		3
Humanities/Fine Arts		3
HIST 1000 or Minor/2nd Major Course^		3

\*SOC 2130: requires MATH 1120 or MATH 1130 or MATH 1220 or STAT 1530

\*\*NPS must come from 2nd discipline

^A&S College Requirement Options

**Credits** 16

### Junior

Fall		
ANTH 3000+		3
SOC 3000+		3
SOC 3510	RESEARCH METHODS (*)	3

SOC 3514	RESEARCH METHODS LAB	1
US Diversity Course		3
HIST 1010 or Minor/2nd Major Course**		3
*SOC 3510: requires SOC 1010 and junior standing		
**A&S College Requirement Options		

**Credits** **16**

#### Spring

SOC 3000+		3
SOC 3000+		3
Additional Humanity/Fine Arts Course for A&S or Minor/2nd Major Course*		3
ELECTIVE		3
ELECTIVE		3
*A&S College Requirement Options		

**Credits** **15**

#### Senior

##### Fall

Additional Social Science for A&S or Minor/2nd Major Course*		3
Additional Natural Science with Lab for A&S or Minor/2nd Major Course**		3-4
ELECTIVE		3
ELECTIVE		3
ELECTIVE		3
*A&S College Requirement Options. Additional SS must be from 3rd discipline.		
**A&S College Requirement Options		

**Credits** **15-16**

##### Spring

SOC 4900	SENIOR THESIS (*)	4
ELECTIVE**		3
ELECTIVE**		3
ELECTIVE		3
ELECTIVE		0-1

\*SOC 4900: requires SOC 1010, 2120, 2130+2134, 3510+3514 and 6 additional hours of upper division sociology or anthropology courses. Sociology majors and senior standing.

\*\*Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach the 27 credit minimum.

**Credits** **13-14**

**Total Credits** **119-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found

at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Sociology, Bachelor of Science

To obtain a BS with a major in Sociology, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of University General Education courses
- 12-19 hours college breadth requirement
- 48 hours of major courses
- 4-14 hours of electives

TOTAL HOURS: 120

### Requirements

Code	Title	Credits
<b>Core Required Courses</b>		
SOC 1010	INTRODUCTORY SOCIOLOGY	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
SOC 2120	SOCIOLOGICAL THEORY	3
SOC 2130	SOCIAL STATISTICS	3
SOC 2134	SOCIAL STATISTICS LAB	1
SOC 3510	RESEARCH METHODS	3
SOC 3514	RESEARCH METHODS LAB	1
SOC 4900	SENIOR THESIS	4

#### Additional Courses

Select one of the following options: **12**

##### Option 1:

Select one upper-level ANTH course (3 credits)

Select three upper-level SOC courses (9 credits)

##### Option 2:

Select a Concentration (12 credits)

#### Additional Requirements for the BS Degree

Students in the BS degree program are required to complete 15 hours of cognate coursework, a field of specialization outside of sociology based on their interests and/or career aspirations. Cognates are designed by the student in consultation with the undergraduate adviser.

**Total Credits** **33**

### Concentration in Anthropology

Code	Title	Credits
<b>Required Courses</b>		
ANTH 3910	INTRODUCTION TO PHYSICAL ANTHROPOLOGY	3
ANTH 3920	ESSENTIALS OF ARCHAEOLOGY	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3

#### Additional Course

Select one of the following: **3**

ANTH 3210	AFRICAN PEOPLES AND CULTURES
ANTH 3220	PEOPLES AND CULTURES OF NATIVE NORTH AMERICA
ANTH 3260	WORLD CULTURES AND PEOPLES
ANTH 4220	NORTH AMERICAN ARCHAEOLOGY
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS

ANTH 4240	MEDICAL ANTHROPOLOGY	
ANTH 4250	ENVIRONMENTAL ANTHROPOLOGY AND NATIVE PEOPLES OF THE GREAT PLAINS	
ANTH 4260	TOPICS IN CULTURAL ANTHROPOLOGY	
ANTH 4900	ANTHROPOLOGICAL RESEARCH	
ANTH 4920	SEMINAR IN ANTHROPOLOGY	
ANTH 4940	ARCHAEOLOGICAL FIELD METHODS	
<b>Total Credits</b>		<b>12</b>

### Concentration in Families and Inequality

Code	Title	Credits
<b>Required Courses</b>		
SOC 4150	AMERICAN FAMILY PROBLEMS	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3
<b>Additional Courses</b>		
Select two of the following:		6
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4170	SOCIOLOGY OF FATHERHOOD	
SOC 4350	WORK & FAMILY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>12</b>

### Concentration in Health and Society

Code	Title	Credits
<b>Required Courses</b>		
ANTH 4240	MEDICAL ANTHROPOLOGY	3
SOC 3820	MEDICAL SOCIOLOGY	3
<b>Additional Courses</b>		
Select two of the following:		6
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4200	SOCIOLOGY OF THE BODY	
SOC 4440	HUMAN CONNECTION, LONELINESS, & HEALTH	
SOC/PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS	
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS	

ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>12</b>

### Concentration in Inequality and Social Justice

Code	Title	Credits
<b>Required Course</b>		
SOC 4740	SOCIAL JUSTICE AND SOCIAL CHANGE	3
<b>Additional Courses</b>		
Select three of the following:		9
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4140	URBAN SOCIOLOGY	
SOC 4210	DISABILITY AND SOCIETY	
SOC 4240	SOCIAL TRANSFORMATIONS IN LATIN AMERICA	
SOC 4250	CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS	
SOC 4310	SOCIOLOGY OF SEXUALITIES	
SOC 4760	ENVIRONMENTAL SOCIOLOGY	
SOC 4770	POLITICAL SOCIOLOGY	
SOC 4780	URBAN LATIN AMERICA	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
ANTH 4920	SEMINAR IN ANTHROPOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
<b>Total Credits</b>		<b>12</b>

### Concentration in Work and Organizations

Code	Title	Credits
<b>Required Courses</b>		
SOC 3610	APPLIED ORGANIZATIONAL SOCIOLOGY	3
SOC 3800	WORK AND SOCIETY	3
<b>Additional Courses</b>		
Select two of the following:		6
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
SOC 4180	OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK	
SOC 4350	WORK & FAMILY	

SOC 4550	ORGANIZATIONAL DIVERSITY AND INCLUSION	
SOC 4620	APPLIED FORMAL ORGANIZATIONS	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (When topic is relevant to the concentration and by approval of major advisor)	
ANTH 4210	CULTURAL ANTHROPOLOGY	
One of the following courses may be substituted for one of the "additional courses" listed above:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 3690	SOCIAL INEQUALITY	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	
<b>Total Credits</b>		<b>12</b>
<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
SOC 1010	INTRODUCTORY SOCIOLOGY (#)	3
Humanities/Fine Arts/Global Diversity course		3
MATH 1220	COLLEGE ALGEBRA (*)	3
or MATH 1120	or INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
or MATH 1130	or QUANTITATIVE LITERACY	
or STAT 1530	or ELEMENTARY STATISTICS	
ENGL 1150	ENGLISH COMPOSITION I (**)	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
#SOC 1010 counts toward the major and as a Social Science course		
*MATH 1220 and STAT 1530 require appropriate placement.		
**ENGL 1150: requires appropriate placement.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY (#)	3
Humanities/Fine Arts		3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
Natural/Physical Science w/ lab		4
Elective		3
#ANTH 1050 counts toward the major and as a Social Science course		
*ENGL 1160: requires ENGL 1150 with grade of C- or better or appropriate placement		
<b>Credits</b>		<b>16</b>
<b>Sophomore</b>		
<b>Fall</b>		
SOC 2120	SOCIOLOGICAL THEORY (^)	3
Social Science		3
Humanities/Fine Arts Course*		3
HIST 1000 or Minor/2nd Major Course**		3
Elective		3
^SOC 2120: requires SOC 1010 and Sociology major		
*HFA course must come from 2nd discipline		
**A&S College Requirement Options		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
SOC 2130	SOCIAL STATISTICS (*)	3

SOC 2134	SOCIAL STATISTICS LAB	1
HIST 1010 or Minor/2nd Major Course^		3
Natural/Physical Science**		3
BS Cognate Course#		3
Elective		3
*SOC 2130: requires MATH 1120 or MATH 1130 or MATH 1220 or STAT 1530 or		
^A&S College Requirement Options.		
**NPS course must come from 2nd discipline		
#Cognate courses are chosen in collaboration with the major advisor		
<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
ANTH 3000+		3
SOC 3000+		3
SOC 3510	RESEARCH METHODS (*)	3
SOC 3514	RESEARCH METHODS LAB	1
Additional Humanity/Fine Arts course for A&S or Minor/2nd Major Course**		3
US Diversity Course		3
*SOC 3510: requires SOC 1010 and junior standing		
**A&S College Requirement Option. Additional HFA must come from 3rd discipline		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
SOC 3000+		3
SOC 3000+		3
BS Cognate course#		3
Additional Social Science for A&S or Minor/2nd Major Course*		3
Elective		3
#Cognate courses are chosen in consultation with major advisor.		
*A&S College Requirement Option. Additional SS must come from 3rd discipline		
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
Additional Natural Science with Lab for A&S or Minor/2nd Major Course*		3-4
BS Cognate course#		3
BS Cognate course#		3
Elective		3
*A&S College Requirement Options		
#Cognate courses are chosen in consultation with major advisor.		
<b>Credits</b>		<b>12-13</b>
<b>Spring</b>		
SOC 4900	SENIOR THESIS (*)	4
B.S. Cognate Course#		3
Elective**		3
Elective**		3
Elective		0-1
*SOC 4900: requires SOC 1010, 2120, 2130+2134, 3510+3514 and 6 additional hours of upper level sociology or anthropology courses. Sociology majors and senior standing.		

#Cognate courses are chosen in consultation with major advisor.

\*\*Students need at least 120 total credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives to reach those specific minimums.

Credits	13-14
Total Credits	118-120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

Sociology Minor Requirements

A minor in sociology requires 15 hours. The sociology minor is available on campus, entirely online, or a combination of the two. Students are required to complete the following:

Code	Title	Credits
SOC 1010	INTRODUCTORY SOCIOLOGY	3
Additionally, select 12 credit hours in sociology electives with a minimum of 9 credit hours at the 3000-4000 level.		12
Total Hours 15		

No more than nine hours will be accepted as transfer credit. All course work satisfying the minor must be completed with a grade of "C" (2.0) or better.

Anthropology Minor Requirements

A minor in anthropology requires 15 hours. The minor may be completed on campus, entirely online, or a combination of the two. Students are required to complete the following:

Code	Title	Credits
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
Additionally, select 12 credit hours in anthropology electives with a minimum of 9 credit hours at the 3000-4000 level.		12
Total Credits 15		

No more than nine hours will be accepted as transfer credit. All course work satisfying the minor must be completed with a grade of "C" (2.0) or

better. Up to six ANTH credits may be double counted toward the minor in anthropology and the major in sociology.

Women's and Gender Studies Mission

The UNO Women's and Gender Studies Program offers individuals and communities paths to transformation and empowerment through the collaborative work of students and faculty, who together study and explore all women's lives and all constructions of gender across time, place, and culture, using a feminist lens. Our interdisciplinary faculty teach a curriculum that emphasizes the intersections of gender and sexuality across time, place, and culture, using a feminist and/or queer lens.

We envision a world in which differences offer paths to meaningful and fulfilling contributions. Thus, our interdisciplinary faculty teach a curriculum that emphasizes the intersections of gender and sexuality with race/ethnicity, nationality, socioeconomic class, ability levels, and additional dimensions of difference.

Our program employs the tools of different disciplines, including communication, arts and humanities, social sciences, natural sciences and history. Graduating students are prepared for many opportunities beyond graduation.

Description

Women's and Gender Studies is a liberal arts degree that prepares students for a wide variety of career and avocational paths. Majors, minors, and certificate holders find employment in a variety of areas, choosing to work in advocacy or social services-related positions, community development, large and small business, and government.

Other Information

All coursework taken for the Women's and Gender Studies major or minor, or for the LGBTQ/ Sexuality Studies minor or the Gender and Leadership Certificate, must be completed with a grade of "C-" or better.

Special Requirements

Courses presented for credit toward the minor or major, or toward the Gender and Leadership Certificate, must have been taught by a member of the Women's and Gender Studies faculty. Students should select WGST electives in consultation with their major adviser.

Residency

Students may transfer in no more than 9 credits earned at other institutions to the WGS minor and no more than 15 credits earned at other institutions to the WGS major.

Student Groups

Iota Iota Iota (Triota) is a club and honorary society that recognizes excellence in Women's and Gender Studies. Membership is available to any student who has completed two introductory courses in Women's and Gender Studies and has a cumulative GPA of at least 3.0. In addition, students pursuing the major or minor in Women's and Gender Studies can be involved with campus organizations such as the Women's and Gender Equity Resource Center, and the Queer and Trans Services.

## Contact

Women's and Gender Studies Program Director 402.554.3834  
339 Arts and Sciences Hall (ASH)

Website (<http://www.unomaha.edu/college-of-arts-and-sciences/womens-and-gender-studies/>)

## Degree Offered

- Women's and Gender Studies, Bachelor of Arts (p. 341)

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Women's and Gender Studies major this is WGST 4010.

## Minor Offered

- Women's and Gender Studies Minor (p. 344)
- LGBTQ/Sexuality Studies Minor (p. 344)

## Gender and Leadership Certificate

Code	Title	Credits
<b>Certificate Requirements</b>		
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
or WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	
WGST 3020	PERSPECTIVES ON LEADERSHIP	3
WGST 4030	PERSONAL LEADERSHIP	3
WGST 4070	GENDER AND LEADERSHIP CAPSTONE: COMMUNITY ACTION PROJECT	3
Select one of the following:		3
WGST 4120	BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS	
WGST 4130	GENDER & LEADING SOCIAL CHANGE	
<b>Total Credits</b>		<b>15</b>

Women, gender, and sexuality studies majors may find employment in a variety of areas depending on their skills and experience. Some of our majors pursue post-baccalaureate training in medicine, law, education, and other graduate programs. Others choose employment directly after graduation, following career paths in advocacy or social services-related positions, community development, business, and government. Some career-path examples include:

### Business

- Human Resources Manager
- Financial Planner
- Business Manager
- Office Manager
- Convention/Event Planner

### Education

- K-12 School Teacher (with additional certification)
- Childcare Center Lead Teacher

### Health

- Community Health Outreach Worker
- Community Health Advocate
- Public Health Coordinator
- Health Services Project Administrator

### Law

- Victim Assistance Case Manager
- Mediator

### Media/Publications

- Magazine Freelance Writer/Researcher
- Independent Film Maker/Producer
- Editor
- Social Media Specialist
- Film Publicist
- Production Artist

### Social and Public Service

- Counseling Services Director
- Training Coordinator
- Rape Crisis Center/Community Education Coordinator
- Women's Crisis Support Center Community Educator
- Girl Scouts of America Program Officer
- Food Bank Program Manager
- Community Service Agency Case Manager

### WGST 1950 BLACK WOMEN IN AMERICA (3 credits)

This course will examine how Black women in America have evolved politically, economically, and socially under oppressive conditions of slavery, the Reconstruction Era, Jim Crow, and through the Civil Rights, Black Lives Matter, and "Me Too" Movements. The underlying themes of this course are the impact of gender and race on Black women, with an emphasis of how gender and race are fueled by white supremacy, patriarchy, colonialism, capitalism, and imperialism. (Cross-listed with BLST 1950)

**Distribution:** U.S. Diversity General Education course

### WGST 2000 SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES (3 credits)

A variety of topics primarily for the non-major. (For example, this course might study the image of businesswomen in American literature.) One or two such topics may be offered each term, depending upon student interest and available faculty. Students should consult each term's class schedule in order to determine the specific topics for that term.

**Prerequisite(s)/Corequisite(s):** None. ENGL 1160 recommended

### WGST 2010 INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE (3 credits)

A survey course which explores social science perspectives on women, men, and gender, including the biological contribution to human behavior and the impact of science as an institution. Examines challenges to traditional definitions of women's place and movements for change. Includes historical and multicultural materials.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 is recommended.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

### WGST 2020 INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES (3 credits)

An introduction to women's and gender studies in the humanities (literature, art, dance, music, theatre, philosophy). Explores both historical and contemporary images of women in these fields; discusses the context in which these images developed. Introduces the basic concepts and terminology of women's and gender studies.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 is recommended.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**WGST 3000 SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES (3 credits)**

A study of designated specific topics related to gender and sexuality studies within the disciplines of English (May be repeated for credit as long as the topic is not the same.)

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**WGST 3020 PERSPECTIVES ON LEADERSHIP (3 credits)**

This course studies scholarship on and the practices of gender and leadership for undergraduate students. It is a service-learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020

**WGST 3050 WOMEN IN RUSSIAN SOCIETY & CULTURE: A HISTORICAL PERSPECTIVE (3 credits)**

This course discusses the history of women in Russia beginning from early Russia (10th Century) to the present. It includes the study of feminist activists, female educational, professional, and employment opportunities, historical and current status of women, and their social, cultural, and intellectual influences on Russian society. Course offered in English. (Cross-listed with RUSS 3050)

**Prerequisite(s)/Corequisite(s):** Junior or permission.

**WGST 3080 HEALTH CONCEPTS OF SEXUAL DEVELOPMENT (3 credits)**

An examination of factors influencing sexual development. Emphasis is given to topics pertinent to healthful living in today's culturally diverse, global society. (Cross-listed with PHHB 3080).

**WGST 3100 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 8105, PSCI 3100, WGST 8105)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**WGST 3120 WOMEN AND THE BIBLE (3 credits)**

This course explores the characterization of women in Hebrew and Christian scriptures as well as what we can learn about the lives of women in the ancient world from these and other sources. Attention is also given to the reception and use of these texts in later historical periods including contemporary religious contexts. (Cross-listed with RELI 3130).

**WGST 3130 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 3130, PSCI 8135, WGST 8135)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**WGST 3160 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 4280, ENGL 8286).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; completion of writing in the major course recommended.

**WGST 3180 GENDER IDENTITY IN PERSONAL WRITING (3 credits)**

Students will read a variety of memoirs and personal essays by both emerging and established LGBTQIA+ creative nonfiction writers and allies, with a focus on trans writers; analyze the craft choices each author makes; analyze textual and theoretical explorations of gender identity and gender performativity; and explore their gender identities, and gender experiences in the essays that they compose. (Cross-listed with ENGL 3180).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents required.

**WGST 3230 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 3230, PSCI 8235, WGST 8235)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 is recommended.

**Distribution:** Global Diversity General Education course

**WGST 3390 WOMEN, CRIME AND JUSTICE (3 credits)**

This course focuses on women's experiences in the criminal justice system.

The course will examine women's experiences as victims of crime, as offenders, as prisoners, and as criminal justice professionals. (Cross-listed with CRCJ 3390)

**Prerequisite(s)/Corequisite(s):** WGST major; CRCJ or WGST minor; CRCJ 1010, ENGL 1160 and 45 credit hours; or instructor permission.

**Distribution:** U.S. Diversity General Education course

**WGST 3490 GENDER AND PHILOSOPHY (3 credits)**

This course examines philosophical arguments concerning gender and sexual difference, gender issues and women in the history of philosophy, and major views in feminist theory. (Cross-listed with PHIL 3490).

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in PHIL or 6 hours in WGST.

**WGST 3750 GENDER AND COMMUNICATION (3 credits)**

This course provides a survey of literature on communication about, by, and between women and men in society, personal relationships, and organizations. Students develop an understanding of how cultural meanings of gender both shape and are shaped by communication. (Cross-listed with CMST 3750).

**Prerequisite(s)/Corequisite(s):** Junior standing; minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**WGST 4010 SENIOR SEMINAR (3 credits)**

This course provides a capstone experience in women's studies. It serves as the third writing course, and is required for women's studies majors. It is open to seniors who have completed five courses in women's studies, including WGST 2010 and WGST 2020, with a 'C' or better; others may enroll with permission.

**Prerequisite(s)/Corequisite(s):** Senior standing, completion of five women's studies courses, including WGST 2010 and WGST 2020, with a grade of 'C' or better; or permission.

**WGST 4020 INTERNSHIP IN WOMEN'S AND GENDER STUDIES (1-6 credits)**

A faculty-supervised project involving part-time employment or service with a community agency, business, non-profit organization, university or other educational unit, or another appropriate organization or setting. Students will gain relevant practical experience and will integrate theory, concepts, and empirical knowledge from their classrooms with their work in the internship setting. Permission of instructor is required.

**Prerequisite(s)/Corequisite(s):** WGST 2010 and WGST 2020, enrollment either as a WGST major or minor or as a BMS concentration in WGST, a 3.0 GPA, and permission of instructor.

**WGST 4030 PERSONAL LEADERSHIP (3 credits)**

In addition to a survey of leadership styles and theories, this course provides historical and contemporary perspectives of gender and leadership, barriers to women's leadership, bias, and discrimination. Individual leadership is examined within the context of being a change agent. This is a service learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020

**WGST 4050 SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (3 credits)**

This course will give instructor and students the opportunity to investigate a variety of advanced topics in Women's Studies. The content will vary from semester to semester, according to instructor. May be repeated for credit as long as topic differs.

**Prerequisite(s)/Corequisite(s):** WGST 2010 and WGST 2020 or permission of instructor.

**WGST 4060 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1922 (3 credits)**

This course examines the history of women in the United States from 1875 to 1922. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with HIST 4060, WGST 8066, and HIST 8066).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**WGST 4070 GENDER AND LEADERSHIP CAPSTONE: COMMUNITY ACTION PROJECT (3 credits)**

This course is designed for students in the final stage of the Gender and Leadership Certificate. Activities focus on practical experience in an organization that will allow students to exercise, observe, and later share lessons with classmates about leadership qualities and skills.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020 and either WGST 3020 or WGST 4030

**WGST 4120 BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS (3 credits)**

This course studies scholarship on race, gender, and leadership with a specific focus on African and African descended women's roles in liberation movements in the U.S. and worldwide. Especial focus will be on the use of their personal narratives to analyze the wide range of ideas in the conception and execution of leadership. (Cross-listed with BLST 4120)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**WGST 4130 GENDER & LEADING SOCIAL CHANGE (3 credits)**

This course will cover theories, philosophies, movements, and concepts related to social change as a process and outcome. It is a service-learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or 2020. Junior standing or permission.

**WGST 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with ENTR 4150, ENTR 8156, GEOG 4150, GEOG 8156 and WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**WGST 4250 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 4250, ENGL 8256).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and one additional course in literature or permission.

**WGST 4270 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 8276, ENGL 4270).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; completion of ENGL 2410 or other writing in the major course recommended.

**WGST 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with PHHB 4550, PHHB 8556, GERO 4550, GERO 8556)

**WGST 4910 TOPICS IN WOMEN'S HISTORY (3 credits)**

A course on selected topics offered on a one-time or occasional basis. Course may be repeated as long as the topic is different each time. Cross listed with WGST 4910/WGST 8916 when topics are appropriate to Women's and Gender Studies.

**Prerequisite(s)/Corequisite(s):** Junior

**WGST 4930 SPECIAL TOPICS IN GENDER AND ART HISTORY (1-3 credits)**

An illustrated lecture course dealing with a limited topic in the field of art history. The course may be coordinated with an external event such as an exhibition, publication or study trip.

**Prerequisite(s)/Corequisite(s):** To be determined by the instructor based upon the preparation required for an adequate understanding of the material of the course. Lab fee required.

**WGST 4960 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

Specific subjects (when offered) appear in class schedules. Complete syllabi available in English Department. Formerly ENGL4940 / ENGL 8946 Studies in Language and Literature.

**Prerequisite(s)/Corequisite(s):** Will vary depending on what the topic is.

**WGST 4990 INDEPENDENT STUDY (1-3 credits)**

An individualized course of study with a member of the Women's and Gender Studies Faculty. Either independent research or advanced readings may be pursued. No more than 6 hours of independent study may be used towards the minor.

**Prerequisite(s)/Corequisite(s):** Permission from the Women's Studies director and the supervising faculty member is required.

## Women's and Gender Studies, Bachelor of Arts

### Requirements

A minimum of 120 credit hours is required for a Bachelor of Arts degree in women's and gender studies (BAWGS). At least 30 credits of a student's bachelor's degree must be taken in residence at UNO. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BAWGS, a student must fulfill the university, college and departmental requirements. Some courses may satisfy requirement in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites.)

- 40-46 hours of university General Education courses (9 hours of which can be satisfied by courses in the required areas below)
- 12-19 hours of College of Arts and Sciences requirements
- 16 hours of Foreign Language or American Sign Language courses

- 33 hours of Women's and Gender Studies courses
- 6-19 hours of elective/prerequisite courses

TOTAL HOURS: 120

The Bachelor of Arts in women's and gender studies requires a minimum of 33 credits as outlined below.

Code	Title	Credits
<b>Courses Required for Major (Core Curriculum)</b>		
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	3
WGST 4010	SENIOR SEMINAR	3
<b>Quantitative Literacy Course</b>		
Select one of the following:		3-5
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
SOC 2130	SOCIAL STATISTICS	
STAT 3000	STATISTICAL METHODS I	
STAT 1530	ELEMENTARY STATISTICS	
CRCJ/SOWK/PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
MATH 1320	PRE-CALCULUS ALGEBRA	
MATH 1330	TRIGONOMETRY	
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	
MATH 1940	CALCULUS FOR BIOMEDICINE	
PHIL 2010	SYMBOLIC LOGIC	
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
<b>Elective Courses</b>		
Select 7 WGST elective courses (see below)		21
<b>Total Credits</b>		<b>33-35</b>

## Electives

As stated above, 7 WGST elective courses must be selected from the following list, of which 5 must be upper-division (3000-4000 level) (Courses should be selected in consultation with your major adviser. **Be certain to see the "Special Requirements" section for important information.**)

Code	Title	Credits
WGST/BLST 1950	BLACK WOMEN IN AMERICA	3
WGST/ENGL 3000	SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES	3
WGST 3020	PERSPECTIVES ON LEADERSHIP	3
WGST/PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
WGST 3120/ RELI 3130	WOMEN AND THE BIBLE	3
WGST/PSCI 3130	WOMEN AND POLITICS	3
WGST/CRCJ 3390	WOMEN, CRIME AND JUSTICE	3
WGST/PHIL 3490	GENDER AND PHILOSOPHY	3
WGST/CMST 3750	GENDER AND COMMUNICATION	3

WGST 4020	INTERNSHIP IN WOMEN'S AND GENDER STUDIES	1-6
WGST 4030	PERSONAL LEADERSHIP	3
WGST 4050	SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES	3
WGST/HIST 4060	HISTORY OF WOMEN IN AMERICA FROM 1875 - 1922	3
WGST 4070	GENDER AND LEADERSHIP CAPSTONE: COMMUNITY ACTION PROJECT	3
WGST/BLST 4120	BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS	3
WGST/GEOG 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
WGST/ENGL 4250	WOMEN'S STUDIES IN LITERATURE	3
ENGL 4260	WOMEN OF COLOR WRITERS	3
WGST/GERO/PHHB 4550	HEALTH ASPECTS OF AGING	3
WGST/ART 4930	SPECIAL TOPICS IN GENDER AND ART HISTORY	3
WGST/ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE	3
WGST 4990	INDEPENDENT STUDY	1-3
BLST 2210	THE BLACK FAMILY IN THE UNITED STATES	3
ENGL 2000	TOPICS IN LANGUAGE AND LITERATURE	3
ENGL 2230	ETHNIC LITERATURE	3
GDRH 2120	CORE TOPICS IN SOCIAL SCIENCES: SOCIAL ISSUES	3
GDRH 3010	SPECIAL TOPICS SEMINAR	1-3
PHHB/SOC 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
HIST 4910	TOPICS IN HISTORY	3
HONR 3000	HONORS COLLOQUIUM	3
PSCI 3920	SPECIAL TOPICS IN POLITICAL SCIENCE	3
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY	1-3
RELI 3500	SPECIAL TOPICS IN RELIGION	3
SOC 2150	SOCIOLOGY OF FAMILIES	3
SOC 2800	MAJOR SOCIAL ISSUES	3
SOC 3300	SOCIOLOGY OF GENDER	3
SOC 4150	AMERICAN FAMILY PROBLEMS	3
SOC 4170	SOCIOLOGY OF FATHERHOOD	3
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY	3
SOWK 4880	TOPICAL SEMINAR IN SOCIAL WORK	3
WRWS 3000	SELECTED TOPICS IN WRITING	3
WRWS 4000	FORM AND THEORY	3

For the B.A. degree, foreign language is required through the intermediate level.

## Gender and Leadership Concentration

Code	Title	Credits
<b>Required courses:</b>		
WGST 3020	PERSPECTIVES ON LEADERSHIP	3
WGST 4030	PERSONAL LEADERSHIP	3
WGST 4070	GENDER AND LEADERSHIP CAPSTONE: COMMUNITY ACTION PROJECT	3
<b>Select 1 course from the following:</b>		<b>3</b>
WGST 4050	SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (Women's Leadership in Film)	

WGST 4120	BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS	
WGST 4130	GENDER & LEADING SOCIAL CHANGE	
<b>Total Credits</b>		<b>12</b>

These 12 hours are applied toward the major requirement for 21 hours in elective WGST courses.

### Freshman

Fall		Credits
Foreign Language Course I		5
Quantitative Literacy Gen Ed*		3
ENGL 1150	ENGLISH COMPOSITION I (**)	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
<b>Various Quantitative Literacy options exist.</b> MATH 1220 and STAT 1530: Require Math Placement Exam or SAT/ACT scores. A quantitative literacy course within the major will be needed later on, and a common pre-req to some of those course options is Math 1120, 1130 or 1220.		
**ENGL 1150: Appropriate English placement required.		
<b>Credits</b>		<b>14</b>

### Spring

Foreign Language Course II		5
Natural/Physical Science Gen Ed with Lab		4
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE (*)	3
ENGL 1160	ENGLISH COMPOSITION II (**)	3
*WGST 2010: ENGL 1150 Recommended.		
**ENGL 1160: requires ENGL 1150 with grade of C- or better or placement.		
<b>Credits</b>		<b>15</b>

### Sophomore

Fall		Credits
Foreign Language Course III		3
WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES (*)	3
Approved Quantitative Literacy Course for Major *		3
HIST 1000 or Minor/2nd Major Course^		3
WGST Elective		3
*WGST 2020: ENGL 1150 Recommended.		
*See catalog for approved list. Some courses will also satisfy Quantitative Literacy Gen Ed requirements.		
^A&S College Requirement Options.		
<b>Credits</b>		<b>15</b>

### Spring

Foreign Language Course IV		3
Natural/Physical Science*		3
HIST 1010 or Minor/2nd Major Course^		3
WGST Elective		3
Social Science		3
*Natural/Physical Science must be in a 2nd discipline.		
^A&S College Requirement Options.		
<b>Credits</b>		<b>15</b>

### Junior

Fall		Credits
Humanities/Fine Arts*		3
Social Science*		3

Additional Natural/Physical Science with Lab for A&S or Course for Minor/2nd Major^	3-4
WGST Elective	3
Elective	3

\*HFA must be from a 2nd discipline.

\*SS must be from a 2nd discipline.

^A&S College Requirement Options.

**Credits 15-16**

### Spring

Additional Additional Humanities/Fine Arts course for A&S or course for Minor/2nd Major*	3
Additional Social Science course for A&S or course for Minor/2nd Major**	3
WGST Elective	3
Elective	3
Elective	3
*A&S College Requirement Options. Additional HFA must be from 3rd discipline.	
**A&S College Requirement Options. Additional SS must be from 3rd discipline.	

### Senior

Fall		Credits
WGST Elective		3
WGST Elective		3
Elective or Minor/2nd Major Course		3
Elective or Minor/2nd Major Course		3
Elective**		3
*Students need 27 upper level credits throughout the degree. Electives may need to be selected at the 3000-4000 level to reach this minimum.		
NOTE: 120 credits minimally needed for a degree. Take as many electives as is needed to reach this minimum.		
<b>Credits</b>		<b>15</b>

### Spring

WGST 4010	SENIOR SEMINAR (*)	3
WGST Elective		3
Elective or Minor/2nd Major Course		3
Elective**		3
Elective**		3
Elective		0-1
*WGST 4010: Requires senior standing and completion of five WGST courses including WGST 2010 and 2020 with a grade of C or better.		
*Students need 27 upper level credits throughout the degree. Electives may need to be selected at the 3000-4000 level to reach this minimum.		
NOTE: 120 credits minimally needed for a degree. Take as many electives as is needed to reach this minimum.		
<b>Credits</b>		<b>15-16</b>
<b>Total Credits</b>		<b>119-121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.0

## Women's and Gender Studies Minor

### Requirements

The WGS minor requires 18 credits:

Code	Title	Credits
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	3
Select 12 credits of approved upper-division (3000-4000 level) WGST elective courses (see below)		12
<b>Total Credits</b>		<b>18</b>

Please be advised that students who elect to complete **both** the WGS minor and LGBTQ-Sexuality Studies minor may count no more than two upper-division courses toward the completion of both minors.

### Electives

Code	Title	Credits
WGST 3000	SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES	3
WGST 3020	PERSPECTIVES ON LEADERSHIP	3
WGST/PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
WGST 3120/ RELI 3130	WOMEN AND THE BIBLE	3
WGST/PSCI 3130	WOMEN AND POLITICS	3
WGST/CRCJ 3390	WOMEN, CRIME AND JUSTICE	3
WGST/PHIL 3490	GENDER AND PHILOSOPHY	3
WGST/CMST 3750	GENDER AND COMMUNICATION	3
WGST 4020	INTERNSHIP IN WOMEN'S AND GENDER STUDIES	1-6
WGST 4030	PERSONAL LEADERSHIP	3
WGST/HIST 4060	HISTORY OF WOMEN IN AMERICA FROM 1875 - 1922	3
WGST/GEOG 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
WGST/ENGL 4250	WOMEN'S STUDIES IN LITERATURE	3
WGST/GERO/PHHB 4550	HEALTH ASPECTS OF AGING	3
WGST 4930	SPECIAL TOPICS IN GENDER AND ART HISTORY	3
WGST/ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE	3

WGST 4990	INDEPENDENT STUDY	1-3
GDRH 3010	SPECIAL TOPICS SEMINAR	1-3
PHHB/SOC 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
HIST 4910	TOPICS IN HISTORY	3
HONR 3000	HONORS COLLOQUIUM	3
PSCI 3920	SPECIAL TOPICS IN POLITICAL SCIENCE	3
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY	1-3
RELI 3500	SPECIAL TOPICS IN RELIGION	3
SOC 3300	SOCIOLOGY OF GENDER	3
SOC 4150	AMERICAN FAMILY PROBLEMS	3
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY	3
SOWK 4880	TOPICAL SEMINAR IN SOCIAL WORK	3
WRWS 3000	SELECTED TOPICS IN WRITING	3
WRWS 4000	FORM AND THEORY	3

## LGBTQ/Sexuality Studies Minor

LGBTQ (lesbian, gay, bisexual, transgender, and queer)/sexuality studies is an interdisciplinary field that examines the identities, experiences, and social positions of people often referred to as sexual/gender minorities. The field also examines sexual behaviors, identities, and communities as sex plays a key role in many people's lives. LGBTQ/sexuality studies has origins in many disciplines, including anthropology, art, English, history, media studies, psychology, public health, sociology, theatre, and women's and gender studies, among others. The field includes topics such as: identity formation of non#heterosexual sexualities, non-binary gender identities, health and wellbeing of sexual/gender minorities, subcultural groups, the politics of identity, and representations of queer lives in popular culture. This minor acknowledges that sexuality is an important distinguishing factor of our lives on par with race, social class, and gender.

The LGBTQ/sexuality studies minor will offer students courses that complement and support their majors in many ways. The minor is intentionally flexible and interdisciplinary. Students who complete this minor will gain increased knowledge in the following:

- sexual identity, orientation, and behaviors, including heterosexualities, homosexualities, gay sexualities, lesbian sexualities, bisexualities, queer sexualities, etc.
- gender identities including trans identities, including but not limited to: genderqueer, non-binary, trans man, trans woman, gender non#conforming, gender creative, etc.
- sexology, or the study of sex and sexual behaviors, and human sexuality broadly
- sexual health such as STIs, HIV, and sexual reproduction
- theories of identity development, queer theory, and other social theories related to sexuality
- intersectionality of sexuality with race, class, gender, religion, ability, nationality, and other social characteristics
- diversity of human behavior and experience as it relates to sex and sexuality.

### Minors Offered

LGBTQ/Sexuality Studies Minor

### Other Information

All coursework taken for the LGBTQ/Sexuality Studies minor must be completed with a grade of "C" or better.

## Contact

The LGBTQ/Sexuality Studies minor is a minor option under Women's and Gender Studies. The advisor for the program is Dr. Jay Irwin. For more information, please contact him at [jirwin@unomaha.edu](mailto:jirwin@unomaha.edu).

## Requirements

Undergraduate students will be expected to complete at least 15 credit hours of LGBTQ/Sexuality courses with a grade of C or higher. Nine credit hours must be upper division (3000 or higher) courses. No more than nine credit hours will be accepted as transfer credit.

Courses not on the list can be petitioned to be accepted by approval of the Advisor of the minor.

Code	Title	Credits
<b>Required Courses</b>		
WGST 2010/2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
or WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	
SOC 3700	INTRODUCTION TO LGBTQ STUDIES	3
WGST/PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
<b>Supplemental Courses</b>		
Select two courses from the following:		6
Art History:		
ART 4930	SPECIAL TOPICS IN ART HISTORY <sup>1</sup>	
English:		
ENGL/WGST 3000	SPECIAL TOPICS IN ENGLISH <sup>2</sup>	
ENGL 3300	JUNIOR TOPICS IN AMERICAN LITERATURE <sup>3</sup>	
ENGL/WGST 4960	TOPICS IN LANGUAGE AND LITERATURE <sup>4</sup>	
Health Education:		
PHHB/SOC 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
Honors Program:		
HONR 3030	HONORS COLLOQUIUM-SOCIAL SCIENCES <sup>5</sup>	
Political Science:		
PSCI/WGST 3100	LGBT POLITICS	
PSCI/WGST 3130	WOMEN AND POLITICS	
Psychology:		
PSYC 3540	ADOLESCENT PSYCHOLOGY <sup>6</sup>	
PSYC/BIOL 4320	HORMONES & BEHAVIOR	
Sociology:		
SOC 3300	SOCIOLOGY OF GENDER	
SOC 4310	SOCIOLOGY OF SEXUALITIES	
SOC 4800	CONTEMPORARY TOPICS IN SOCIOLOGY (Topics in Transgender Studies)	
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> ART 4930 when offered as: *Gender and Sexuality in Antiquity: Fashion in Modern Art & Culture*

<sup>2</sup> ENGL 3000 when offered as: *Rhetoric in Film: Queer Film*

<sup>3</sup> ENGL 3300 when offered as: *American Queer West*

<sup>4</sup> ENGL 4960 when offered as: *Language, Gender, and Sexuality, Writing Women's Lives; Writing Graphic Memoirs*

<sup>5</sup> HONR 3030 when offered as: *LGBTQ Health*

<sup>6</sup> Select sections of PSYC 3540, per approval of the minor advisor.

Please be advised that students who elect to complete both the WGS minor and LGBTQ-Sexuality Studies minor may count no more than two upper-division courses toward the completion of both minors.

## College of Business Administration (CBA)

### College of Business Administration Mission

UNO CBA provides a balance of academic perspectives with practical applications.

"We engage our students in learning experiences that enable them to become knowledgeable, motivated, and resourceful business professionals."

"We impact and transform practice and advance scholarly thought through research and diverse community engagement."

### College of Business Administration Vision

As a premier College of Business Administration, UNO CBA will further our reputation as the region's leading provider of business education and expertise.

### Other Information Relevant to the College of Business Administration

#### Attendance at First CBA Class Meeting

Students not present at the first class meeting of a College of Business Course, without prior notification to the instructor, may be administratively withdrawn from the course.

### Accreditation Information

The UNO College of Business Administration undergraduate and graduate programs are accredited by AACSB - the International Association to Advance Collegiate Schools of Business. This is the highest level of accreditation possible for a College of Business.

The Accounting Programs in the UNO College of Business Administration hold specialized Accounting Accreditation by AACSB. Less than 200 Accounting Programs worldwide have earned specialized AACSB Accounting Accreditation.

Major	Degree	Accreditation Body
Accounting	BSBA MAcc	Association to Advance Collegiate Schools of Business (AACSB International)
Business Administration	Executive MBA	Association to Advance Collegiate Schools of Business (AACSB International)
Business Administration	MBA	Association to Advance Collegiate Schools of Business (AACSB International)
Banking and Financial Markets	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Business Analytics	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)

Business Finance	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Economics	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Entrepreneurship	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Human Resource Management	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
International Business	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Investment Science & Portfolio Management	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Legal Studies	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Management	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Marketing	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Real Estate & Land Use	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Sales	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)
Supply Chain Management	BSBA	Association to Advance Collegiate Schools of Business (AACSB International)

## Choice of Catalog Policy

A student registering in the College of Business Administration of UNO for the first time may, except for the following limitations, complete work for the degree according to:

- The requirements of the catalog of the year in which you last entered the College and have since been in continuous enrollment (i.e., **no enrollment gap of more than two consecutive semesters**) OR
- The catalog current at the time the student applied for the BSBA degree. For students continuously enrolled, a seven-year rule applies in that the catalog for students who have been continuously enrolled can only extend back seven years.
- The earliest catalog available to an intra-University transfer will be the catalog in use when the student transferred to the College of Business Administration

## Careers

Business is a broad, flexible, and valuable field of study. Students who graduate with a business degree can choose from a variety of professions in a number of industries and fields. Individuals with business degrees may find career opportunities working in government, large, mid-size, and small companies, nonprofit organizations, and institutions of higher education. A business degree prepares students for a fulfilling and flexible career, matching personal interests with professional ambitions, and allowing for the ability to pivot and flex careers as opportunities arise. Although a business degree applies to a vast array of careers, allowing an individual to work in any number of industries or roles, for ease of use, a list of possible business-related careers is broken down by department.

For more information about Business careers, please contact the CBA Career Center. Website (<https://www.unomaha.edu/college-of-business-administration/career-center/>):

402.554.2365 (<https://www.unomaha.edu/college-of-business-administration/career-center/402.554.2365>) | [unocareercentercba@unomaha.edu](mailto:unocareercentercba@unomaha.edu) | Mammel Hall 134T & 134X | 6708 Pine Street | Omaha, Nebraska 68182

## Program Contact Information

CBA Advising Office  
UNO College of Business Administration  
134H Mammel Hall  
University of Nebraska at Omaha  
6708 Pine Street  
Omaha, NE 68182-0048

**Advising Phone:** 402.554.3419  
**e-mail:** [unocbaadvising@unomaha.edu](mailto:unocbaadvising@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-business-administration/>)

## Admission Requirements

Incoming freshman must meet general university admission requirements to be admitted into the College of Business Administration. Transfer students and current UNO students must have a minimum 2.50 cumulative GPA to be admitted into the College of Business Administration.

## Academic Requirements for the College Degree

### Number of Hours to Graduate

Students must earn a minimum of 120 credit hours in courses acceptable to the College of Business Administration to earn a BSBA degree.

42 semester hours must be earned in upper-division courses (3000-4000 level classes).

BSBA students earn 24 upper-division (3000/4000 level) credit hours in the business core curriculum and 18-24 hours in their BSBA concentrations.

The last 30 of 36 consecutive semester hours for a degree must be earned following admission to the College of Business Administration. A minimum of nine (9) of the twenty-four (24) required business core hours and one-half of the required concentration hours must be completed at UNO.

No more than 12 semester hours may be taken in any one department outside the College of Business Administration. Students who have completed a declared major or minor from a department outside of CBA can apply more than 12 hours.

Students completing an additional major or minor in French, German or Spanish may apply all foreign language credit toward a BSBA degree. Otherwise, no more than 16 semester hours in any one foreign language

may be applied toward a degree. More than one foreign language is allowed.

A maximum of eight (8) semester hours in music laboratory courses such as band, chorus or orchestra may be applied toward the degree.

The College of Business does not require any physical education activity (PEA) courses. A total of four hours of PEA courses from different areas may be applied toward the degree.

A maximum of 24 hours of combined Credit/No Credit, credit by examination, College Level Examination (CLEP) and professional development course credit may be applied.

### **Requirements for a Bachelor of Science in Business Administration (BSBA) Degree**

Undergraduate students who complete a degree from UNO's College of Business Administration earn a Bachelor of Science in Business Administration (BSBA) with at least one area of concentration in business (See the complete list of BSBA concentrations)

All BSBA concentrations require 18 credit hours, except Accounting, which requires 24 credit hours.

Some concentrations or secondary concentrations require students to earn a "C+" or better in a specific foundation courses. Specifically, MGMT 3490 is the foundation course for the Management and Human Resource Management concentration as well as for the Management secondary concentration. MKT 3310 is the foundation course for the Marketing & Sales concentration as well as for the Marketing & Sales secondary concentration. Finally, FNBK 3250 is the foundation course for the Business Finance, Banking and Financial Markets, and Investment Science & Portfolio Management concentrations as well as the Business Finance secondary concentration.

To meet requirements for the BSBA degree, students must earn a minimum of 120 credit hours in courses acceptable to the College of Business Administration, 42 of those credits must be upper division courses (3000-4000 level), with the following requirements:

- Business GPA of 2.50 or above
- Cumulative GPA of 2.50 or above
- GPA of 2.50 or above for all upper division accounting courses (excluding ACCT 3000, ACCT 4500, and ACCT 4510) for the accounting concentration & secondary concentration.
- Must earn a "C" or better in classes for it to count towards the BSBA degree
- The grade of "C-" or better will be accepted in General Education courses (Natural Science, Humanities, & Social Science (except ECON 2200 & ECON 2220))

### **Transfer Credit Policy**

CBA will accept upper-division core courses completed at AACSB institutions.

In order for an upper-division core course to be accepted from non-AACSB institutions, the student must complete an additional upper-division course from an AACSB accredited school within the same department to validate the transfer course. Please contact your CBA advisor to learn more about validation.

Courses completed for validation must be completed with a grade of C (2.00) or better.

Only transfer courses with a grade of "C" or higher will be applied toward the BSBA degree.

### **Unacceptable Credits**

Remedial courses and orientation courses at other institutions will not apply to the 120 minimum credit hours.

No business course may be taken on a Credit/No Credit basis.

A maximum of six hours of professional development course credit may be taken from any educational body if evaluated by the American Council on Education (ACE) as equivalent to collegiate credit, and then may be applied toward the degree. Such credit may be used for non-business electives. The department chair must give written approval if a course is to be used for concentration elective hours or as a substitute for a required concentration course.

Business core requirements taken as professional development courses are not applicable to the BSBA degree.

### **Retroactive Credit Policy**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Advanced Placement Credits**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Military Credit**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **IB Credit**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Placement Exams and Credit by Examinations Policies/Practices**

<https://nextcatalog.unomaha.edu/undergraduate/student-life-support-services/testing-center/> (p. 64)

### **Residency Requirement**

The last 30 of 36 consecutive semester hours for a degree must be earned following admission to the College of Business Administration. A minimum of nine (9) of the twenty-four (24) required business core hours and one-half of the required concentration hours must be completed at UNO.

### **Quality of Work**

Any students earning below a 2.50 cumulative GPA for any semester while enrolled in the BSBA degree program will be placed on a "warning status." No grade below a C (2.00) will be counted as satisfactory completion of CBA courses.

### **Good Academic Standing Policy**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Credit/No Credit (CR/NC) Grades**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Completion of Incomplete Grade**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Repeatable Grades/Courses**

Effective Fall 2002, a student may only attempt each required business core course three times.

This policy applies to the following courses:

Code	Title	Credits
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
BSAD 3160	MANAGERIAL STATISTICS FOR BUSINESS	4
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
MGMT 3490	MANAGEMENT	3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
MKT 3200	BUSINESS COMMUNICATIONS	3
MKT 3310	PRINCIPLES OF MARKETING	3
SCMT 3500	OPERATIONS MANAGEMENT	3

Any grade earned, excluding CR, W, NC, NR, I, IP, AU, S, U or R will count as an attempt for the three times limit.

If the student does not earn a C (2.00) or better on the third attempt of that required core course, the student is no longer eligible to receive a business degree at UNO.

The Undergraduate Program Council will only consider appeals of the three-attempt rule when the circumstances for the appeal are documented and the reason for the appeal is extraordinary.

Upper-division accounting courses may be taken only twice.

## Appeal Process

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Grade Appeal Policy

Students who wish to appeal a grade which they feel was capriciously or prejudicially awarded shall first discuss the matter with the instructor and/or the department chairperson. If a satisfactory agreement cannot be reached, the student may submit a written appeal to the CBA Associate Dean by the deadlines listed below.

- For a course completed during the fall semester: The last business day in January
- For a course completed during the spring semester: The last business day in June
- For a course completed during any of the summer sessions: the last business day in September

The CBA Undergraduate Grade Appeal Committee will hold a grade appeal hearing to make a final determination based on the facts presented.

## Academic Amnesty

A student may remove one or two semester's grades from the student's cumulative GPA and degree consideration by petitioning for academic amnesty in the CBA advising office. Removal of grades via academic amnesty shall be by entire semester(s). Students are allowed a maximum of two (2) semesters of amnesty.

Petitioning students, after the term(s) for which they are seeking amnesty, must have completed 12 consecutive hours with a minimum GPA of 2.75.

Students who are granted academic amnesty will not be eligible for degree with academic honors.

Academic amnesty will remove a CBA core course attempt from the Three-Attempt Rule under Academic Performance. The petition for academic

amnesty is submitted to the academic advisor and the advisor will apply this policy to approve or deny the petition on behalf of the Undergraduate Program Council.

## Academic Probation and Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Reinstatement Policy Following Academic Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Academic Advising

The aim and purpose of academic advising is to assist students in meeting the requirements of the degree program and to interpret college policies regarding academic requirements. In the College of Business Administration, academic advising is carried out by CBA's undergraduate advisors. Students should see an academic advisor whenever questions arise concerning academic programs, but especially prior to registering for freshman year and registering for senior year.

## Advising Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Student Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Declaring a Concentration

Students may declare a BSBA concentration when applying to the university or at any point.

Students who did not declare a BSBA concentration when applying to the university must meet with a CBA advisor to complete the BSBA declaration process.

## Senior Check

A senior check will be processed for each BSBA student upon completion of 90 credit hours. This audit provides an official list of the student's remaining degree requirements. Students will be required to meet with an advisor to review the senior check. Final responsibility for scheduling courses and satisfactorily completing curriculum requirements for any degree rests with the student.

# Bachelor of Science in Business Administration (BSBA) Degree

Undergraduate students who complete a degree from UNO's College of Business Administration earn a Bachelor of Science in Business Administration (BSBA) with at least one area of concentration in business (See the complete list of BSBA concentrations)

All BSBA concentrations require 18 credit hours, except Accounting, which requires 24 credit hours.

Some concentrations or secondary concentrations require students to earn a "C+" or better in a specific foundation courses. Specifically, MGMT 3490 is the foundation course for the Management and Human Resource Management concentration as well as for the Management secondary concentration. MKT 3310 is the foundation course for the Marketing & Sales concentration as well as for the Marketing & Sales secondary concentration. Finally, FNBK 3250 is the foundation course for the Business Finance, Banking and Financial Markets, and Investment Science & Portfolio Management concentrations as well as the Business Finance secondary concentration.

To meet requirements for the BSBA degree, students must earn a minimum of 120 credit hours in courses acceptable to the College of Business Administration, 42 of those credits must be upper division courses (3000-4000 level), with the following requirements:

- Business GPA of 2.50 or above
- Cumulative GPA of 2.50 or above
- GPA of 2.50 or above for all upper division accounting courses (excluding ACCT 3000, ACCT 4500, and ACCT 4510) for the accounting concentration and secondary concentration
- Must earn a "C" or better in classes, for it to count towards the BSBA degree
- The grade of "C-" or better will be accepted in General Education courses (Natural Science, Humanities, & Social Science (except ECON 2200 & ECON 2220))

An Advising hold will be placed if a student does not meet the 2.5 GPA. The hold will not be removed until the requirements are met or the student chooses a major outside the College of Business Administration.

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the BSBA degree, this is MKT 3200.

## MBA Fast Track

The College of Business Administration MBA program has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a BSBA degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

### Program Specifics:

- This program is available for undergraduate students pursuing a BSBA degree and desiring to pursue an MBA
- Students must have completed no less than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.0
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Contact Information

CBA Advising Office  
UNO College of Business Administration  
134H Mammel Hall  
University of Nebraska at Omaha  
6708 Pine Street  
Omaha, NE 68182-0048

**Advising Phone:** 402.554.3419

**e-mail:** unocbaadvising@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-business-administration/>)

## BSBA Degree Requirements

All BSBA students must complete CBA's pre-business core courses **and** CBA's upper division (3000/4000) business core courses. Students must choose at least one area of concentration.

### CBA Required Fundamental Academic Skills Courses

(All courses must be completed with a C (2.00) or better).

Code	Title	Credits
ENGL 1150/1154	ENGLISH COMPOSITION I	3
ENGL 1160/1164	ENGLISH COMPOSITION II	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
or MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Total Credits</b>		<b>13</b>

### CBA Required Business Core Courses

(All courses must be completed with a C (2.00) or better. However, some concentrations or secondary concentrations require a C+ (2.33) or better in a specific core course. See note below for specific details.)

Code	Title	Credits
A 2.30 GPA is required to enroll in these required courses (except for ECON 2200 & ECON 2220):		
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
A 2.50 GPA is required to enroll in these required courses:		
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
MKT 3200	BUSINESS COMMUNICATIONS	3
MKT 3310	PRINCIPLES OF MARKETING <sup>1</sup>	3
MGMT 3490	MANAGEMENT <sup>1</sup>	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT <sup>1</sup>	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
<b>Total Credits</b>		<b>39</b>

### <sup>1</sup> Prerequisites for Upper Division Core Courses

Note: MGMT 3490 must be completed with a C+ (2.33) or better for the Management and Human Resource Management concentration, and the Management secondary concentration; MKT 3310 must be completed with a C+ (2.33) or better for the Marketing & Sales concentration and the Marketing & Sales secondary concentration; and FNBK 3250 must be completed with a C+ (2.33) or better for the Business Finance, Banking and Financial Markets, and Investment Science & Portfolio Management concentrations and the Business Finance secondary concentration.

### Prerequisites for Upper Division BSBA Core Courses

Code	Title	Credits
MKT 3200	BUSINESS COMMUNICATIONS	3
Prerequisites:		

ENGL 1160	ENGLISH COMPOSITION II	
CMST 1110	PUBLIC SPEAKING FUNDS	
MKT 3310	PRINCIPLES OF MARKETING	3
Prerequisites:		
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
MATH 1220	COLLEGE ALGEBRA	
ENGL 1160	ENGLISH COMPOSITION II	
MKT 3200	BUSINESS COMMUNICATIONS	
MGMT 3490	MANAGEMENT	3
Prerequisites:		
ENGL 1160	ENGLISH COMPOSITION II	
MKT 3200	BUSINESS COMMUNICATIONS	
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Prerequisites:		
ENGL 1160	ENGLISH COMPOSITION II	
CMST 1110	PUBLIC SPEAKING FUNDS	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
MKT 3200	BUSINESS COMMUNICATIONS	
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
Prerequisites:		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
MATH 1320	PRE-CALCULUS ALGEBRA	
or MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
or BSAD 3160	MANAGERIAL STATISTICS FOR BUSINESS	
ENGL 1160	ENGLISH COMPOSITION II	
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Prerequisites:		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
MGMT 3490	MANAGEMENT	
MKT 3200	BUSINESS COMMUNICATIONS	
SCMT 3500	OPERATIONS MANAGEMENT	3
Prerequisites:		
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
or BSAD 3160	MANAGERIAL STATISTICS FOR BUSINESS	
ENGL 1160	ENGLISH COMPOSITION II	
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Prerequisites:		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	
MKT 3310	PRINCIPLES OF MARKETING	
MGMT 3490	MANAGEMENT	
MKT 3200	BUSINESS COMMUNICATIONS	
Graduating seniors with a 2.5 GPA are given enrollment priority. Must be taken in the graduating semester.		

### Required Speech Course

BSBA students are also required to complete a second 3-credit speech course (beyond Public Speaking Fundamentals) from the following list (all courses must be completed with a C (2.00) or better):

Code	Title	Credits
CMST 2120	ARGUMENTATION AND DEBATE	3
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	3
CMST 3120	PERSUASIVE SPEAKING	3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	3
CMST 3140	ADVANCED PUBLIC SPEAKING	3
CMST 3150	INTERCOLLEGIATE FORENSIC ACTIVITIES	1-3
CMST 3160	INTERCOLLEG FORENSIC ACTVTS	1-3
MKT 3100	PROFESSIONAL SELLING	3

Students must complete at least six hours of course work beyond the general education diversity requirement with a global perspective (i.e., history, political science, literature or geography of foreign countries, foreign languages, international business, etc.). Global courses include all university general education global diversity courses listed on the General Education website, plus the international business courses shown on the student's DegreeWorks website.

Students must complete MGMT 4480 their last semester. Students who have not completed FNBK 3250, MKT 3310, MKT 3200 and MGMT 3490 with a C (2.00) or better or who have a GPA below 2.50 will be administratively withdrawn from MGMT 4480. Preference is given to students who will graduate that semester.

The college reserves the right to institute and make effective, after due notice, during the course of a student's work toward a degree, any new ruling which may be necessary for the general good of the college, and to substitute courses currently offered for those no longer offered.

Each student admitted to the college is responsible for becoming familiar with the procedures and regulations in the undergraduate catalog.

Specific requirements for each CBA concentration are identified in the following section of this catalog.

Credits not required under general education requirements, the required business core curriculum, or a BSBA concentration can be taken as electives in business and/or in non-business areas to complete the required 120 hours for the BSBA degree.

### Concentrations Offered

- Accounting Concentration (p. 372)
- Banking and Financial Markets Concentration (p. 383)
- Business Analytics Concentration (p. 384)
- Business Finance Concentration (p. 386)
- Economics Concentration (p. 379)
- Entrepreneurship Concentration (p. 405)
- Human Resource Management Concentration (p. 398)
- International Business Concentration (p. 367)
- Investment Science and Portfolio Management Concentration (p. 388)
- Legal Studies Concentration (p. 389)
- Logistics & Supply Chain Management Concentration (p. 399)
- Management Concentration (p. 396)
- Marketing Concentration (p. 406)
- Real Estate and Land Use Economics Concentration (p. 391)
- Sales Concentration (p. 408)

### Program Certificate Offered

- Real Estate and Land Use Economics Program Certificate (p. 393)
- UNO Real Estate Certificate (p. 393)

## Accounting

### ACCT 2000 ACCOUNTING BASICS FOR NON-BUSINESS MAJORS (3 credits)

This course is designed to provide non-business students with an understanding of basic accounting terms and concepts, an understanding of the usefulness of accounting data for decision-making by internal and external business stakeholders, and the skills to actually use accounting data in decision-making.

**Prerequisite(s)/Corequisite(s):** Student must be a non-business student. ENGL 1150 and MATH 1310 or MATH 1220 with 'C'-(2.0) or better. Not open to non-degree graduate students

**Distribution:** Social Science General Education course

### ACCT 2010 PRINCIPLES OF ACCOUNTING I (3 credits)

Basic concepts and assumptions underlying financial accounting; basic structure of accounting; the accounting cycle; external financial statements of the enterprise with emphasis on the corporation; income determination; accounting for and reporting of assets, liabilities and owners' equity; analysis and reporting of cash flows; financial statement analysis.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 with a 'C' (2.0) or better, a GPA of 2.5 or higher, and MATH 1370 or MATH 1930 with a 'C' (2.0) or better or concurrent enrollment in MATH 1370 or MATH 1930

### ACCT 2020 PRINCIPLES OF ACCOUNTING II (3 credits)

A study of techniques and concepts affecting internal accounting in a business organization. These include budgeting in general, costing systems, variance analysis and generating reports for management decision-making. Special topics include segment reporting, control of decentralized operations, capital budgeting, and service department cost allocations.

**Prerequisite(s)/Corequisite(s):** ACCT 2010, ENGL 1150, and MATH 1370 or MATH 1930, each with a C (2.0) or better, and a GPA of 2.5 or higher.

### ACCT 3000 MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT (3 credits)

This course highlights the important role of a managerial accountant in managing a global supply chain and covers the key accounting techniques for supply chain management. (Cross-listed with SCMT 3000)

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with a grade of C (2.0) or better or ACCT 2000 with a grade of C (2.0) or better and cumulative GPA of 2.5 or higher. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160. Not open to non-degree graduate students.

### ACCT 3020 BASIC FEDERAL INCOME TAXATION (3 credits)

This course provides an introduction to the basic concepts and principles of federal income tax with an emphasis on concepts unique to individual taxpayers.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ENGL 1150, ECON 2200 and ECON 2220 with a 'C' (2.0) or better in each course. Cumulative GPA of at least 2.5.

### ACCT 3030 INTERMEDIATE FINANCIAL ACCOUNTING I (3 credits)

A more intensive study of basic accounting theory and principles learned in ACCT 2010. Topics include a conceptual framework of accounting, net income concepts, financial statements, present value applications, revenue recognition, current assets, plant assets, and intangible assets.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, and ECON 2220, with a grade of 'C' (2.0) or better in each course and a 2.5 GPA. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

### ACCT 3040 INTERMEDIATE FINANCIAL ACCOUNTING II (3 credits)

This is the second of two courses in intermediate financial accounting. This course focuses on financial reporting issues relating investments, debt financing, leases, contingencies, cash flows reporting and income taxes.

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a 'C' (2.0) or better.

### ACCT 3050 INTERMEDIATE MANAGERIAL ACCOUNTING (3 credits)

The objective of managerial accounting is to provide management with relevant and timely information to aid economic decision making. This course analyzes numerous economic decisions and identifies what information is relevant. Special attention is given to how different cost accumulation systems and different cost accounting and estimating techniques can aid the decision-making process.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, ECON 2220, and BSAD 2130, BSAD 3140 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

### ACCT 3080 ACCOUNTING INFORMATION SYSTEMS (3 credits)

Introduction to professional accounting information systems, including information systems concepts, accounting and database software and research tools to provide a foundation for subsequent accounting courses.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200 and ECON 2220, with "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

### ACCT 4010 ADVANCED FINANCIAL ACCOUNTING (3 credits)

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 8016)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ACCT 3040 with "C+" (2.33) or better in each and ENGL 1160 with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

### ACCT 4020 ANALYTICS FOR ACCOUNTING (3 credits)

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 8026).

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, and ENGL 1160 each with C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

### ACCT 4040 ADVANCED FEDERAL INCOME TAXATION (3 credits)

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 8046.)

**Prerequisite(s)/Corequisite(s):** ACCT 3020, ACCT 3030, and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

### ACCT 4060 ADVANCED MANAGERIAL ACCOUNTING (3 credits)

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 8066.)

**Prerequisite(s)/Corequisite(s):** ACCT 3050, ACCT 3080, and ENGL 1160, each with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4070 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 8076.)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4080 PRINCIPLES OF AUDITING (3 credits)**

An introduction to auditing, Standards, responsibilities, professional ethics, the audit framework, evidence and reports are studied.

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, ENGL 1160, and BSAD 2130 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course will provide an introduction of auditing an advanced accounting information system. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association. Accounting information systems control and security practices, and their assessment, will be discussed in the areas of operations, physical and logical access, systems, networks, development and applications, and incorporating hands-on exposure to automated evaluation tools.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4500 INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific problems in the field of accounting.

**Prerequisite(s)/Corequisite(s):** Must have permission of the School of Accounting director.

**ACCT 4510 ACCOUNTING INTERNSHIP (1-3 credits)**

A course for junior or senior accounting students to apply their academic accounting knowledge to accounting practice in an employment situation. A student report on the internship experience and an employer's evaluation of the student's performance are course requirements. Can be applied to free electives, but not accounting specialization electives. (Maximum of 3 hours)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a C (2.0) or better, and permission of internship coordinator.

**ACCT 8016 ADVANCED FINANCIAL ACCOUNTING (3 credits)**

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 4010).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3040 with a grade of "C+" (2.33) or better in each. Not open to non-degree graduate students.

**ACCT 8026 ANALYTICS FOR ACCOUNTING (3 credits)**

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 4020).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3080 with a grade of "C" (2.0) or better in each. Not open to non-degree graduate students.

**ACCT 8046 ADVANCED FEDERAL INCOME TAXATION (3 credits)**

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 4040).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3020 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8050 FINANCIAL STATEMENT ANALYSIS (3 credits)**

Using the financial statement and supplemental information as inputs, this course utilizes a systematic fundamental analysis approach across a variety of decision-making contexts to understand how a business generates value for shareholders.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3040 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8066 ADVANCED MANAGERIAL ACCOUNTING (3 credits)**

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3050 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8076 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8080 DATABASE DEVELOPMENT AND USE IN AIS (3 credits)**

This course will cover tools and methods that facilitate business analytic techniques, including database development and use, data mining, and information analysis for decision-making. A working understanding of spreadsheet software is assumed.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course presents a broad overview of the professional practice of information systems audit, emphasizing control and audit procedures related to security along with Information Technology General Controls. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Admission to MAcc or MBA program or permission of instructor. Not open to non-degree graduate students.

**ACCT 8210 FINANCIAL ACCOUNTING THEORY (3 credits)**

The development of accounting, current accounting theory and present controversies and suggested theory and practice.

**Prerequisite(s)/Corequisite(s):** ACCT 3040. Not open to non-degree graduate students.

**ACCT 8220 GRADUATE TOPICS IN INCOME TAXATION (3 credits)**

This course will discuss commonly encountered tax issues such as gift and estate taxation, income taxation of estates and trusts, and exempt organizations, as well discuss current events while introducing the student to practitioner-oriented research publications.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better, or concurrent enrollment in ACCT 4040 or ACCT 8046. Not open to non-degree students.

**ACCT 8230 MANAGEMENT ACCOUNTING ISSUES (3 credits)**

An analysis of information to assist managers in determining successful strategies, developing those strategies into plans and controlling operating activities to achieve strategic goals.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3050 or BSAD 8210 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8250 SEMINAR IN ACCOUNTING (3 credits)**

A study of a specific area within the accounting discipline. Possible areas include: auditing, financial, managerial, systems and tax. May be repeated, but no area can be taken more than once.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA programs or permission of instructor. Not open to non-degree students.

**ACCT 8260 FEDERAL TAX RESEARCH AND PLANNING (3 credits)**

This course is intended to provide students with a working knowledge of the primary and secondary tax resources used in practice to solve tax problems, as well as basic tax planning concepts.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better. Not open to non-degree students.

**ACCT 8280 SEMINAR IN ACCOUNTING INFORMATION SYSTEMS (3 credits)**

This course examines current topics in Accounting Information Systems (AIS), how AIS contributes to business effectiveness and ineffectiveness, and the interaction between AIS and human decision-makers.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8290 ADVANCED FINANCIAL AUDITING (3 credits)**

This course will provide students with an intense study of financial auditing in accordance with generally accepted auditing standards.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 4080 with a grade of "C" (2.0) or better.

**ACCT 8900 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course in which the student completes a focused project, typically individual research, under faculty supervision to supplement graduate study in a specific area within the Accounting discipline.

**Prerequisite(s)/Corequisite(s):** Completed contract and permission needed from director of MAcc program. Not open to non-degree graduate students.

**ACCT 8910 SPECIAL TOPICS IN ACCOUNTING (3 credits)**

A variable content course with accounting topics based on student and faculty interest. May be repeated to a maximum of six (6) hours.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc program and permission of instructor. Not open to non-degree graduate students.

## Economics

**ECON 1200 AN INTRODUCTION TO THE U.S. ECONOMY (3 credits)**

An introduction to U.S. economy and an investigation of U.S. and international economic problems and policies.

**Prerequisite(s)/Corequisite(s):** Not available to students who have completed either ECON 2200 or 2220.

**Distribution:** Social Science General Education course

**ECON 2200 PRINCIPLES OF ECONOMICS (MICRO) (3 credits)**

An introduction to economic principles, decision making and policies affecting product and resource markets. Particular emphasis is on price, output and input decisions by individuals and firms under various market conditions. An introduction to the fundamentals of international trade.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and MATH 1310 or MATH 1220 with 'C-' (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

**ECON 2220 PRINCIPLES OF ECONOMICS (MACRO) (3 credits)**

An introduction to economic principles, decision making and policies on national income and output, employment, growth, money, the price level and the international economy.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ENGL 1150 with a C-minus (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

**ECON 2400 PRINCIPLES OF ECONOMICS FOR EDUCATORS (3 credits)**

This course teaches principles of microeconomics and macroeconomics to K-12 educators. After taking this course students will be able to use the economic way of thinking to study current economic issues. Students will be introduced to macroeconomic principles, decision-making and policies on national income and output, employment, growth, money, price level, and fundamentals of international issues. Students will study microeconomic issues including product and resource markets, and prices output and input decisions under various market conditions. Economic concepts will be aligned to K-12 state social studies standards. This course cannot be substituted for ECON 2200 and/or ECON 2220.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ENGL 1150. Not open to non-degree graduate students.

**ECON 3130 ECONOMIC GEOGRAPHY (3 credits)**

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with GEOG 3130).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better. or Majoring in Geography

**ECON 3190 SPORTS ECONOMICS (3 credits)**

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Sports Economics, however, students will explore the very real ways in which economics influences sporting competitions and the businesses surrounding them. Students will explore topics such as unionization in sports, discrimination, amateurism, monopoly power, game theory, and more in the context of sports, giving the student a deeper understanding of how these topics apply to real-world problems. After this course, students will understand how readily economics can be applied to businesses and problems in any industry or domain.

**Prerequisite(s)/Corequisite(s):** ECON 2200 OR ECON 1200 OR ECON 2400 OR Instructor Approval. Not open to non-degree graduate students.

**ECON 3200 ECONOMIC THEORY: MICRO (3 credits)**

Analysis of individual, firm and industry behavior in product and factor markets. Provides a theoretical foundation for managerial and public policy decision-making.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3220 ECONOMIC THEORY: MACRO (3 credits)**

This course is designed to follow introductory economics, to examine the determination of output, employment, the price level, inflation, interest rates, and the exchange rate in the economy. Piece-by-piece, theoretical models will be constructed describing how each of these and other variables are determined in both, the long-run and in the short-run. We will analyze how changes in a particular event affect different markets in the economy, and in turn, how one market interacts with another within a general equilibrium framework. A large part of the course will be devoted to business cycle theory, macroeconomic policy issues, and open economy macroeconomics. The world economies are very much integrated, and thus, a full understanding of macroeconomics requires knowledge of international aspects of macroeconomics. The purpose of this course is to provide the student with an understanding of the connection between macroeconomic theory and related policy issues.

**Prerequisite(s)/Corequisite(s):** Completion of ECON 2200 with a C or better AND ECON 2220 with a C or better

**ECON 3290 ECONOMICS OF PUBLIC ISSUES (3 credits)**

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Economics of Public Issues, however, students will explore the real ways in which economics can be used to understand, explain, and answer tough questions that affect everyone. Students will explore and define capitalism and key economic institutions required for economies to develop and prosper. We will examine markets and market failures that exist today. Classes will focus on the outcomes - intended and unintended - of various policies (local, national, and global). While specific issues are going to be covered in the course the intent is that students will learn the tools and strategy of thinking like an economist to guide them through future issues that will come up in their personal, professional, and civic lives.

**Prerequisite(s)/Corequisite(s):** (ECON 2200 AND ECON 2220) OR ECON 1200 OR ECON 2400 OR Instructor Approval.

**ECON 3300 INTRODUCTION TO ECONOMETRICS (3 credits)**

An introduction to empirical research methods in economics. Subjects covered include estimations of the basic linear regression model, hypothesis testing, correlation coefficients, analysis of variance, multicollinearity, dummy variables, specification error, auto-correlation, heteroscedasticity and unconditional forecasting. Empirical illustrations are provided by reference to contemporary economic questions.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, ECON 2220, BSAD 2130 or BSAD 3160, each with a "C" (2.0) or better, or permission of instructor.

**ECON 3310 SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS (3 credits)**

Analytics requires data. Within an organization, this data is usually housed in databases. In this class, you will extract data from these systems using Structured Query Language (SQL), programmatically combine multiple datasets, and learn advanced programmatic data cleaning techniques, such as regular expression.

**Prerequisite(s)/Corequisite(s):** ECON 2200 with a "C" or better

**ECON 3320 INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3 credits)**

This course explores the economic approach to environmental and natural resources. It introduces economic concepts and theory at a level accessible to non-economic majors but still challenging to economic majors. It then applies these to such topics as: air and water pollution, solid and hazardous waste management, renewable and nonrenewable natural resource use, and recycling.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with FNBK 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 3600 INTRODUCTION TO INTERNATIONAL ECONOMICS (3 credits)**

An introduction to analyses of international trade and the international monetary system. Subjects covered include the economic basis for international specialization and trade, the effect of trade on income distribution, commercial policy, economic integration, the balance of payments, adjustment mechanism, exchange rate determination, external effects of monetary and fiscal policy and foreign investment.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 4000 SPECIAL TOPICS IN ECONOMICS (1-5 credits)**

The course content and topic will vary. Please contact the economics department for specific course offerings.

**ECON 4210 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 8216).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4300 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 8306).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4320 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role do markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 8326).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4340 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 8346).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better, or BSAD 8180, or permission of instructor.

**ECON 4350 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 8316).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 4450 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 8456).

**Prerequisite(s)/Corequisite(s):** ECON 3220, or permission of instructor.

**ECON 4500 SPECIAL PROBLEMS IN ECONOMICS (2-3 credits)**

Individual investigation of specific problems in the field of economics under the supervision of a faculty member.

**Prerequisite(s)/Corequisite(s):** Senior and permission of department chair.

**ECON 4510 ECONOMIC INTERNSHIP (1-3 credits)**

Students engage in part time employment in their area of concentration to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required (maximum 3 credit hours).

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in ECON 2200 and ECON 2220; 2.5 Cumulative GPA; junior or senior standing.

**ECON 4570 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 8576).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or permission of the instructor

**ECON 4610 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 8616).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4620 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 8626).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4660 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 8666).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4730 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 8736, BSAD 8736).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**ECON 4850 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 8856)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4990 SENIOR ASSESSMENT (0 credits)**

This assessment tool is part of the Department's Student Outcomes effort. It is designed to monitor the Department's performance and to identify changes needed. Graduating seniors must register for and complete this course in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for ECON 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

**ECON 8010 SEMINAR IN PUBLIC FINANCE (3 credits)**

This course is designed to develop the tools of applied welfare economics and to use these tools to evaluate the expenditure and tax decisions of governments. The structure, effects and reform of the U.S. individual and corporate income taxes, social security and healthcare system will be emphasized. Government debt and deficits will also be discussed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100 or permission

**ECON 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with BSAD 8020).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 or BSAD 8180, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8050 ECONOMIC EDUCATION (3 credits)**

A study and examination of economic principles and how they can be related to the teacher's classroom presentation. This course is designed to furnish the k-12 teacher with sufficient background and understanding to aid in the recognition of economic issues and the teaching of economic concepts and principles.

**Prerequisite(s)/Corequisite(s):** No previous course work in economics. Not open to Economics majors.

**ECON 8200 SEMINAR IN MICRO ECONOMIC THEORY (3 credits)**

The course covers major topics in microeconomic theory. The major topics covered are the theory of consumer behavior, theory of production and cost, theory of the firm, pure exchange economy, general equilibrium, and welfare theory.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220 and ECON 8306 or permission.

**ECON 8210 MANAGERIAL ECONOMICS (3 credits)**

Microeconomics for graduate students of business. Economic analysis of the business firm and its environments, with emphasis on market structure, production possibilities and cost factors. Additional consideration is given to the theory of the firm under conditions of uncertainty. (Cross-listed with BSAD 8100).

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and ECON 2200 or equivalent.

**ECON 8216 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8220 SEMINAR IN MACRO THEORY (3 credits)**

This course traces the development of macroeconomic theory from the classical point of view to current schools of thought. Keynesian, neo-Keynesian and neo-classical models are developed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100, ECON 3220, and ECON 8306, or permission.

**ECON 8230 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, as well as the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of statistical analysis techniques to business situations within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**ECON 8290 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220, or equivalents, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8300 ECONOMETRICS (3 credits)**

The study of the underlying assumptions, techniques and applications of single and multiple equation regression analysis in economics.

**Prerequisite(s)/Corequisite(s):** Basic Statistics, ECON 8306/ECON 4300, or permission. Not open to non-degree graduate students.

**ECON 8306 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 4300).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180.

**ECON 8310 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with BSAD 8080).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**ECON 8316 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 4350).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 8320 TOOLS FOR DATA ANALYSIS (3 credits)**

The course will cover basic principles of programming languages, as well as libraries useful in collecting, cleaning and analyzing data to answer research questions. The course will utilize basic Economic principles and Econometric methods as inspiration for assignments and projects throughout the duration of the course, and will do so in a way that is accessible to non-Economists. This course is intended to introduce the student to the Python programming language as a tool for conducting data analysis. While the course uses Python, the student should be able to move to other languages frequently used in data analysis using the principles taught in this course.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8150 (or equivalent); BSAD 2130 or equivalent; or instructor approval.

**ECON 8326 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role to markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 4320).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, BSAD 8150 or permission of instructor.

**ECON 8330 DATA ANALYSIS FROM SCRATCH (3 credits)**

Econometrics is routinely taught as an application class using a 'black box' like Stata or SAS to perform calculations. This class takes a different approach. Using the Python programming language, we build all estimators from scratch. Additionally, we introduce numerous non-parametric and simulation techniques. This approach to econometrics results in a stronger understanding of statistical assumptions and methods, a better understanding of when a method is appropriate, and stronger programming techniques. Furthermore, a deeper understanding of the underlying mechanics provides the student the ability to program custom procedures not already built into popular software packages.

**Prerequisite(s)/Corequisite(s):** A multivariate or regression analysis course such as ECON 8300, ISQA 9130 or STAT 8436, and a programming class such as ECON 8320 or equivalent programming experience; or instructor approval. Not open to non-degree graduate students.

**ECON 8346 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 4340).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180 or permission of the instructor.

**ECON 8456 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 4450).

**ECON 8576 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 4570).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or Permission from the instructor

**ECON 8600 HEALTH ECONOMICS (3 credits)**

This course is designed to help students understand how the theories and models of economics can be applied to the study of health and health care. The examination of the markets (demand and supply) for health, health care and health insurance is stressed. In addition, the economic analytic tools such as microeconomic theories and economic evaluation methods also will be reviewed and introduced. The objective of this course is to equip students with the knowledge tools to examine and analyze the problems issues of health care from the perspective of economics.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or equivalent.

**ECON 8616 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 4610).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8626 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 4620).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8666 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 4660).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, BSAD 8736.)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students.

**ECON 8856 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 4850).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8910 SPECIAL STUDIES IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses, each designed to focus on current major issues and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing and as indicated for specific workshop or seminar.

**ECON 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6 hours) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with BSAD 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**ECON 8920 INDEPENDENT STUDY (1-3 credits)**

Guided independent study and research.

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and permission of instructor.

**ECON 8940 ECONOMIC INTERNSHIP (1-3 credits)**

Guided internship in a firm or organization that makes use of, or extends, the student's skill in economics.

**Prerequisite(s)/Corequisite(s):** Completion of at least nine hours of graduate level economics and permission of instructor.

**ECON 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of economics. Approval of the topic and the completed project by departmental committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by departmental committee is required.

**Finance and Banking****FNBK 2280 PERSONAL FINANCE (3 credits)**

This course focuses strengthening the development of sound financial habits through knowledge and application of concepts and activities that enhance personal and family finance.

**FNBK 2710 PRINCIPLES OF INSURANCE (3 credits)**

This course is intended to introduce students to the basic concepts of risk and insurance. Special emphasis is placed on the insurance coverage needed by the consumer: life, health, homeowner and auto insurance. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**FNBK 3000 FINANCIAL REPORTING AND ANALYSIS (3 credits)**

Seeks to develop students' understanding of the origin and derivation of accounting data, and their skills in employing the data for the purpose of financial analysis, reporting and valuation.

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with 'C' (2.0) or better.

**FNBK 3250 PRINCIPLES OF FINANCIAL MANAGEMENT (3 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, FNBK 2280, MATH 1320 or MATH 1370 or MATH 1930, BSAD 2130 or 3160, ENGL 1160/ENGL 1164 or concurrent enrollment in ENGL 1160/1164 each with "C" or better and 2.5 GPA.

**FNBK 3330 ENTREPRENEURIAL FINANCE (3 credits)**

This course focuses on venture capital formation and the financing of entrepreneurial ventures. The course is intended for students interested in entrepreneurship, venture capital markets, investment banking, and other careers related to new venture financing and/or deal structuring. The course applies basic financial theory to the unique environment of incubating and growing new ventures. (Cross-listed with ENTR 3330).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C' (2.0) or better.

**FNBK 3400 INVESTMENT PRINCIPLES AND PRACTICES (3 credits)**

A study of the market for investment securities, an introduction to the field of security analysis, and selection and management of a portfolio of securities. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 3500 FINANCIAL MARKETS (3 credits)**

An overview of money and banking, monetary policy, and analysis of the operations of financial markets in a global context, as well as the evolving regulatory framework within which these markets operate.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 and FNBK 3250 with 'C' or better, or approval of instructor.

**FNBK 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with ECON 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**FNBK 3650 COMMERCIAL BANK MANAGEMENT (3 credits)**

This course focuses on the theory and practice of managing commercial banks. Topics covered include but are not limited to: Bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. This course emphasizes the link between theory and practice through readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 3700 INTERNATIONAL FINANCIAL MANAGEMENT (3 credits)**

This course focuses on the application of basic principles and techniques of international financial management to the decision-making process of the multinational firms. The course covers foreign exchange markets, management of foreign exchange risk, international working capital management, and foreign portfolio and direct investment. Factors bearing on international financing and investment decisions, such as political risk and international taxation issues will be also explored. (Fall, Spring, Summer).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.3) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 4000 SPECIAL TOPICS IN FINANCE AND BANKING (1-5 credits)**

The course content and topic will vary. Please contact the CBA for specific course offerings.

**FNBK 4150 INTERMEDIATE FINANCIAL MANAGEMENT (3 credits)**

Seeks to develop the students' ability to identify, analyze and solve integrative problems in management of business finance, including financial analysis, working capital management, capital budgeting decisions, long term financing, and leasing, through the use of prescribed readings, case studies and computer applications. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better, and senior standing. It is highly recommended that a student have an additional 6 hours of finance instruction beyond the introductory course prior to taking this class.

**FNBK 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, MKT 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**FNBK 4500 SPECIAL PROBLEMS IN FINANCE AND BANKING (2-3 credits)**

Individual investigation of specific problems in the fields of finance and banking. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** Senior. Note: permission of department chair required prior to registration.

**FNBK 4510 FINANCE AND BANKING INTERNSHIP (1-3 credits)**

Students will engage in an applied experience in their area of specialization to gain relevant experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required. Note: FNBK4510 may be taken for a maximum of 3 credits.

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C+' or better in FNBK 3250; 2.5 cumulative gpa; junior or senior standing

**FNBK 4570 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with BSAD 8576).

**Prerequisite(s)/Corequisite(s):** Senior standing. Not open to non-degree graduate students.

**FNBK 4590 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control and risk avoidance, among others. (Cross-listed with BSAD 8596).

**Prerequisite(s)/Corequisite(s):** At least junior standing.

**FNBK 4600 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with BSAD 8606).

**Prerequisite(s)/Corequisite(s):** FNBK 3400 and FNBK 3500 both with a 'C' (2.0) or better, and senior or graduate standing.

**FNBK 4610 PORTFOLIO MANAGEMENT (3 credits)**

This course will focus on modern development in portfolio management including efficient markets, stock selection, and hedging procedures. The main objective of this course is to prepare students for the management of financial resources through the development of skills necessary to make prudent investment decisions.

**Prerequisite(s)/Corequisite(s):** FNBK 3400 with a "C+" (2.33) or above, and a 2.5 GPA.

**Law and Society****LAWS 2000 SPECIAL TOPICS IN LAW AND SOCIETY (1-5 credits)**

The course content and topic will vary. Please contact the CBA for specific course offerings.

**LAWS 3170 ETHICS IN BUSINESS (3 credits)**

Application of ethical concepts and principles to moral issues in business including corporate responsibility, discrimination, advertising, competition, whistle-blowing, trade secrets, multinationals, environment, workers' rights, government regulation, investment, bribes, product liability, and consumerism.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**LAWS 3460 REAL ESTATE LAW (3 credits)**

Upper-level survey course in real estate law, which examines estates in land, conveyances, leases, mortgages, easements, zoning, environmental law, contracts, taxes, foreclosures, landlord-tenant relations, agency, Fair Housing, and Nebraska License Law. (Cross-listed with RELU 3460)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**LAWS 3930 BUSINESS LAW FUNDAMENTALS (3 credits)**

LAWS 3930 introduces students to the legal system governing business transactions. This course emphasizes constitutional law, the Common Law, and relevant statutory law. The legal topics covered include litigation and ADR, torts, contracts, Sale of Goods, insurance, international law, and regulation of business.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, CMST 1110, ECON 2200, & MGMT 3200 or MKT 3200 all with 'C'(2.0) or better, 2.5 GPA.

**LAWS 3940 LEGAL AND ETHICAL APPLICATIONS (3 credits)**

LAWS 3940 exposes students to business organization law and ethics. Emphasis is on business organizations (e.g., agency, partnerships, corporations), financial transactions (e.g., checks, liens, securities), and property (e.g., environment, intellectual). Ethics is a discrete subject area studied and its analytical tools are applied to all of these areas of law.

**Prerequisite(s)/Corequisite(s):** LAWS 3930 and ACCT 2020 both with C+ (2.3) or better; 2.5 GPA

**LAWS 4220 LEGAL ISSUES IN MANAGEMENT (3 credits)**

Overview of the general nature of legal knowledge in human resources administration. The course is designed to alert students of the legal considerations when an employer-employee relationship is established. Discusses how human resource practices have been impacted by recent legal developments, anti-discrimination laws, affirmative action and labor relations. (Spring)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, MGMT 3510 or MGMT 4030 with a C(2.0) or better, and a 2.5 GPA

**LAWS 4500 SPECIAL PROBLEMS IN LAW AND SOCIETY (1-6 credits)**

Individual investigation of specific problems in the field of business law. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** Senior and permission of program chair.

**LAWS 4510 LAW AND SOCIETY INTERNSHIP (1-3 credits)**

(maximum of 3 credits) Students engage in part time employment in their area of specialization to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and or reading may be required.

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in Laws 3930; 2.5 cumulative gpa; junior or senior standing.

**LAWS 4910 SEMINAR ON BUSINESS LAW (3 credits)**

Contact the instructor since the content will vary from semester to semester, but will have a strong emphasis on current events. The course will focus on one aspect of relationship between government and business, and its related ethical and international law issues. A major student research project is included.

**Prerequisite(s)/Corequisite(s):** LAWS 3930 and ECON 2200, its equivalent, or permission of department chair.

**LAWS 4930 INTERNATIONAL BUSINESS LAW (3 credits)**

This course is designed to inform students interested in international business transactions of the major legal principles governing international law, the major legal systems affecting the conduct of international business transactions, the domestic and foreign policies of the United States which affect business overseas, and foreign business inside American borders.

**Prerequisite(s)/Corequisite(s):** LAWS 3930.

**Management****MGMT 1500 INTRODUCTION TO BUSINESS (3 credits)**

This course is for students who are interested in gaining foundational knowledge in many aspects of the business world including economics, finance, marketing, management, and accounting.

**Distribution:** Social Science General Education course

**MGMT 3100 MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course covers a broad spectrum of knowledge and techniques in MIS. It presents an overview of the issues and strategies in managing IT resources for organizational effectiveness. Covered topics include but are not limited to IT planning, network computing, functional information systems and their integration, electronic commerce, decision support systems, and data and knowledge management.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, MGMT 3200 or MKT 3200, and MGMT 3490, each with a 'C' (2.0) or better, and a 2.5 GPA. Not open to non-degree graduate students.

**MGMT 3300 STRATEGYU: IDENTIFYING AND LEVERAGING YOUR DISTINCTIVE PROFESSIONAL CAPABILITIES (3 credits)**

StrategyU is a course designed to merge strategic thinking with personal and professional growth. The goal of the course is to enable individuals to identify where they are personally and professionally, where they want to be in both areas in the future, and develop strategies for how to get there.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

**MGMT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MKT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MGMT 3490 MANAGEMENT (3 credits)**

In this course, students will develop a clear understanding of management concepts, develop critical thinking skills in applying management concepts to real world problems and begin to develop the technical, interpersonal, communication, conceptual and decision-making skills that are important to success as a manager in modern organizations. Current management trends are emphasized.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and MGMT 3200 or MKT 3200 each with a "C"(2.0) or above, and a 2.5 cumulative GPA.

**MGMT 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MKT 3600)

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of "C" (2.0). Not open to non-degree graduate students.

**MGMT 3800 CROSS-SECTOR COLLABORATIVE LEADERSHIP (3 credits)**

The goal of PA 3800/MGMT 3800 is to prepare students to serve as collaborative leaders of cross-sector initiatives. Specifically, this course will prepare students for success in working collaboratively across private, nonprofit and public sector organizations while also enhancing their overall development as a leader. Examples of successful and unsuccessful cross-sector collaborations will be explored along with discussions of theories related to cross-sector collaboration. (Cross-listed with PA 3800).

**Prerequisite(s)/Corequisite(s):** Permission from instructor or MGMT 3490 with a grade of C or higher or enrollment in the cross-sector collaborative leadership minor.

**MGMT 4000 SPECIAL TOPICS IN MANAGEMENT (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a management, supply chain management, or human resources management concentration.

**Prerequisite(s)/Corequisite(s):** Permission from the Department of Management chairperson.

**MGMT 4010 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with BSAD 8146).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor

**MGMT 4030 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with BSAD 8136).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4040 ORGANIZATIONAL BEHAVIOR (3 credits)**

In this course students will learn the knowledge and skills necessary to effectively manage and lead others. The discussion and application of topics such as leadership, motivation and attitudes will provide a theoretical grounding in these areas and the opportunity to practice applying these concepts to real-world problems.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

**MGMT 4050 MANAGERIAL DECISION MAKING (3 credits)**

This course will provide students with the opportunity to learn, understand, and apply techniques for effective individual and organizational problem solving. The students will interactively participate in generating, prioritizing and organizing their ideas in order to become better managerial decision-makers/problem solvers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C, or a 2.5 GPA, or permission of instructor

**MGMT 4060 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with BSAD 8066, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 or SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MGMT 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**MGMT 4100 ORGANIZATION CHANGE AND DESIGN (3 credits)**

This course is designed to increase students' understanding and knowledge of how organizations are designed and structured in order to create value and competitive advantage, and how organizations can operate in an effective and efficient manner in an ever-changing environment.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4110 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with BSAD 8166).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor. Students are encouraged to take MGMT 4220 prior to taking this course.

**MGMT 4120 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with BSAD 8156).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4150 INTERNATIONAL MANAGEMENT (3 credits)**

The purpose of this course is to explore management theory and practice from an international or cross-cultural perspective to gain an appreciation for the complexities of managing in diverse cultural, political and economics environments. Specific emphasis is placed on studying the challenges of management and organization in multinational corporations.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA, or permission of instructor.

**MGMT 4220 EMPLOYMENT LAW (3 credits)**

This course is a comprehensive review of the legal framework in human resource management practice. The course is designed to prepare future managers and human resource professionals for the myriad legal issues involved in the employer-employee relationship and what is required for effective compliance. (Spring)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, MGMT 3510 or MGMT 4030 with a C(2.0) or better, and a 2.5 GPA; or permission of instructor.

**MGMT 4230 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices. Students are given a background into systematic decision-making processes, and then are introduced to cases of how actual leaders think and solve problems. Building on these foundational models, students learn how to perform problem solving requirements they will experience as managers. Finally, it concludes with a look at psychological biases and traps that may affect decision-makers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a minimum cumulative GPA of 2.5, or permission of instructor. Not open to non-degree graduate students.

**MGMT 4330 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with SCMT 4330, BSAD 8336)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of the instructor. Not open to non-degree graduate students.

**MGMT 4440 MANAGEMENT OF QUALITY AND PROCESS IMPROVEMENT (3 credits)**

Major topics in this course include TQM, reengineering, process improvement, and tools and techniques to formulate, change and implement these concepts in organizations. Students can develop their knowledge and skills to apply these concepts in organizations through the applied orientation of this course.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4450 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with SMCT 4450, BSAD 8456)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor.

**MGMT 4480 CORPORATE AND BUSINESS STRATEGY (3 credits)**

A comprehensive study of the analytical techniques and managerial tasks associated with developing, executing and monitoring a strategic course of action for medium to large firms. The interrelationships between the functional business areas will be stressed using a combination of contemporary readings, business cases, team projects or computerized situations.

**Prerequisite(s)/Corequisite(s):** Must be a graduating senior, have a declared major in BSBA program, 2.5 cumulative GPA, MGMT 3200 or MKT 3200, MGMT 3490, MKT 3310, FNBK 3250 with a "C" (2.0) or better.

**MGMT 4500 SPECIAL PROBLEMS IN MANAGEMENT (1-3 credits)**

This is an independent study course in which the student completes a focused project in the field of management, human resource management, international business, supply chain management, or entrepreneurship under faculty supervision.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 C+ or better, 2.5 GPA; permission of program chair; junior/senior standing; must obtain agreement from a faculty member to supervise; submit completed Special Problems contract to MGMT Dept chairperson. Forms in CBA advising office.

**MGMT 4510 MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general management or a specialization within the domain (i.e. strategy, production/operations, project management, planning, organizing, leading, or controlling).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4520 HUMAN RESOURCES MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the human resource management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general human resource management or a specialization within the domain (i.e. staffing, training, employee relations).

**Prerequisite(s)/Corequisite(s):** MGMT 4030 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4610 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices by providing students with the knowledge and skills necessary to solve problems and make decisions as leaders.

**Prerequisite(s)/Corequisite(s):** Completion of at least 30 credit hours and a minimum 3.3 GPA. Not open to non-degree graduate students.

**MGMT 4690 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, BSAD 8696).

**Prerequisite(s)/Corequisite(s):** Junior standing or higher; 2.75 minimum GPA; or permission of instructor

**MGMT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MGMT 4960 CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE (3 credits)**

This is a capstone course that prepares students to be effective leaders in the 21st century. This course is the final leadership course in the Cross-Sector Collaborative Leadership minor. This minor requires a capstone project that encompasses the student's knowledge and training. It is designed to provide an applied service-learning opportunity for students. (Cross-listed with PA 4960).

**Prerequisite(s)/Corequisite(s):** Must be completing Cross-Sector Collaborative Leadership Minor. Not open to non-degree graduate students.

**MGMT 8116 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with MGMT 4110).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

## Marketing

**MKT 2210 SURVEY OF MARKETING (3 credits)**

This course is designed for any student who has an interest in marketing and focuses on basic product and services marketing as well as digital and social media marketing.

**MKT 3100 PROFESSIONAL SELLING (3 credits)**

This course focuses on professional selling and relationship marketing principles and practices. A variety of personal and direct sales techniques, psychology, and application of personal communication theory will be applied. Role-plays and presentations will be utilized to help students learn and execute the sales process model.

**Prerequisite(s)/Corequisite(s):** ECON 2220 and ENGL 1160 both with 'C' (2.0) or better and GPA of 2.3 or better; or permission of instructor.

**MKT 3200 BUSINESS COMMUNICATIONS (3 credits)**

This course develops business communication skills such as selecting and using appropriate technologies for reaching intended audiences. Students will practice effective explanatory, narrative, persuasive, and investigative writing in the context of business communication.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110, each with a grade of "C" (2.0) or better; 2.5 GPA.

**Distribution:** Writing in the Discipline Single Course

**MKT 3310 PRINCIPLES OF MARKETING (3 credits)**

An examination of marketing functions and the institutions which perform them, choice of criteria for marketing strategy decisions, marketing structural relationships, and the role of marketing in society.

**Prerequisite(s)/Corequisite(s):** ECON 2200, MATH 1310 or MATH 1220, ENGL 1160, and MGMT 3200 or MKT 3200 all with 'C'(2.0) or better, and 2.5 GPA.

**MKT 3320 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with BSAD 8345).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor.

**MKT 3340 CHANNELS OF DISTRIBUTION (3 credits)**

Channels management focuses on the associations of businesses and the performance of required functions making products and services available to end users when and where buyers demand them. Attention is paid to how intermediaries (e.g. wholesalers and retailers) interact and organize an efficient system to ensure that products and services are available in proper quantities and on time for consumers.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; and GPA of 2.5 or better; or permission of instructor.

**MKT 3350 MARKETING SERVICE PRODUCTS (3 credits)**

This elective explores how intangibility forces customers to evaluate service products differently, creating more challenges for marketers. The course is based on the premise that financial benefits reward services that provide value to customers, and develops strategies for creating value.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 3360 DIGITAL MARKETING COMMUNICATIONS (3 credits)**

This course considers the functions and resources necessary to place effective digital marketing communications before target audiences and thus help to achieve marketing objectives for both business and non-business organizations. Specifically, it includes leveraging the digital media in communicating, connecting, and engaging with various stakeholders such as customers, partners, government, and public institutions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better and GPA of 2.5 or better; or permission of instructor.

**MKT 3370 SOCIAL MEDIA MARKETING (3 credits)**

The students will become familiar with the full range of promotional media, techniques and methodologies, understand the structuring of a promotional campaign according to the strategic objectives, be able to effectively integrate promotions into a composite marketing program, and be able to design and present a complex promotional strategy employing a diverse array of techniques and methods according to the specific objectives.

**Prerequisite(s)/Corequisite(s):** Completion of MKT 3310 with a C+ or better.

**MKT 3380 INTERNATIONAL MARKETING (3 credits)**

A study of the processes, procedures, characteristics and environments for goods and services in foreign market places. Reference is drawn to the theories and concepts of domestic marketing to appraise their applicability to international markets. Considerable attention is given to the features of the foreign market environments which both facilitate the marketing processes, inhibit them, and require strategies and tactics of accommodation.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better.

**MKT 3390 GRAPHIC DESIGN FOR MARKETERS (3 credits)**

The course provides a hands-on introduction to the concepts and tools used in graphic design to create marketing communications. Material and assignments will focus on how design supports marketing communication strategy. Students will learn the principles and vocabulary of design, how to critique graphic design, and how to create basic print materials. Students will learn and practice the skills necessary to communicate with graphic designers and advertising professionals in order to successfully implement marketing strategies.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better.

**MKT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MGMT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MGMT 3600).

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of 'C' (2.0). Not open to non-degree graduate students.

**MKT 3610 BUSINESS TO BUSINESS MARKETING (3 credits)**

This course examines the decisions involved in marketing goods and services to the industrial buyer as opposed to the consumer buyer. Buyer motivation, promotion decisions, channel decisions, product development and pricing policies involved in the marketing of industrial goods are considered.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor

**MKT 4000 SPECIAL TOPICS IN MARKETING (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a marketing or sales concentration.

**Prerequisite(s)/Corequisite(s):** MKT 3310 plus 6 hours of Marketing, all with 'C+' or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4200 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with BSAD 8206)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**MKT 4220 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers. (Cross-listed with BSAD 8226)

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**MKT 4300 MARKETING MANAGEMENT (3 credits)**

This case study course examines product, price, promotion and channel of distribution policies. Major emphasis is placed on analysis of marketing problems and the facets of making marketing decisions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with grade of 'C+' or better plus 6 hours of marketing, all with 'C' (2.0) or better, senior standing; GPA of 2.5 or better; or permission of instructor.

**MKT 4320 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with BSAD 8326).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4340 MARKETING RESEARCH (3 credits)**

Application of analytical tools to marketing problems including markets, products, distribution channels, sales efforts and advertising. Emphasis on planning, investigation, collection, interpretation of data and presentation of results.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4360 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with BSAD 8366).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4370 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with BSAD 8396).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4380 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with SCMT 4380, BSAD 8386.)

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 4420 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with BSAD 8426).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA 2.5 or better, Junior Standing; or permission of instructor. Not open to non-degree graduate students.

**MKT 4500 SPECIAL PROBLEMS IN MARKETING (1-3 credits)**

This course consists of an individual investigation of specific marketing topics under the supervision of a faculty member and could include readings, independent research, and a written research paper.

**Prerequisite(s)/Corequisite(s):** Principles of Marketing (MKT 3310) with minimum C+ or permission of instructor.

**MKT 4510 MARKETING INTERNSHIP (1-3 credits)**

Students engage in part time employment in the marketing discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general marketing or a specialization within the domain (i.e. selling, social media, advertising, market research).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MKT 4540 SUPPLY CHAIN MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part-time employment in supply chain management to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to the field of supply chain management (i.e., purchasing, scheduling, supplier relations, materials management, or logistics). (Cross-listed with SCMT 4540)

**Prerequisite(s)/Corequisite(s):** MKT-MGMT 3410 Sustainable Supply Chain Management and GPA of 2.5 or better; or by permission of the instructor. Not open to non-degree graduate students.

**MKT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MGMT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MKT 4760 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, BSAD 8766)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4800 HONORS STUDIES IN MARKETING (3 credits)**

A comprehensive examination of marketing as it is practiced among firms representing different industrial sectors. Course objectives include individual inquiry, theoretical applications and limitations, and an increased academic understanding of the discipline of marketing. Only grades 'B' and above will be awarded. Students exhibiting performance below the 'B' level will receive an 'F' for the course. Admission to this course is by invitation only.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Senior standing, 3.2 GPA or above, declared business college specialization in MKT or BFIN or MGMT or communications (journalism, PR or broadcasting). Not open to non-degree graduate students.

**Real Estate and Land Use Economics****RELU 2410 REAL ESTATE PRINCIPLES AND PRACTICES (3 credits)**

An introductory survey of real estate principles and practices which introduces the terminology, concepts and basic practices in the fields of real estate law, real estate finance, real estate appraisal, real estate property taxation and miscellaneous topic areas. Note: Students cannot receive credit for both RELU 2410 and RELU 3410. (Fall, Spring)

**RELU 3410 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with BSAD 8605).

**RELU 3430 REAL ESTATE BROKERAGE AND SALES (3 credits)**

Overview of real estate brokerage and sales principles, to include buying and selling, leasing, brokerage business operations, contracts, closings, legal requirements, Fair Housing, advertising, and career opportunities.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3450 REAL ESTATE MANAGEMENT (3 credits)**

Commercial and residential property management fundamentals, including leasing space, tenant selection and relations, maintenance and investor relations. (Fall)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3460 REAL ESTATE LAW (3 credits)**

Upper-level survey course in real estate law, which examines estates in land, conveyances, leases, mortgages, easements, zoning, environmental law, contracts, taxes, foreclosures, landlord-tenant relations, agency, Fair Housing, and Nebraska License Law. (Cross-listed with LAWS 3460)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4390 REAL ESTATE INVESTMENTS (3 credits)**

Methods used to analyze existing commercial real estate investments through traditional, as well as more technical, dynamic programming models.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4400 RESIDENTIAL REAL ESTATE FINANCE (3 credits)**

Methods of financing residential real estate, analysis of mortgage risks, mortgage instruments, mortgage lenders, financial calculations, influences of governmental agencies. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 and junior standing.

**RELU 4410 BASIC APPRAISAL PROCEDURES (3 credits)**

Fundamentals of real estate valuation and appraising; factors affecting value; valuing land, valuing improvements and the valuation of special classes of residential property; appraisal practice, depreciation and obsolescence, appraising rules, the mathematics of appraising; an appraisal of a single family residence is required.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410 AND FNBK 3250 with a C or better

**RELU 4420 INCOME PROPERTY APPRAISAL (3 credits)**

Introduction to the theory and concepts of income capitalization approaches, methods and techniques to valuation of real estate income property. Characteristics of yield on investment real estate; future income projections; mortgage coefficients; purchase and leaseback reversions; Ellwood Tables; capitalization rates and investment yields; types of annuities; and condemnation appraisal. (Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410; and FNBK 3250

**RELU 4440 CREATING A REAL ESTATE COMMUNITY (3 credits)**

Market analysis and planning for land developments for various types of uses: residential, campus, civic centers, housing for the elderly, urban renewal, shopping centers.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4460 COMMERCIAL REAL ESTATE FINANCE (3 credits)**

A foundation course in commercial real estate finance including legal, analytical, institutional and governmental aspects.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4500 REAL ESTATE INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific issues or problems in real estate.

**Prerequisite(s)/Corequisite(s):** Permission of Real Estate Program Director.

**RELU 4510 REAL ESTATE INTERNSHIP (1-3 credits)**

Correlation of theory and practice through part-time employment and weekly seminars; required readings. (Maximum of 4 hours).

**Prerequisite(s)/Corequisite(s):** Permission of program chair or internship coordinator.

## Supply Chain Management

**SCMT 2000 SURVEY OF SUPPLY CHAIN MANAGEMENT (3 credits)**

The principles and methods involved in supply chain management with emphasis on creating customer value. This course makes extensive use of company tours, plant visits and industry professionals to introduce students to the global dimensions of supply chain management and related disciplines such as IT, HR management, marketing, transportation, logistics, operations management, project management and production scheduling.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and 2.33 GPA. Not open to non-degree graduate students.

**SCMT 3000 MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT (3 credits)**

This course highlights the important role of a managerial accountant in managing a global supply chain and covers the key accounting techniques for supply chain management. (Cross-listed with ACCT 3000)

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with a grade of C (2.0) or better or ACCT 2000 with a grade of C (2.0) or better and cumulative GPA of 2.5 or higher. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160. Not open to non-degree graduate students.

**SCMT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with MGMT 3410, MKT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 3500 OPERATIONS MANAGEMENT (3 credits)**

The course is designed to introduce students to strategic, tactical, and control decisions in manufacturing and service operations. Students will learn how operations integrate all other business processes for competitive advantage. It covers current applications of quality concepts, business process reengineering, supply-chain management, lean systems, and ERP systems for business operations efficiency and effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 2130 or 3160, ENGL 1160/ENGL 1164 or concurrent enrollment in ENGL 1160/1164 each with "C" or better and 2.5 GPA

**SCMT 4060 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with BSAD 8066, MGMT 4060).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 or SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4070 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with BSAD 8076).

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4160 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross-functional nature of ERP software. In the process of learning about ERP systems, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, ISQA 8166)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**SCMT 4170 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with BSAD 8176).

**Prerequisite(s)/Corequisite(s):** SCMT 3410/MKT 3410/MGMT 3410 Sustainable Supply Chain Management; Cumulative GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4330 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, BSAD 8336)

**Prerequisite(s)/Corequisite(s):** MGMT3490 with a C+ or better and a 2.5 GPA; or permission of the instructor. Not open to non-degree graduate students.

**SCMT 4350 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with BSAD 8356).

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4370 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with BSAD 8376).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor. Not open to non-degree graduate students.

**SCMT 4380 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, BSAD 8386)

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4450 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, BSAD 8456)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor.

**SCMT 4460 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with BSAD 8466).

**Prerequisite(s)/Corequisite(s):** SCMT 3410/MKT 3410/MGMT 3410 Sustainable Supply Chain Management; Cumulative GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4540 SUPPLY CHAIN MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part-time employment in supply chain management to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to the field of supply chain management (i.e., purchasing, scheduling, supplier relations, materials management, or logistics).

**Prerequisite(s)/Corequisite(s):** SCMT 3410, GPA of 2.5 or better, AND permission of instructor. Not open to non-degree graduate students.

## BSBA as a Second Bachelor's Degree

A student who has already earned a bachelor's degree (other than a business degree) may earn the BSBA by completing the following requirements:

The student must complete a minimum of 30 hours in residence in the College of Business Administration. Typically 61-66 hours are required for students who have no business courses completed.

Code	Title	Credits
Students must complete the following courses requirements:		
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
or MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	

Pre-business core courses:

15

ECON 2200 & ECON 2220	PRINCIPLES OF ECONOMICS (MICRO) and PRINCIPLES OF ECONOMICS (MACRO)	
ACCT 2010 & ACCT 2020	PRINCIPLES OF ACCOUNTING I and PRINCIPLES OF ACCOUNTING II	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
BSBA core curriculum		24
Concentration Requirements		18-24

Courses taken as part of the first bachelor's degree will be evaluated regarding satisfaction of these requirements.

- Students who have previously earned a business degree cannot earn a second business degree. These individuals may complete a second concentration in business by completing all of the requirements listed under their new concentration as well as all necessary prerequisites for those courses

## International Business Concentration

A concentration in International Business (IB) provides students with the knowledge, skills and experience necessary for successful careers in the global business environment. BSBA students must combine the International Business Concentration with another BSBA Concentration. With this preparation, graduates will be prepared for employment in many manufacturing, service, or knowledge-based industries with international markets, international suppliers, international sources of finance, or an internationally diverse workforce.

For this concentration, students complete a total of eighteen (18) credit hours, including fifteen (15) credit hours in required courses, and three (3) credit hours in electives. The completion of specified courses in international business may be applied toward the course requirements in other concentration areas.

Code	Title	Credits
<b>International Business Concentration Required Courses</b>		
BSAD 2700	GLOBALIZATION OF BUSINESS ENTERPRISE	3
ECON 3600	INTRODUCTION TO INTERNATIONAL ECONOMICS	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
MGMT 4150	INTERNATIONAL MANAGEMENT	3
MKT 3380	INTERNATIONAL MARKETING	3
<b>International Business Concentration Elective Courses</b>		
Select one of the following:		3
BSAD 4000	INTERNATIONAL BUSINESS STUDY ABROAD	
ECON 4610	INTERNATIONAL TRADE	
ECON 4620	INTERNATIONAL MONETARY THEORY	
ECON 4660	INTERNATIONAL ECONOMIC DEVELOPMENT	
LAWS 4930	INTERNATIONAL BUSINESS LAW	
SCMT 4350	GLOBAL SOURCING AND INNOVATION	
ENTR 4710	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	
GEOG 4550	GEOGRAPHY OF ECONOMIC GLOBALIZATION	
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	

PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
<b>Total Credits</b>		<b>18</b>

Special Topics in Marketing and Management with a global emphasis will also be offered on a regular basis.

## Secondary Concentration in International Business

A secondary concentration in international business is an option that enables BSBA students to add an international business focus to their primary BSBA concentration area.

Students must complete BSAD 2700 and nine (9) of courses representing three different areas in the College of Business Administration. In other words, students must choose three (3) courses from three (3) different areas.

Code	Title	Credits
<b>International Business Secondary Concentration Required Course</b>		
BSAD 2700	GLOBALIZATION OF BUSINESS ENTERPRISE	3
<b>International Business Secondary Concentration Elective Courses</b>		
Select three (3) courses in three different areas in the College of Business Administration:		9
BSAD 4000	INTERNATIONAL BUSINESS STUDY ABROAD	
ECON 3600	INTRODUCTION TO INTERNATIONAL ECONOMICS	
ECON 4610	INTERNATIONAL TRADE	
ECON 4620	INTERNATIONAL MONETARY THEORY	
ECON 4660	INTERNATIONAL ECONOMIC DEVELOPMENT	
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	
LAWS 4930	INTERNATIONAL BUSINESS LAW	
MGMT 4150	INTERNATIONAL MANAGEMENT	
MKT 3380	INTERNATIONAL MARKETING	
SCMT 4350	GLOBAL SOURCING AND INNOVATION	
<b>Total Credits</b>		<b>12</b>

## BSBA Degree with International Business Concentration

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts		3
Natural/Physical Science		3
Credits		16

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
BSAD 2700	GLOBALIZATION OF BUSINESS ENTERPRISE	3
Humanities and Fine Arts with US Diversity		3

Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science <sup>c</sup> with Laboratory		4
Elective		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MGMT 4150	INTERNATIONAL MANAGEMENT	3
Second Speech <sup>3</sup>		3
Second Concentration Course		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MKT 3380	INTERNATIONAL MARKETING	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Second Concentration Course		3
Second Concentration Course		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ECON 3600	INTRODUCTION TO INTERNATIONAL ECONOMICS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
International Business Elective <sup>4</sup>		3
Second Concentration Course		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Second Concentration Course		3
Second Concentration Course		3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.

<sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.

<sup>3</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160

<sup>4</sup> For this requirement students must choose from an approved list of International Business Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Minors for Non-Business Majors

- Business Analytics for Non-Business Majors Minor (p. 369)
- Business for Non-Business Majors Minor (p. 369)
- Entrepreneurship for Non-Business Majors Minor (p. 369)
- Marketing for Non-Business Majors Minor (p. 369)
- Real Estate and Land Use Economics for Non Business Majors Minor (p. 370)
- Sales Minor for Non-Business Majors (p. 370)
- Logistics & Supply Chain Management for Non-Business Majors Minor (p. 370)

## Other Information

For more information, please contact Undergraduate Advising in the College of Business Administration at 402.554.3419.

## Business Analytics Minor for Non-Business Majors

### Business Analytics Minor for Non-Business Majors

The Business Analytics Minor for Non-Business majors is intended to provide knowledge in business analytics to students outside of the College of Business Administration. Because these skills are valuable across all business fields, and to anyone who intends to use quantitative analysis to improve their decision-making, the Business Analytics Minor for Non-Business majors provides the flexibility to combine these skills with any major on campus.

#### Core Requirements – Three Courses – 9 Credit Hours

Code	Title	Credits
ECON 3310	SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS	3
ECON 3300	INTRODUCTION TO ECONOMETRICS	3
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	3

#### Elective Courses – Choose Two Courses – 6 Credit Hours

Code	Title	Credits
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 4080	PRINCIPLES OF AUDITING	3
ACCT 4020	ANALYTICS FOR ACCOUNTING	3
ECON 4300	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ECON 4510	ECONOMIC INTERNSHIP	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK 4610	PORTFOLIO MANAGEMENT	3
MKT 4340	MARKETING RESEARCH	3
MKT 4370	MARKETING ANALYTICS	3
MGMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS	3
SCMT 4370	SUPPLY CHAIN ANALYTICS	3

#### Governance and Administration

- This minor will be administered by the Economics Department.

## Business for Non-Business Majors Minor

### Requirements

A minor in Business is offered for students outside the College of Business and may be obtained by completing all of the following five (5) courses for a total of 15 credit hours. A grade of C (2.00) or better is required for a course to apply to the Business minor, and an overall 2.50 GPA within the Minor is required to earn the minor. At least 3 of the 5 courses for the Business Minor must be taken at an AACSB accredited institution.

Code	Title	Credits
<b>Minor in Business for Non-Business Majors Required Course</b>		

ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3

**Total Credits** 15

## Entrepreneurship for Non-Business Majors Minor

### Requirements

A minor in entrepreneurship is offered for students outside the College of Business and may be obtained by completing ENTR 3710 plus twelve (12) credit hours of specified ENTR courses for a total of fifteen (15) credit hours. A grade of C (2.00) or better is required in each course to apply to the minor and an overall GPA within the minor of 2.5 is required to earn the minor

Code	Title	Credits
<b>Entrepreneurship Minor Required Course</b>		
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3

Code	Title	Credits
<b>Entrepreneurship Minor Elective Courses</b>		
Select 12 credit hours from the following:		12

ENTR 3330	ENTREPRENEURIAL FINANCE	
ENTR 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	
ENTR 4690	EMERGING TECHNOLOGY AND INNOVATION	
ENTR 4710	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	
ENTR 4720	INNOVATION VENTURES	
ENTR 4730	NEW VENTURE FORMATION	
ENTR 4740	TECHNOLOGY AND INNOVATION MANAGEMENT	
ENTR 4750	SOCIAL ENTREPRENEURSHIP	
ENTR/MKT 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	

**Total Credits** 15

## Marketing for Non-Business Majors Minor

### Requirements

A minor in marketing is offered for students outside the College of Business, and may be obtained by completing the following:

Code	Title	Credits
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
MKT 3310	PRINCIPLES OF MARKETING	3
Plus nine (9) hours of upper-division (3000 or 4000 level) courses in Marketing		9
<b>Total Credits</b>		<b>15</b>

Students must meet all prerequisites to enroll in MKT 3310. Students must complete MKT 3310 (<https://catalog.unomaha.edu/search/?P=MKT%203310>) with a C+ or above in order to take additional marketing courses and to complete the marketing minor. At least one of the courses must be

MKT 4300 or MKT 4340. Any course that may be utilized for the marketing concentration may also be used for the marketing minor, with the exception of MKT 4500 & MKT 3200. A grade of C (2.00) or better is required for a course to apply to the marketing minor and an overall GPA within the minor of 2.5 is required to earn the minor.

# Real Estate and Land Use Economics, Minor

Requirements:

A minor in Real Estate and Land Use Economics is offered for students outside the College of Business and may be obtained by completing fifteen (15) credit hours of coursework. A grade of “C” (2.0) or better is required in each course to be applied to the minor, and an overall GPA within the minor of 2.5 is required to earn the minor. A minor in Real Estate and Land Use Economics is not available for business majors.

Code	Title	Credits
Real Estate and Land Use Economics Minor Required Course		
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES	3
Real Estate and Land Use Economics Minor Elective Courses		
Select 12 credit hours from the following: Students must complete at least 9 credits of 3000/4000 level classes from the RELU electives below		12
RELU 3430	REAL ESTATE BROKERAGE AND SALES	
RELU 3450	PROPERTY MANAGEMENT	
RELU 3460	REAL ESTATE LAW	
RELU 4390	REAL ESTATE INVESTMENTS	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
RELU 4410	BASIC APPRAISAL PROCEDURES	
RELU 4440	REAL ESTATE DEVELOPMENT	
RELU 4460	COMMERCIAL REAL ESTATE FINANCE	
RELU 4510	REAL ESTATE INTERNSHIP	
CNST 1120	CONSTRUCTION COMMUNICATIONS	
CNST 4850	CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS	
ENVN/GEOG 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
GEOG 4120	URBAN GEOGRAPHY	
SOC 3690	SOCIAL INEQUALITY	
UBNS 1010	INTRODUCTION TO URBAN STUDIES	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
Total Credits		15

# Sales Minor for Non-Business Majors

The Sales minor for non-business majors provides students outside the College of Business Administration with the opportunity to develop knowledge and skills in relational and consultative selling that will enable them to effectively carry out sales functions across a variety of contexts, career paths, and industries.

Students must complete MKT 3310 with a C+ or above in order to take additional marketing/sales courses and to complete the Sales minor. A grade of C (2.0) or better is required in each course to be applied to the

minor, and an overall GPA within the minor of 2.5 is required to earn the minor.

Sales Minor for Non-Business Majors - 15 Credit Hours

Code	Title	Credits
Required Courses		9
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
MKT 3310	PRINCIPLES OF MARKETING <sup>1</sup>	
MKT 3100	PROFESSIONAL SELLING <sup>1</sup>	
Elective Courses		6
MKT 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
MKT 4510	MARKETING INTERNSHIP	
MKT 4220	GLOBAL STRATEGIC ACCOUNT MANAGEMENT	
MKT 4210	SELLING FINANCIAL SERVICES	
MKT 3610	BUSINESS TO BUSINESS MARKETING	
MKT 3600	BUSINESS ETHICS	
MKT 3350	MARKETING SERVICE PRODUCTS	
MKT 3340	CHANNELS OF DISTRIBUTION	
MKT 3320	CONSUMER BEHAVIOR	
MKT 4000	SPECIAL TOPICS IN MARKETING	
Total Credits		15

<sup>1</sup> C+ or better is required

# Logistics & Supply Chain Management for Non-Business Majors Minor

Requirements

A minor in logistics & supply chain management is offered for students outside the College of Business and may be obtained by completing fifteen (15) credit hours. A grade of C (2.0) or better is required in each course to be applied to the minor, and an overall GPA within the minor of 2.5 is required to earn the minor. A minor in logistics & supply chain management is not offered for business majors.

Code	Title	Credits
Logistics & Supply Chain Management Minor Required Courses		
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	3
SCMT/MKT 4380	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
Logistics & Supply Chain Management Minor Elective Courses		
Select 9 credit hours from the following: Students must complete at least three credits (3 crs) of 3000/4000 class from the SCMT electives below		9
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
MGMT 3490	MANAGEMENT	

SCMT/MGMT 4450	MANAGERIAL NEGOTIATION STRATEGIES
SCMT 2000	SURVEY OF SUPPLY CHAIN MANAGEMENT
SCMT/MGMT 4330	PROJECT MANAGEMENT
SCMT 4350	GLOBAL SOURCING AND INNOVATION
SCMT 4540	SUPPLY CHAIN MANAGEMENT INTERNSHIP
ISQA/SCMT 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING
SCMT 3000	MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT
SCMT 3500	OPERATIONS MANAGEMENT
SCMT 4370	SUPPLY CHAIN ANALYTICS
SCMT 4170	EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT
SCMT 4460	SUPPLY CHAIN INTEGRATION
SCMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS
SCMT 4070	INTERNATIONAL LOGISTICS MANAGEMENT
SCMT 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING
<b>Total Credits</b>	

**15**

## Accounting

### Mission Statement

The UNO School of Accounting leverages its distinctive metropolitan position to:

- Prepare students for professional accounting and business careers by delivering AACSB Accounting Accredited and IMA Endorsed BSBA-Accounting and Master of Accounting programs,
- Create and disseminate knowledge that impacts students, the academy, and business professionals by engaging in relevant scholarly activities, and
- Enrich relationships among students, faculty, and business professionals in the Omaha region by providing and supporting engagement opportunities.

The UNO School of Accounting has earned supplemental accounting accreditation by the AACSB International (Association to Advance Collegiate Schools of Business) for its undergraduate and graduate programs in accounting. This accreditation is in addition to the UNO College of Business Administration's AACSB business accreditation. Fewer than 190 institutions worldwide hold both AACSB business and accounting accreditation. Information about AACSB accreditation is available here (<https://bestbizschools.aacsb.edu/aacsb-accredited/>).

The UNO School of Accounting has received the IMA Endorsement of Higher Education from the Institute of Management Accountants for its management accounting curricula. UNO's accounting programs meet the educational standards enabling students to pursue the Certified Management Accountant (CMA) credential. Information about the IMA's endorsement program is available here (<https://www.imanet.org/educators/higher-education-endorsement-program/?ssopc=1>).

The UNO School of Accounting is recognized by the Institute of Internal Auditors (IIA) as an IIA Internal Audit Awareness Program School, acknowledging our inclusion of internal auditing concepts in auditing courses. See information about the this IIA program here (<https://na.theiia.org/about-us/about-ia/Pages/Internal-Audit-Academic-Awareness-Program.aspx>).

Accounting students have the opportunity to acquire an excellent accounting education from faculty members who use appropriate and varied teaching methodologies and who incorporate the most recent developments in their discipline into the curriculum. Accounting instructors seek to create an environment which maximizes the development of critical skills such as problem solving, analysis, technology agility, communication and teamwork. Students are strongly encouraged to continue their professional development and to enhance their careers by seeking a Master of Accounting or other graduate degree and one or more professional certifications or designations. Well-recognized and valued accounting certifications include the Certified Public Accountant (CPA), the Certified Management Accountant (CMA), the Certified Internal Auditor (CIA), the Certified Fraud Examiner (CFE), and the Certified Information Systems Auditor (CISA).

Nebraska applicants for the CPA Exam are required to have completed at least 150 college semester credit hours. UNO students can meet the CPA Exam educational requirements with a minimum of 150 credit hours by completing the BSBA-Accounting degree (120 hours) and the Master of Accounting (MAcc) degree (30 hours) at UNO. Complete information on the MAcc degree program is available online (<https://www.unomaha.edu/college-of-business-administration/accounting/graduate-program/>) or in the UNO graduate catalog. A student can complete both degree programs in five years. Additional information about the undergraduate accounting program, including links to professional associations and certification resources, is available online (<https://www.unomaha.edu/college-of-business-administration/accounting/>).

The School of Accounting does not offer a certificate program. BSBA degree candidates may earn a concentration in accounting, and BSBA degree candidates earning a concentration in other business areas may earn a secondary concentration in accounting. A student who has previously earned a business degree cannot earn a second business degree but may complete an accounting concentration as a second concentration to complement that previous business degree by completing all of the accounting concentration course and GPA requirements (including all necessary course prerequisites). A student who has previously earned a non-business bachelor's degree and who completes all of the accounting concentration course and GPA requirements does not earn a business degree, an accounting concentration, a secondary concentration, or a certificate in accounting; that student's transcript lists the courses completed and grades earned.

### Special Requirements

#### Course-related items:

1. Students interested in taking the CPA Exam in Nebraska must complete ACCT 4070.
2. Students pursuing an accounting concentration who complete ACCT 3080 with a grade of C or better are not required to take the business core course MGMT 3100.

#### Concentration-related items:

- A student may enroll only twice in any upper-division accounting course. You are enrolled in a course if your name appears on the final class list published immediately after drop/add week. Therefore, you may drop a course only one time (excluding drops during drop/add week). If you drop the same course twice (or receive any grade below a C twice), you will not be permitted to enroll in this course a third time.
- A minimum GPA of 2.50 overall is required for enrollment in any upper-division (3000-level or 4000-level) accounting course.
- Accounting courses at the 4000-level also require a minimum GPA of 2.50 in all upper-division UNO accounting courses successfully completed to date (excluding ACCT 3000, ACCT 4500, and ACCT 4510).
- Students who wish to contract to take upper-division accounting courses as "honors" courses should contact the course instructor.

**Accounting** study at UNO provides the skills for many diverse career choices in the accounting field as well as an excellent foundation to pursue CPA, CMA, and other types of certifications. Accounting career options include professional positions in the areas of auditing and information systems, financial accounting, management accounting, and taxation. The School of Accounting offers Power Lunches and the annual Accounting Careers Expo as part of its Accounting Careers Program for students to explore diverse accounting career paths and to engage with accounting professionals. The School of Accounting's Accounting Career Advisor and Internship Coordinator mentors and advises students and provides guidance for internships and other career opportunities.

## Student Groups

### Beta Alpha Psi

Beta Alpha Psi (BAP) is an honor organization for financial information students and practicing professionals. The primary objective of Beta Alpha Psi is to encourage and give recognition to scholastic and professional excellence. This includes promoting the study and practice of accounting, finance, and information systems; providing opportunities for self-development, service and the association of members with practicing professionals; and encouraging a sense of ethical, social and civic responsibility. Membership into Beta Alpha Psi is based on scholastic achievement.

### Contact:

UNO School of Accounting at 402.554.3650  
or unocbaaccounting@unomaha.edu

Website (<http://cba.unomaha.edu/accounting/>)

### Degrees Offered

Bachelor of Science in Business Administration (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/>)

### Concentrations Offered

- Accounting Concentration (p. 374)

### Secondary Concentrations Offered

- Secondary Concentration in Accounting (p. 374)

### Accounting

- Billing Clerk
- Bookkeeper
- Chief Financial Officer
- Collections Clerk
- Controller
- Cost Accountant
- General Accountant
- Internal Auditor
- Inventory Analyst
- IT Auditor
- Payroll Clerk
- Public Accountant
- Purchasing Manager
- Tax Accountant
- Treasurer

### ACCT 2000 ACCOUNTING BASICS FOR NON-BUSINESS MAJORS (3 credits)

This course is designed to provide non-business students with an understanding of basic accounting terms and concepts, an understanding of the usefulness of accounting data for decision-making by internal and external business stakeholders, and the skills to actually use accounting data in decision-making.

**Prerequisite(s)/Corequisite(s):** Student must be a non-business student. ENGL 1150 and MATH 1310 or MATH 1220 with 'C'-(2.0) or better. Not open to non-degree graduate students

**Distribution:** Social Science General Education course

### ACCT 2010 PRINCIPLES OF ACCOUNTING I (3 credits)

Basic concepts and assumptions underlying financial accounting; basic structure of accounting; the accounting cycle; external financial statements of the enterprise with emphasis on the corporation; income determination; accounting for and reporting of assets, liabilities and owners' equity; analysis and reporting of cash flows; financial statement analysis.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 with a 'C' (2.0) or better, a GPA of 2.5 or higher, and MATH 1370 or MATH 1930 with a 'C' (2.0) or better or concurrent enrollment in MATH 1370 or MATH 1930

### ACCT 2020 PRINCIPLES OF ACCOUNTING II (3 credits)

A study of techniques and concepts affecting internal accounting in a business organization. These include budgeting in general, costing systems, variance analysis and generating reports for management decision-making. Special topics include segment reporting, control of decentralized operations, capital budgeting, and service department cost allocations.

**Prerequisite(s)/Corequisite(s):** ACCT 2010, ENGL 1150, and MATH 1370 or MATH 1930, each with a C (2.0) or better, and a GPA of 2.5 or higher.

### ACCT 3000 MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT (3 credits)

This course highlights the important role of a managerial accountant in managing a global supply chain and covers the key accounting techniques for supply chain management. (Cross-listed with SCMT 3000)

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with a grade of C (2.0) or better or ACCT 2000 with a grade of C (2.0) or better and cumulative GPA of 2.5 or higher. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160. Not open to non-degree graduate students.

### ACCT 3020 BASIC FEDERAL INCOME TAXATION (3 credits)

This course provides an introduction to the basic concepts and principles of federal income tax with an emphasis on concepts unique to individual taxpayers.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ENGL 1150, ECON 2200 and ECON 2220 with a 'C' (2.0) or better in each course. Cumulative GPA of at least 2.5.

### ACCT 3030 INTERMEDIATE FINANCIAL ACCOUNTING I (3 credits)

A more intensive study of basic accounting theory and principles learned in ACCT 2010. Topics include a conceptual framework of accounting, net income concepts, financial statements, present value applications, revenue recognition, current assets, plant assets, and intangible assets.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, and ECON 2220, with a grade of 'C' (2.0) or better in each course and a 2.5 GPA. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

### ACCT 3040 INTERMEDIATE FINANCIAL ACCOUNTING II (3 credits)

This is the second of two courses in intermediate financial accounting. This course focuses on financial reporting issues relating investments, debt financing, leases, contingencies, cash flows reporting and income taxes.

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a 'C' (2.0) or better.

**ACCT 3050 INTERMEDIATE MANAGERIAL ACCOUNTING (3 credits)**

The objective of managerial accounting is to provide management with relevant and timely information to aid economic decision making. This course analyzes numerous economic decisions and identifies what information is relevant. Special attention is given to how different cost accumulation systems and different cost accounting and estimating techniques can aid the decision-making process.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, ECON 2220, and BSAD 2130, BSAD 3140 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

**ACCT 3080 ACCOUNTING INFORMATION SYSTEMS (3 credits)**

Introduction to professional accounting information systems, including information systems concepts, accounting and database software and research tools to provide a foundation for subsequent accounting courses.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200 and ECON 2220, with "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

**ACCT 4010 ADVANCED FINANCIAL ACCOUNTING (3 credits)**

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 8016)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ACCT 3040 with "C+" (2.33) or better in each and ENGL 1160 with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4020 ANALYTICS FOR ACCOUNTING (3 credits)**

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 8026).

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, and ENGL 1160 each with C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4040 ADVANCED FEDERAL INCOME TAXATION (3 credits)**

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 8046.)

**Prerequisite(s)/Corequisite(s):** ACCT 3020, ACCT 3030, and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4060 ADVANCED MANAGERIAL ACCOUNTING (3 credits)**

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 8066.)

**Prerequisite(s)/Corequisite(s):** ACCT 3050, ACCT 3030, and ENGL 1160, each with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4070 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 8076.)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4080 PRINCIPLES OF AUDITING (3 credits)**

An introduction to auditing, Standards, responsibilities, professional ethics, the audit framework, evidence and reports are studied.

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, ENGL 1160, and BSAD 2130 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course will provide an introduction of auditing an advanced accounting information system. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association. Accounting information systems control and security practices, and their assessment, will be discussed in the areas of operations, physical and logical access, systems, networks, development and applications, and incorporating hands-on exposure to automated evaluation tools.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4500 INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific problems in the field of accounting.

**Prerequisite(s)/Corequisite(s):** Must have permission of the School of Accounting director.

**ACCT 4510 ACCOUNTING INTERNSHIP (1-3 credits)**

A course for junior or senior accounting students to apply their academic accounting knowledge to accounting practice in an employment situation. A student report on the internship experience and an employer's evaluation of the student's performance are course requirements. Can be applied to free electives, but not accounting specialization electives. (Maximum of 3 hours)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a C (2.0) or better, and permission of internship coordinator.

**ACCT 8016 ADVANCED FINANCIAL ACCOUNTING (3 credits)**

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 4010).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3040 with a grade of "C+" (2.33) or better in each. Not open to non-degree graduate students.

**ACCT 8026 ANALYTICS FOR ACCOUNTING (3 credits)**

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 4020).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3080 with a grade of "C" (2.0) or better in each. Not open to non-degree graduate students.

**ACCT 8046 ADVANCED FEDERAL INCOME TAXATION (3 credits)**

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 4040).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3020 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8050 FINANCIAL STATEMENT ANALYSIS (3 credits)**

Using the financial statement and supplemental information as inputs, this course utilizes a systematic fundamental analysis approach across a variety of decision-making contexts to understand how a business generates value for shareholders.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3040 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8066 ADVANCED MANAGERIAL ACCOUNTING (3 credits)**

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3050 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8076 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8080 DATABASE DEVELOPMENT AND USE IN AIS (3 credits)**

This course will cover tools and methods that facilitate business analytic techniques, including database development and use, data mining, and information analysis for decision-making. A working understanding of spreadsheet software is assumed.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course presents a broad overview of the professional practice of information systems audit, emphasizing control and audit procedures related to security along with Information Technology General Controls. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Admission to MAcc or MBA program or permission of instructor. Not open to non-degree graduate students.

**ACCT 8210 FINANCIAL ACCOUNTING THEORY (3 credits)**

The development of accounting, current accounting theory and present controversies and suggested theory and practice.

**Prerequisite(s)/Corequisite(s):** ACCT 3040. Not open to non-degree graduate students.

**ACCT 8220 GRADUATE TOPICS IN INCOME TAXATION (3 credits)**

This course will discuss commonly encountered tax issues such as gift and estate taxation, income taxation of estates and trusts, and exempt organizations, as well discuss current events while introducing the student to practitioner-oriented research publications.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better, or concurrent enrollment in ACCT 4040 or ACCT 8046. Not open to non-degree students.

**ACCT 8230 MANAGEMENT ACCOUNTING ISSUES (3 credits)**

An analysis of information to assist managers in determining successful strategies, developing those strategies into plans and controlling operating activities to achieve strategic goals.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3050 or BSAD 8210 with a "C" (2.0) of better. Not open to non-degree graduate students.

**ACCT 8250 SEMINAR IN ACCOUNTING (3 credits)**

A study of a specific area within the accounting discipline. Possible areas include: auditing, financial, managerial, systems and tax. May be repeated, but no area can be taken more than once.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA programs or permission of instructor. Not open to non-degree students.

**ACCT 8260 FEDERAL TAX RESEARCH AND PLANNING (3 credits)**

This course is intended to provide students with a working knowledge of the primary and secondary tax resources used in practice to solve tax problems, as well as basic tax planning concepts.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better. Not open to non-degree students.

**ACCT 8280 SEMINAR IN ACCOUNTING INFORMATION SYSTEMS (3 credits)**

This course examines current topics in Accounting Information Systems (AIS), how AIS contributes to business effectiveness and ineffectiveness, and the interaction between AIS and human decision-makers.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8290 ADVANCED FINANCIAL AUDITING (3 credits)**

This course will provide students with an intense study of financial auditing in accordance with generally accepted auditing standards.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 4080 with a grade of "C" (2.0) or better.

**ACCT 8900 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course in which the student completes a focused project, typically individual research, under faculty supervision to supplement graduate study in a specific area within the Accounting discipline.

**Prerequisite(s)/Corequisite(s):** Completed contract and permission needed from director of MACC program. Not open to non-degree graduate students.

**ACCT 8910 SPECIAL TOPICS IN ACCOUNTING (3 credits)**

A variable content course with accounting topics based on student and faculty interest. May be repeated to a maximum of six (6) hours.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc program and permission of instructor. Not open to non-degree graduate students.

## Accounting Concentration

To earn an accounting concentration, a student must

- complete a total of 24 credit hours, including 21 credit hours in required accounting courses and 3 credit hours in concentration electives,
- earn a minimum GPA of 2.50 overall, and
- earn a minimum GPA of 2.50 in all upper-division accounting courses successfully completed at UNO (excluding ACCT 3000, ACCT 4500, and ACCT 4510).

Code	Title	Credits
<b>Accounting Concentration Required Courses</b>		
ACCT 3020	BASIC FEDERAL INCOME TAXATION	3
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	3

ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	3
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 3080	ACCOUNTING INFORMATION SYSTEMS	3
ACCT 4020	ANALYTICS FOR ACCOUNTING	3
ACCT 4080	PRINCIPLES OF AUDITING	3

#### Accounting Concentration Elective Courses

Select one of the following:		3
ACCT 4010	ADVANCED FINANCIAL ACCOUNTING	
ACCT 4040	ADVANCED FEDERAL INCOME TAXATION	
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	
ACCT 4070	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	

**Total Credits** **24**

### Secondary Concentration in Accounting Required Courses

A secondary concentration in accounting, as a supplement to another BSBA concentration, may be obtained by completing ACCT 3020, ACCT 3030, ACCT 3040, and ACCT 3050 and earning a minimum GPA of 2.50 in all upper-division accounting courses successfully completed at UNO (excluding ACCT 3000, ACCT 4500, and ACCT 4510). Students must meet all prerequisites to enroll in any accounting course. Students wishing to substitute another upper-division accounting course for one of the four listed above must receive permission to do so from the school director.

Code	Title	Credits
ACCT 3020	BASIC FEDERAL INCOME TAXATION	3
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	3
ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	3
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3

**Total Credits** **12**

### Special Requirements

#### Course-related items:

1. Students interested in taking the CPA Exam in Nebraska must complete ACCT 4070.
2. Students pursuing an accounting concentration who complete ACCT 3080 with a grade of C or better are not required to take the business core course MGMT 3100.

#### Concentration-related items:

- A student may enroll only twice in any upper-division accounting course. You are enrolled in a course if your name appears on the final class list published immediately after drop/add week. Therefore, you may drop a course only one time (excluding drops during drop/add week). If you drop the same course twice (or receive any grade below a C twice), you will not be permitted to enroll in this course a third time.
- A minimum GPA of 2.50 overall is required for enrollment in any upper-division (3000-level or 4000-level) accounting course.
- Accounting courses at the 4000-level also require a minimum GPA of 2.50 in all upper-division accounting courses successfully completed at UNO to date (excluding ACCT 3000, ACCT 4500, and ACCT 4510).
- Students who wish to contract to take upper-division accounting courses as "honors" courses should contact the course instructor.

Contact: UNO School of Accounting at 402.554.3650 or [unocbaaccounting@unomaha.edu](mailto:unocbaaccounting@unomaha.edu)

Website: <https://cba.unomaha.edu/accounting/>

### BSBA Degree with Accounting Concentration

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
Humanities and Fine Arts with Global Diversity		3
Social Science		3
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>16</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

#### Sophomore

##### Fall

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
Natural/Physical Science		4
<b>Credits</b>		<b>16</b>

##### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
MGMT 3490	MANAGEMENT	3
MKT 3310	PRINCIPLES OF MARKETING	3
Elective		3
International Dimension		3
<b>Credits</b>		<b>15</b>

#### Junior

##### Fall

ACCT 3020	BASIC FEDERAL INCOME TAXATION	3
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
International Dimension		3
Second Speech <sup>3</sup>		3
<b>Credits</b>		<b>15</b>

##### Spring

ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	3
ACCT 3080	ACCOUNTING INFORMATION SYSTEMS	3
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

**Senior  
Fall**

ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 4080	PRINCIPLES OF AUDITING <sup>4</sup>	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

**Spring**

MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
ACCT 4020	ANALYTICS FOR ACCOUNTING <sup>4</sup>	3
Accounting 4000 level Elective <sup>5</sup>		3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>4</sup> A minimum Upper Division Accounting GPA of 2.50 is required for enrollment in any upper-division (4000-level) accounting course.
- <sup>5</sup> A minimum Upper Division Accounting GPA of 2.50 is required for enrollment in any upper-division (4000-level) accounting course. (See DegreeWorks for approved elective options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

**Graduation Requirements:**

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Economics

Economics is concerned with how resources are allocated in production, prices are determined, incomes are distributed and growth occurs. Economists examine such issues as how fiscal and monetary policies affect price and employment, the effect on international trade, of international trade agreements and the international price of the dollar, the size and future composition of the labor force, the effects of government regulations on the price, quantity and quality of goods and services, and costs and benefits of environmental policies.

Economists are employed by private businesses, utilities, railroads, government at all levels, educational institutions, labor unions, trade associations and non-profit organizations. In businesses, economists' duties include analyzing and forecasting industry and market conditions, and making recommendations and decisions relative to capital investments, marketing new products, employee compensation, and the impact of government regulation.

In addition, economics is superb preparation for graduate work in areas such as business law, political science, international relations, gerontology, and public administration. Economics also is an excellent dual **major** or **minor** for other areas of study.

## Economics Club

The main purpose of the UNO Economics Club is to increase awareness and knowledge of economic issues among Economics Club members and the overall UNO community. The organization also provides a venue for student-members to examine issues related to academic success, career success, and related matters. The organization shall work towards increasing the membership's engagement with the Omaha community.

Membership eligibility includes all currently enrolled students in good standing who pay University Program and Facilities Fees (UPFF) at UNO. Any individual from the community is eligible for membership without voting privileges and the ability to run for office.

Any person who satisfies the eligibility requirements may become a member of the organization by completing an Economics Club Membership Form. The membership form is available at MH 332C or may be downloaded here (<https://www.unomaha.edu/college-of-business-administration/>). Contact phone number: 402.554.2803

## Economics Fast Track Program

The Department of Economics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

**Program Specifics:**

- The program is available for undergraduate students pursuing the BS in Business Administration (with a concentration in Economics), BS in Economics, or BA in Economics, desiring to pursue a MS in Economics.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.5.

- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

Students in the Fast Track program must only enroll in dual-level ECON courses (ECON 8xx6) as their graduate coursework prior to admittance to the graduate program.

## Contact Phone

402.554.2803

Website (<http://cba.unomaha.edu/economics/>)

## Degrees Offered

Bachelor of Science in Business Administration (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/>)

## Concentrations Offered

- Business Analytics Concentration (p. 384)
- Economics Concentration (p. 379)

## Secondary Concentrations Offered

- Secondary Concentration in Economics (p. 379)
- Secondary Concentration in Business Analytics (p. 384)

## Economics

- Actuary
- Business Journalist
- Consultant
- Data and Analytics Specialist
- Economic Analyst
- Economic Researcher
- Economic Strategist
- Financial Advisor
- Financial Analyst
- Market Analyst
- Policy Analyst
- Statistician
- Supply Chain Analyst

### ECON 1200 AN INTRODUCTION TO THE U.S. ECONOMY (3 credits)

An introduction to U.S. economy and an investigation of U.S. and international economic problems and policies.

**Prerequisite(s)/Corequisite(s):** Not available to students who have completed either ECON 2200 or 2220.

**Distribution:** Social Science General Education course

### ECON 2200 PRINCIPLES OF ECONOMICS (MICRO) (3 credits)

An introduction to economic principles, decision making and policies affecting product and resource markets. Particular emphasis is on price, output and input decisions by individuals and firms under various market conditions. An introduction to the fundamentals of international trade.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and MATH 1310 or MATH 1220 with 'C-' (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

### ECON 2220 PRINCIPLES OF ECONOMICS (MACRO) (3 credits)

An introduction to economic principles, decision making and policies on national income and output, employment, growth, money, the price level and the international economy.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ENGL 1150 with a C-minus (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

### ECON 2400 PRINCIPLES OF ECONOMICS FOR EDUCATORS (3 credits)

This course teaches principles of microeconomics and macroeconomics to K-12 educators. After taking this course students will be able to use the economic way of thinking to study current economic issues. Students will be introduced to macroeconomic principles, decision-making and policies on national income and output, employment, growth, money, price level, and fundamentals of international issues. Students will study microeconomic issues including product and resource markets, and prices output and input decisions under various market conditions. Economic concepts will be aligned to K-12 state social studies standards. This course cannot be substituted for ECON 2200 and/or ECON 2220.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ENGL 1150. Not open to non-degree graduate students.

### ECON 3130 ECONOMIC GEOGRAPHY (3 credits)

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with GEOG 3130).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better. or Majoring in Geography

### ECON 3190 SPORTS ECONOMICS (3 credits)

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Sports Economics, however, students will explore the very real ways in which economics influences sporting competitions and the businesses surrounding them. Students will explore topics such as unionization in sports, discrimination, amateurism, monopoly power, game theory, and more in the context of sports, giving the student a deeper understanding of how these topics apply to real-world problems. After this course, students will understand how readily economics can be applied to businesses and problems in any industry or domain.

**Prerequisite(s)/Corequisite(s):** ECON 2200 OR ECON 1200 OR ECON 2400 OR Instructor Approval. Not open to non-degree graduate students.

### ECON 3200 ECONOMIC THEORY: MICRO (3 credits)

Analysis of individual, firm and industry behavior in product and factor markets. Provides a theoretical foundation for managerial and public policy decision-making.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3220 ECONOMIC THEORY: MACRO (3 credits)**

This course is designed to follow introductory economics, to examine the determination of output, employment, the price level, inflation, interest rates, and the exchange rate in the economy. Piece-by-piece, theoretical models will be constructed describing how each of these and other variables are determined in both, the long-run and in the short-run. We will analyze how changes in a particular event affect different markets in the economy, and in turn, how one market interacts with another within a general equilibrium framework. A large part of the course will be devoted to business cycle theory, macroeconomic policy issues, and open economy macroeconomics. The world economies are very much integrated, and thus, a full understanding of macroeconomics requires knowledge of international aspects of macroeconomics. The purpose of this course is to provide the student with an understanding of the connection between macroeconomic theory and related policy issues.

**Prerequisite(s)/Corequisite(s):** Completion of ECON 2200 with a C or better AND ECON 2220 with a C or better

**ECON 3290 ECONOMICS OF PUBLIC ISSUES (3 credits)**

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Economics of Public Issues, however, students will explore the real ways in which economics can be used to understand, explain, and answer tough questions that affect everyone. Students will explore and define capitalism and key economic institutions required for economies to develop and prosper. We will examine markets and market failures that exist today. Classes will focus on the outcomes - intended and unintended - of various policies (local, national, and global). While specific issues are going to be covered in the course the intent is that students will learn the tools and strategy of thinking like an economist to guide them through future issues that will come up in their personal, professional, and civic lives.

**Prerequisite(s)/Corequisite(s):** (ECON 2200 AND ECON 2220) OR ECON 1200 OR ECON 2400 OR Instructor Approval.

**ECON 3300 INTRODUCTION TO ECONOMETRICS (3 credits)**

An introduction to empirical research methods in economics. Subjects covered include estimations of the basic linear regression model, hypothesis testing, correlation coefficients, analysis of variance, multicollinearity, dummy variables, specification error, auto-correlation, heteroscedasticity and unconditional forecasting. Empirical illustrations are provided by reference to contemporary economic questions.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, ECON 2220, BSAD 2130 or BSAD 3160, each with a "C" (2.0) or better, or permission of instructor.

**ECON 3310 SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS (3 credits)**

Analytics requires data. Within an organization, this data is usually housed in databases. In this class, you will extract data from these systems using Structured Query Language (SQL), programmatically combine multiple datasets, and learn advanced programmatic data cleaning techniques, such as regular expression.

**Prerequisite(s)/Corequisite(s):** ECON 2200 with a "C" or better

**ECON 3320 INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3 credits)**

This course explores the economic approach to environmental and natural resources. It introduces economic concepts and theory at a level accessible to non-economic majors but still challenging to economic majors. It then applies these to such topics as: air and water pollution, solid and hazardous waste management, renewable and nonrenewable natural resource use, and recycling.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with FNBK 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 3600 INTRODUCTION TO INTERNATIONAL ECONOMICS (3 credits)**

An introduction to analyses of international trade and the international monetary system. Subjects covered include the economic basis for international specialization and trade, the effect of trade on income distribution, commercial policy, economic integration, the balance of payments, adjustment mechanism, exchange rate determination, external effects of monetary and fiscal policy and foreign investment.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 4000 SPECIAL TOPICS IN ECONOMICS (1-5 credits)**

The course content and topic will vary. Please contact the economics department for specific course offerings.

**ECON 4210 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 8216).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4300 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 8306).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4320 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role do markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 8326).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4340 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 8346).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better, or BSAD 8180, or permission of instructor.

**ECON 4350 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 8316).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 4450 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 8456).

**Prerequisite(s)/Corequisite(s):** ECON 3220, or permission of instructor.

**ECON 4500 SPECIAL PROBLEMS IN ECONOMICS (2-3 credits)**

Individual investigation of specific problems in the field of economics under the supervision of a faculty member.

**Prerequisite(s)/Corequisite(s):** Senior and permission of department chair.

**ECON 4510 ECONOMIC INTERNSHIP (1-3 credits)**

Students engage in part time employment in their area of concentration to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required (maximum 3 credit hours).

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in ECON 2200 and ECON 2220; 2.5 Cumulative GPA; junior or senior standing.

**ECON 4570 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 8576).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or permission of the instructor

**ECON 4610 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 8616).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4620 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 8626).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4660 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 8666).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4730 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 8736, BSAD 8736).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**ECON 4850 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 8856)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4990 SENIOR ASSESSMENT (0 credits)**

This assessment tool is part of the Department's Student Outcomes effort. It is designed to monitor the Department's performance and to identify changes needed. Graduating seniors must register for and complete this course in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for ECON 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Economics Concentration

For the Economics concentration, students must complete a total of eighteen (18) credit hours of economics courses beyond ECON 2200 and ECON 2220.

Code	Title	Credits
<b>Economics Concentration Required Courses</b>		
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
<b>Economics Concentration Electives</b>		
Students must select a minimum of twelve (12) credit hours beyond the two (2) required courses from economics department courses at the 3000 or 4000 level, of which at least six (6) credit hours must be at the 4000 level.		12
<b>Total Credits</b>		<b>18</b>

## Secondary Concentration in Economics

A secondary concentration in economics, as a supplement to another BSBA concentration, may be obtained by completing the following:

Code	Title	Credits
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Plus nine (9) hours of upper-division (3000/4000 level) courses in economics		9
<b>Total Credits</b>		<b>15</b>

Any course that may be used for an economics concentration may also be used for the secondary concentration in economics, provided that at least one of the courses is ECON 3200 or ECON 3220. A grade of C (2.00) or better is required in each course applied toward the secondary concentration.

### BSBA Degree with Economics Concentration

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>

<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>

<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>

<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
ECON 3220	ECONOMIC THEORY: MACRO	3
Second Speech <sup>3</sup>		3
International Dimension		3
Elective		3
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON Elective <sup>4</sup>		3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

<b>Senior</b>		
<b>Fall</b>		
SCMT 3500	OPERATIONS MANAGEMENT	3
ECON Elective <sup>5</sup>		3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ECON 4000 Level Elective <sup>6</sup>		3
ECON 4000 Level Elective <sup>6</sup>		3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>4</sup> An Economics Concentration Elective must be a 3000 or 4000 level course within the Economics department. (See DegreeWorks for approved options). It is highly encouraged for ECON concentration students to take ECON 3300 as an ECON 3000 level elective (ECON 3300 – offered only Spring semester).
- <sup>5</sup> An Economics Concentration Elective must be a 3000 or 4000 level course within the Economics department. (See DegreeWorks for approved options).
- <sup>6</sup> An Economics Concentration Elective must be a 3000 or 4000 level course within the Economics department. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/>

general-education/overview/index.php. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### **GPA Requirements:**

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### **Graduation Requirements:**

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## **Finance, Banking and Real Estate**

### **Contact**

Chair, Department of Finance, Banking and Real Estate  
402.554.2418

Website (<http://www.unomaha.edu/college-of-business-administration/finance-banking-real-estate/>)

### **Degrees Offered**

- Business Administration, Bachelor of Science (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/>)

### **Concentrations Offered**

- Banking and Financial Markets Concentration (p. 383)
- Business Finance Concentration (p. 386)
- Investment Science and Portfolio Management Concentration (p. 388)
- Legal Studies Concentration (p. 389)
- Real Estate and Land Use Economics Concentration (p. 391)

### **Secondary Concentrations Offered**

- Secondary Concentration in Business Finance (p. 386)
- Secondary Concentration in Legal Studies (p. 389)
- Secondary Concentration in Real Estate and Land Use Economics (p. 391)

Note: A careful structuring of course work will allow students to obtain a triple concentration in Investment Science and Portfolio Management, Business Finance, and Banking and Financial Markets, without extra courses. In addition, students may earn a concentration in Real Estate and Land Use Economics and a corresponding Finance concentration. Students must complete FNBK 3250 with a C+ or above in order to specialize in any Finance and Banking concentration or secondary concentration.

## **Certificates Offered**

- Real Estate and Land Use Economics Program Certificate (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/real-estate-land-use-economics-certificate/>)

### **Finance, Banking, and Real Estate**

- Appraiser
- Bank Operations Manager
- Commercial Banking Officer
- Commercial or Residential Broker
- Corporate Financial Officer
- Corporate Lawyer
- Financial Advisor
- Insurance Management
- Investment Analyst
- Mortgage Officer
- Portfolio Manager
- Real Estate Agent
- Retail Banking Officer
- Risk Management Specialist
- Stockbroker
- Underwriting Specialist

#### **FNBK 2280 PERSONAL FINANCE (3 credits)**

This course focuses strengthening the development of sound financial habits through knowledge and application of concepts and activities that enhance personal and family finance.

#### **FNBK 2710 PRINCIPLES OF INSURANCE (3 credits)**

This course is intended to introduce students to the basic concepts of risk and insurance. Special emphasis is placed on the insurance coverage needed by the consumer: life, health, homeowner and auto insurance. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

#### **FNBK 3000 FINANCIAL REPORTING AND ANALYSIS (3 credits)**

Seeks to develop students' understanding of the origin and derivation of accounting data, and their skills in employing the data for the purpose of financial analysis, reporting and valuation.

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with 'C' (2.0) or better.

#### **FNBK 3250 PRINCIPLES OF FINANCIAL MANAGEMENT (3 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, ECON 2220, MATH 1320 or MATH 1370 or MATH 1930, BSAD 2130 or 3160, ENGL 1160/ENGL 1164 or concurrent enrollment in ENGL 1160/1164 each with "C" or better and 2.5 GPA.

#### **FNBK 3330 ENTREPRENEURIAL FINANCE (3 credits)**

This course focuses on venture capital formation and the financing of entrepreneurial ventures. The course is intended for students interested in entrepreneurship, venture capital markets, investment banking, and other careers related to new venture financing and/or deal structuring. The course applies basic financial theory to the unique environment of incubating and growing new ventures. (Cross-listed with ENTR 3330).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C' (2.0) or better.

#### **FNBK 3400 INVESTMENT PRINCIPLES AND PRACTICES (3 credits)**

A study of the market for investment securities, an introduction to the field of security analysis, and selection and management of a portfolio of securities. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FBNK 3500 FINANCIAL MARKETS (3 credits)**

An overview of money and banking, monetary policy, and analysis of the operations of financial markets in a global context, as well as the evolving regulatory framework within which these markets operate.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 and FBNK 3250 with 'C' or better, or approval of instructor.

**FBNK 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with ECON 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**FBNK 3650 COMMERCIAL BANK MANAGEMENT (3 credits)**

This course focuses on the theory and practice of managing commercial banks. Topics covered include but are not limited to: Bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. This course emphasizes the link between theory and practice through readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** FBNK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FBNK 3700 INTERNATIONAL FINANCIAL MANAGEMENT (3 credits)**

This course focuses on the application of basic principles and techniques of international financial management to the decision-making process of the multinational firms. The course covers foreign exchange markets, management of foreign exchange risk, international working capital management, and foreign portfolio and direct investment. Factors bearing on international financing and investment decisions, such as political risk and international taxation issues will be also explored. (Fall, Spring, Summer).

**Prerequisite(s)/Corequisite(s):** FBNK 3250 with 'C+' (2.3) or better, GPA of 2.5 or better or approval of instructor.

**FBNK 4000 SPECIAL TOPICS IN FINANCE AND BANKING (1-5 credits)**

The course content and topic will vary. Please contact the CBA for specific course offerings.

**FBNK 4150 INTERMEDIATE FINANCIAL MANAGEMENT (3 credits)**

Seeks to develop the students' ability to identify, analyze and solve integrative problems in management of business finance, including financial analysis, working capital management, capital budgeting decisions, long term financing, and leasing, through the use of prescribed readings, case studies and computer applications. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** FBNK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better, and senior standing. It is highly recommended that a student have an additional 6 hours of finance instruction beyond the introductory course prior to taking this class.

**FBNK 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, MKT 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**FBNK 4500 SPECIAL PROBLEMS IN FINANCE AND BANKING (2-3 credits)**

Individual investigation of specific problems in the fields of finance and banking. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** Senior. Note: permission of department chair required prior to registration.

**FBNK 4510 FINANCE AND BANKING INTERNSHIP (1-3 credits)**

Students will engage in an applied experience in their area of specialization to gain relevant experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required. Note: FBNK4510 may be taken for a maximum of 3 credits.

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C+' or better in FBNK 3250; 2.5 cumulative gpa; junior or senior standing

**FBNK 4570 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with BSAD 8576).

**Prerequisite(s)/Corequisite(s):** Senior standing. Not open to non-degree graduate students.

**FBNK 4590 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control and risk avoidance, among others. (Cross-listed with BSAD 8596).

**Prerequisite(s)/Corequisite(s):** At least junior standing.

**FBNK 4600 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with BSAD 8606).

**Prerequisite(s)/Corequisite(s):** FBNK 3400 and FBNK 3500 both with a 'C' (2.0) or better, and senior or graduate standing.

**FBNK 4610 PORTFOLIO MANAGEMENT (3 credits)**

This course will focus on modern development in portfolio management including efficient markets, stock selection, and hedging procedures. The main objective of this course is to prepare students for the management of financial resources through the development of skills necessary to make prudent investment decisions.

**Prerequisite(s)/Corequisite(s):** FBNK 3400 with a "C+" (2.33) or above, and a 2.5 GPA.

**RELU 2410 REAL ESTATE PRINCIPLES AND PRACTICES (3 credits)**

An introductory survey of real estate principles and practices which introduces the terminology, concepts and basic practices in the fields of real estate law, real estate finance, real estate appraisal, real estate property taxation and miscellaneous topic areas. Note: Students cannot receive credit for both RELU 2410 and RELU 3410. (Fall, Spring)

**RELU 3410 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with BSAD 8605).

**RELU 3430 REAL ESTATE BROKERAGE AND SALES (3 credits)**

Overview of real estate brokerage and sales principles, to include buying and selling, leasing, brokerage business operations, contracts, closings, legal requirements, Fair Housing, advertising, and career opportunities.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3450 REAL ESTATE MANAGEMENT (3 credits)**

Commercial and residential property management fundamentals, including leasing space, tenant selection and relations, maintenance and investor relations. (Fall)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3460 REAL ESTATE LAW (3 credits)**

Upper-level survey course in real estate law, which examines estates in land, conveyances, leases, mortgages, easements, zoning, environmental law, contracts, taxes, foreclosures, landlord-tenant relations, agency, Fair Housing, and Nebraska License Law. (Cross-listed with LAWS 3460)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4390 REAL ESTATE INVESTMENTS (3 credits)**

Methods used to analyze existing commercial real estate investments through traditional, as well as more technical, dynamic programming models.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4400 RESIDENTIAL REAL ESTATE FINANCE (3 credits)**

Methods of financing residential real estate, analysis of mortgage risks, mortgage instruments, mortgage lenders, financial calculations, influences of governmental agencies. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 and junior standing.

**RELU 4410 BASIC APPRAISAL PROCEDURES (3 credits)**

Fundamentals of real estate valuation and appraising; factors affecting value; valuing land, valuing improvements and the valuation of special classes of residential property; appraisal practice, depreciation and obsolescence, appraising rules, the mathematics of appraising; an appraisal of a single family residence is required.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410 AND FNBK 3250 with a C or better

**RELU 4420 INCOME PROPERTY APPRAISAL (3 credits)**

Introduction to the theory and concepts of income capitalization approaches, methods and techniques to valuation of real estate income property. Characteristics of yield on investment real estate; future income projections; mortgage coefficients; purchase and leaseback reversions; Ellwood Tables; capitalization rates and investment yields; types of annuities; and condemnation appraisal. (Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410; and FNBK 3250

**RELU 4440 CREATING A REAL ESTATE COMMUNITY (3 credits)**

Market analysis and planning for land developments for various types of uses: residential, campus, civic centers, housing for the elderly, urban renewal, shopping centers.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4460 COMMERCIAL REAL ESTATE FINANCE (3 credits)**

A foundation course in commercial real estate finance including legal, analytical, institutional and governmental aspects.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4500 REAL ESTATE INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific issues or problems in real estate. **Prerequisite(s)/Corequisite(s):** Permission of Real Estate Program Director.

**RELU 4510 REAL ESTATE INTERNSHIP (1-3 credits)**

Correlation of theory and practice through part-time employment and weekly seminars; required readings. (Maximum of 4 hours).

**Prerequisite(s)/Corequisite(s):** Permission of program chair or internship coordinator.

## Banking and Financial Markets Concentration

The objective of the Banking and Financial Markets concentration is to provide additional study in the areas of financial management of commercial banks including the organization, operation, financing and

functions of banks and certain related financial institutions. This program is specifically designed for those students interested in pursuing careers in banking, bank regulatory agencies, or in related financial institutions, such as credit unions, sales and consumer finance companies, and government agencies.

For this concentration, students complete a total of eighteen (18) credit hours, including fifteen (15) credit hours in required courses, and three (3) credit hours in concentration electives. The completion of specified courses in business finance, banking, and investment science and portfolio management may be applied toward concentration requirements in all three areas.

Code	Title	Credits
<b>Banking and Financial Markets Required Courses</b>		
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 3500	FINANCIAL MARKETS	3
FNBK 3650	COMMERCIAL BANK MANAGEMENT	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
FNBK 4150	MGMT OF BUSINESS FINANCE	3
<b>Banking and Financial Markets Concentration Electives</b>		
Select 3 credit hours from the following:		3
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	
FNBK 4500	SPECIAL PROBLEMS IN FINANCE AND BANKING	
FNBK 4510	FINANCE AND BANKING INTERNSHIP	
FNBK 4590	RISK MANAGEMENT FOR BUSINESS MANAGERS	
FNBK 4600	FINANCIAL RISK MANAGEMENT	
FNBK 4610	PORTFOLIO MANAGEMENT	
<b>Banking and Financial Markets Concentration Recommended Electives</b>		
The following are recommended electives:		
ACCT 3020	BASIC FEDERAL INCOME TAXATION	
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	
ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
<b>Total Credits</b>		<b>18</b>

**BSBA Degree with Banking and Financial Markets Concentration**

Freshman		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Natural/Physical Science		3

Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT <sup>3</sup>	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Second Speech <sup>4</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
FNBK 3650	COMMERCIAL BANK MANAGEMENT	3
FNBK 3500	FINANCIAL MARKETS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK Elective <sup>5</sup>		3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

<sup>3</sup> Students who are concentrating in Banking and Financial Markets must receive a grade of "C+" or better in FNBK 3250.

<sup>4</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160

<sup>5</sup> For this requirement students must choose from an approved list of Banking and Financial Markets Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Business Analytics Concentration

Because domain knowledge is critical to business analytics, the BSBA Business Analytics concentration is required to be completed together with another BSBA concentration within the College of Business Administration.

#### Core Requirements – Three Courses – 9 Credit Hours

Code	Title	Credits
ECON 3310	SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS	3
ECON 3300	INTRODUCTION TO ECONOMETRICS	3
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	3

<sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.

<sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.

**Elective Courses – Choose Three Courses – 9 Credit Hours**

Code	Title	Credits
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 4080	PRINCIPLES OF AUDITING	3
ACCT 4020	ANALYTICS FOR ACCOUNTING	3
ECON 4300	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ECON 4510	ECONOMIC INTERNSHIP	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK 4610	PORTFOLIO MANAGEMENT	3
MKT 4340	MARKETING RESEARCH	3
MKT 4370	MARKETING ANALYTICS	3
SCMT 4370	SUPPLY CHAIN ANALYTICS	3
MGMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS	3

**Undergraduate BSBA Secondary Concentration in Business Analytics**

The BSBA secondary concentration in Business Analytics is intended to provide the core skills needed by local firms to advance their ability to make decisions based on data. The BSBA Secondary Concentration in Business Analytics enables business majors to add a BSBA Secondary Concentration in Business Analytics to any other BSBA concentratio

**Core Requirements – Three Courses – 9 Credit Hours**

Code	Title	Credits
ECON 3310	SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS	3
ECON 3300	INTRODUCTION TO ECONOMETRICS	3
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	3

**Elective Courses – Choose One Course – 3 Credit Hours**

Code	Title	Credits
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 4080	PRINCIPLES OF AUDITING	3
ACCT 4020	ANALYTICS FOR ACCOUNTING	3
ECON 4300	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
MGMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS	3
ECON 4510	ECONOMIC INTERNSHIP	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK 4610	PORTFOLIO MANAGEMENT	3
MKT 4340	MARKETING RESEARCH	3
MKT 4370	MARKETING ANALYTICS	3
SCMT 4370	SUPPLY CHAIN ANALYTICS	3

**BSBA Degree with Business Analytics Concentration**

An additional College of Business Concentration must be paired with Business Analytics

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
	Humanities and Fine Arts with Global Diversity	3
	Social Science	3

**Credits** **16**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
	Humanities and Fine Arts with US Diversity	3
	Humanities and Fine Arts	3
	Natural/Physical Science	3

**Credits** **15**

**Sophomore****Fall**

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
	International Dimension	3

**Credits** **15**

**Spring**

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
ECON 3300	INTRODUCTION TO ECONOMETRICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
ECON 3310	SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS	3

**Credits** **15**

**Junior****Fall**

FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	3

Special Speech <sup>3</sup> 3

Business Analytics Elective <sup>4</sup> 3

Second Concentration Course 3

**Credits** **15**

**Spring**

MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
	Natural/Physical Science with Laboratory	4
	Business Analytics Elective <sup>4</sup>	3
	Second Concentration Course	3
	Elective	3

**Credits** **16**

**Senior****Fall**

LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
	Second Concentration Course	3
	Second Concentration Course	3

International Dimension	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
MGMT 4480 CORPORATE AND BUSINESS STRATEGY	3
Business Analytics Elective <sup>4</sup>	3
Second Concentration Course	3
Second Concentration Course	3
1 Credit Elective	1
<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>4</sup> For this requirement students must choose from an approved list of BA Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Business Finance Concentration

The objective of the business finance concentration is to prepare students for careers in such areas as financial management, capital budgeting, and international financial management. The focus is on the functions of finance in the firm, cash management, sources of financing, the financial system and strategic capital budgeting.

For this concentration, students must complete a total of eighteen (18) credit hours, including fifteen (15) credit hours in required courses, and three (3) credit hours in concentration electives. The completion of specified courses in business finance, banking, and investment science and portfolio management may be applied toward concentration requirements in all three areas.

Code	Title	Credits
<b>Business Finance Concentration Required Courses</b>		
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 3500	FINANCIAL MARKETS	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
FNBK 4150	MGMT OF BUSINESS FINANCE	3
<b>Business Finance Concentration Elective Courses</b>		
Select 3 credit hours from the following:		3
FNBK 3650	COMMERCIAL BANK MANAGEMENT	
FNBK 4500	SPECIAL PROBLEMS IN FINANCE AND BANKING	
FNBK 4510	FINANCE AND BANKING INTERNSHIP	
FNBK 4590	RISK MANAGEMENT FOR BUSINESS MANAGERS	
FNBK 4600	FINANCIAL RISK MANAGEMENT	
FNBK 4610	PORTFOLIO MANAGEMENT	
<b>Business Finance Concentration Recommended Electives</b>		
The following are recommended electives:		
ACCT 3020	BASIC FEDERAL INCOME TAXATION	
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	
ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
<b>Total Credits</b>		<b>18</b>

## Secondary Concentration in Business Finance

A secondary concentration in business finance, as a supplement to another BSBA concentration, may be obtained by completing the following:

Code	Title	Credits
<b>Required Courses</b>		
FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
<b>Additional Courses</b>		

Select 6 additional credit hours of finance and banking courses beyond FNBK 3250 6

**Total Credits 12**

### BSBA Degree with Business Finance Concentration

#### Freshman

##### Fall Credits

ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3

**Credits 16**

##### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3

**Credits 15**

#### Sophomore

##### Fall

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3

**Credits 16**

##### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
Elective		3

**Credits 15**

#### Junior

##### Fall

FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT <sup>3</sup>	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Second Speech <sup>4</sup>		3
Elective		3
Elective		3

**Credits 15**

##### Spring

FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Elective		3
Elective		3

**Credits 15**

#### Senior

##### Fall

FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	3
-----------	----------------------------------	---

FNBK 3500	FINANCIAL MARKETS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3

**Credits 15**

##### Spring

FNBK 4150	MGMT OF BUSINESS FINANCE	3
FNBK Elective <sup>5</sup>		3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
1 Credit Elective		1

**Credits 13**

**Total Credits 120**

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> Students who are concentrating in Business Finance must receive a grade of "C+" or better in FNBK 3250
- <sup>4</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>5</sup> For this requirement students must choose from an approved list of Business Finance Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA. 42 of those credit hours must be in upper division courses. Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Investment Science and Portfolio Management Concentration

The investment science and portfolio management concentration provides theoretical and practical application of security analysis, asset pricing, and dynamic portfolio management for students interested in the investment management field. Students will have the opportunity to apply theoretical models discussed in class by managing funds in the student managed investment club. Students are encouraged to actively participate in the club early in their academic career.

For this concentration, students complete a total of eighteen (18) credit hours including fifteen (15) credit hours in required concentration courses and three (3) credit hours in concentration electives. The completion of specified courses in business finance, banking, and investment science and portfolio management may be applied toward concentration requirements in all three areas.

Code	Title	Credits
<b>Investment Science and Portfolio Management Concentration Required Courses</b>		
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	3
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	3
FNBK 3500	FINANCIAL MARKETS	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
FNBK 4610	PORTFOLIO MANAGEMENT	3
<b>Investment Science and Portfolio Management Concentration Electives</b>		
Select 3 credit hours from the following:		3
FNBK 3650	COMMERCIAL BANK MANAGEMENT	
FNBK 4150	MGMT OF BUSINESS FINANCE	
FNBK 4500	SPECIAL PROBLEMS IN FINANCE AND BANKING	
FNBK 4510	FINANCE AND BANKING INTERNSHIP	
FNBK 4590	RISK MANAGEMENT FOR BUSINESS MANAGERS	
FNBK 4210	SELLING FINANCIAL SERVICES	
FNBK 4570	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	
<b>Investment Science and Portfolio Management Concentration Recommended Electives</b>		
The following are recommended electives:		
ACCT 3020	BASIC FEDERAL INCOME TAXATION	
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	
ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
<b>Total Credits</b>		<b>18</b>

## BSBA Degree with Investment Science and Portfolio Management Concentration

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Sciences		3
<b>Credits</b>		<b>15</b>

### Sophomore

Fall		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>

### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>

### Junior

Fall		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT <sup>3</sup>	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Second Speech <sup>4</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

### Spring

FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES <sup>5</sup>	3
FNBK 3700	INTERNATIONAL FINANCIAL MANAGEMENT	3
Elective		3
Elective		3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
<b>Credits</b>		<b>15</b>

### Senior

Fall		
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	3
FNBK 3500	FINANCIAL MARKETS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3

Elective		3
	<b>Credits</b>	<b>15</b>
<b>Spring</b>		
FNBK 4610	PORTFOLIO MANAGEMENT	3
FNBK Elective <sup>6</sup>		3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
1 Credit Elective		1
	<b>Credits</b>	<b>13</b>
	<b>Total Credits</b>	<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> Students who are concentrating in Investment Science and Portfolio Management must receive a grade of "C+" or better in FNBK 3250.
- <sup>4</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>5</sup> Students who are concentrating in Investment Science and Portfolio Management must receive a grade of "C+" or better in FNBK 3400. Codes:
- <sup>6</sup> For this requirement students must choose from an approved list of Investment Science and Portfolio Management Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA. 42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Legal Studies Concentration

The legal studies concentration emphasizes resolution of commercial disputes, for example disputes arising in a real estate context or in a human resources context, and students with a variety of career goals choose the legal studies concentration. Commercial risk management students choose the concentration to be well positioned to quantify and evaluate alternative resolutions of commercial disputes. This concentration prepares students who are interested in law as a form of critical thinking and analysis of social issues, as well as students pursuing a pre-law curriculum or preparing for a paralegal career. Some graduate track students seek this concentration as preparation for earning a graduate degree in business or for a career in forensic economics. In addition to a broad understanding of the law, quantitative skills are central to the legal studies concentration. Quantitative skills, are needed for estimation of the magnitude of remedies in a commercial context. Risk management requires the ability to be persuasive. Accordingly, written and oral communication skills are important for the legal studies concentration.

Code	Title	Credits
<b>Legal Studies Concentration Required Courses</b>		
Select 6 credit hours from the following:		6
LAWS 3940	LEGAL AND ETHICAL APPLICATIONS	
LAWS 4500	SPECIAL PROBLEMS IN LAW AND SOCIETY <sup>1</sup>	

#### Legal Studies Concentration Business Application Courses

Select two of the following:		6
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	
LAWS 4220	LEGAL ISSUES IN MANAGEMENT	
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	
RELU 4410	BASIC APPRAISAL PROCEDURES	
FNBK 4150	MGMT OF BUSINESS FINANCE	
FNBK 4590	RISK MANAGEMENT FOR BUSINESS MANAGERS	

#### Legal Studies Concentration Electives

Select two of the following:		6
LAWS/RELU 3460	REAL ESTATE LAW	
MGMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
LAWS 4910	SEMINAR ON BUSINESS LAW	
MGMT 4030	HUMAN RESOURCE MANAGEMENT	
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	
CMST 4700	INTERPERSONAL CONFLICT	
CMST 3120	PERSUASIVE SPEAKING	
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	

**Total Credits** **18**

- <sup>1</sup> Students are required to contract with an instructor for LAWS 4500, and the course must be taken for either 3 or 6 credit hours.

## Secondary Concentration in Legal Studies

Code	Title	Credits
<b>Legal Studies Secondary Concentration Required Courses</b>		
Select 6 credit hours from the following:		6
LAWS 3940	LEGAL AND ETHICAL APPLICATIONS	
LAWS 4500	SPECIAL PROBLEMS IN LAW AND SOCIETY <sup>1</sup>	
<b>Legal Studies Secondary Concentration Law Electives</b>		
Select one of the following:		3
LAWS/RELU 3460	REAL ESTATE LAW	
LAWS 4220	LEGAL ISSUES IN MANAGEMENT	
MGMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
LAWS 4910	SEMINAR ON BUSINESS LAW	
<b>Legal Studies Secondary Concentration Interdisciplinary Electives</b>		
Select one of the following:		3
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	
FNBK 4150	MGMT OF BUSINESS FINANCE	
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	
MGMT 4030	HUMAN RESOURCE MANAGEMENT	
RELU 4410	BASIC APPRAISAL PROCEDURES	
FNBK 4590	RISK MANAGEMENT FOR BUSINESS MANAGERS	
<b>Total Credits</b>		<b>12</b>

### BSBA Degree with Legal Studies Concentration

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3

MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Legal Studies Elective <sup>3</sup>		3
International Dimension		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Legal Studies Elective <sup>4</sup>		3
Legal Studies Elective <sup>4</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
LAWS 4500	SPECIAL PROBLEMS IN LAW AND SOCIETY	3
LAWS 3940	LEGAL AND ETHICAL APPLICATIONS	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Second Speech <sup>5</sup>		3
Legal Studies Elective <sup>6</sup>		3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from an approved list of Legal Studies Elective classes. (See DegreeWorks for approved options)
- <sup>4</sup> For this requirement students must choose from an approved list of Legal Studies Elective classes. (See DegreeWorks for approved options)
- <sup>5</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>6</sup> For this requirement students must choose from an approved list of Legal Studies Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Real Estate and Land Use Economics Concentration

The objective of the real estate and land use economics concentration is to prepare students for careers in areas such as commercial real estate finance, asset management, investment analysis, property management, appraisal, corporate real estate management, brokerage, development, as well as other real estate-related careers in the public and private sectors.

For the real estate and land use economics concentration, students must complete a total of eighteen (18) credit hours, including fifteen (15) credit hours in required courses, and three (3) credit hours from the list of real estate electives.

Code	Title	Credits
<b>Real Estate and Land Use Economics Concentration Required Courses</b>		
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES	3
or RELU 3410	REAL ESTATE CONCEPTS AND APPLICATIONS	
RELU 4410	BASIC APPRAISAL PROCEDURES	3
<b>Real Estate and Land Use Economics Finance Options</b>		
Select one of the following:		3
RELU 4390	REAL ESTATE INVESTMENTS	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
RELU 4460	COMMERCIAL REAL ESTATE FINANCE	
<b>Real Estate and Land Use Economics Industry Options</b>		
RELU 3430	REAL ESTATE BROKERAGE AND SALES	3
or RELU 3450	PROPERTY MANAGEMENT	

### Real Estate and Land Use Economics Law and Cross-Discipline Options

Select one of the following:		3
RELU/LAWS 3460	REAL ESTATE LAW	
RELU 4440	REAL ESTATE DEVELOPMENT	
FNBK 3000	FINANCIAL REPORTING AND ANALYSIS	
UBNS/PA 1010	INTRODUCTION TO URBAN STUDIES	

### Real Estate and Land Use Economics Concentration Elective Courses

Select one of the following:		3
RELU 3430	REAL ESTATE BROKERAGE AND SALES	
RELU 3450	PROPERTY MANAGEMENT	
RELU/LAWS 3460	REAL ESTATE LAW	
RELU 4390	REAL ESTATE INVESTMENTS	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
RELU 4440	REAL ESTATE DEVELOPMENT	
RELU 4460	COMMERCIAL REAL ESTATE FINANCE	
RELU 4500	REAL ESTATE INDEPENDENT STUDY	
RELU 4510	REAL ESTATE INTERNSHIP	
ECON 3300	INTRODUCTION TO ECONOMETRICS	
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	
FNBK 3500	FINANCIAL MARKETS	
FNBK 3650	COMMERCIAL BANK MANAGEMENT	
FNBK 4610	PORTFOLIO MANAGEMENT	
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	

**Total Credits** **18**

A grade of "C" (2.0) or better is required in each course.

## Secondary Concentration in Real Estate and Land Use Economics

A secondary concentration in real estate and land use economics, as a supplement to another BSBA concentration, may be obtained by completing a total of 12 (twelve) credit hours, composed of the following courses:

Code	Title	Credits
<b>Real Estate and Land Use Economics Secondary Concentration Required Courses</b>		
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES	3
or RELU 3410	REAL ESTATE CONCEPTS AND APPLICATIONS	
RELU 4410	BASIC APPRAISAL PROCEDURES	3
<b>Real Estate and Land Use Economics Secondary Concentration Finance Courses</b>		
Select one of the following:		3
RELU 4390	REAL ESTATE INVESTMENTS	
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
RELU 4460	COMMERCIAL REAL ESTATE FINANCE	
<b>Real Estate and Land Use Economics Secondary Concentration Electives</b>		
Select one of the following:		3
RELU 3430	REAL ESTATE BROKERAGE AND SALES	
RELU 3450	PROPERTY MANAGEMENT	
RELU/LAWS 3460	REAL ESTATE LAW	
RELU 4390	REAL ESTATE INVESTMENTS	

RELU 4400	RESIDENTIAL REAL ESTATE FINANCE	
RELU 4440	REAL ESTATE DEVELOPMENT	
RELU 4460	COMMERCIAL REAL ESTATE FINANCE	
RELU 4500	REAL ESTATE INDEPENDENT STUDY	
RELU 4510	REAL ESTATE INTERNSHIP	
ECON 3300	INTRODUCTION TO ECONOMETRICS	
ECON 4350	BUSINESS INTELLIGENCE AND REPORTING	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
FNBK 3400	INVESTMENT PRINCIPLES AND PRACTICES	
FNBK 3500	FINANCIAL MARKETS	
FNBK 3650	COMMERCIAL BANK MANAGEMENT	
FNBK 4610	PORTFOLIO MANAGEMENT	
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	
<b>Total Credits</b>		<b>12</b>

A grade of C (2.00) or better is required in each course counted in the secondary concentration.

#### BSBA Degree with Real Estate and Land Use Economics Concentration

##### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>

##### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

##### Sophomore

Fall		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>

##### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>

##### Junior

Fall		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3

LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MKT 3310	PRINCIPLES OF MARKETING	3
RELU Elective <sup>3</sup>		3
Elective		3

**Credits 15**

##### Spring

RELU Elective <sup>3</sup>		3
RELU 4410	BASIC APPRAISAL PROCEDURES	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
International Dimension		3
Elective		3

**Credits 15**

##### Senior

###### Fall

RELU Elective <sup>3</sup>		3
Second Speech <sup>4</sup>		3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3

**Credits 15**

##### Spring

RELU Elective <sup>3</sup>		3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
Elective		3
1 Credit Elective		1

**Credits 13**

**Total Credits 120**

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from an approved list of Real Estate and Land Use Economics Elective classes. Students taking "UBNS 1010" will need a 3000/4000 level elective to fulfill UD credit required for BSBA degree. (See DegreeWorks for approved options)
- <sup>4</sup> For this requirement students must choose from the following list: MKT 3100, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/>

general-education/overview/index.php. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Real Estate and Land Use Economics Program Certificate

A program certificate in Real Estate and Land Use Economics may be earned by completing three (3) credit hours of core course and twelve (12) credit hours from the list of Real Estate and Land Use Economics elective courses below, for a total of fifteen (15) credit hours.

A grade of "C" (2.0) or better is required in each course.

The program certificate is issued by the College of Business Dean's office.

#### Real Estate and Land Use Economics Program Certificate Required Core Courses: 3 credit hours

RELU 2410 Real Estate Principles and Practices

#### Real Estate and Land Use Economics Program Certificate Elective Courses: 12 credit hours

Select from the following:

RELU 3430	Real Estate Brokerage and Sales
RELU 3450	Real Estate Management
RELU 3460	Real Estate Law
RELU 4390	Real Estate Investments
RELU 4400	Residential Real Estate Finance
RELU 4410	Basic Appraisal Procedures
RELU 4440	Creating a Real Estate Community
RELU 4460	Commercial Real Estate Finance
RELU 4500	Special Problems in Real Estate and Land Use Economics (1-3 credits)*
RELU 4510	Real Estate Internship (1-3credits)*

#### Total Credits: 15

\*Can be applied towards the UNO Real Estate Certificate, but cannot be used as pre-licensure courses required by the Nebraska Real Estate Commission.

## UNO Real Estate Certificate

#### Requirements:

A Certificate in Real Estate is offered for non-degree, non-traditional, and/or non-business students seeking to build a solid foundation in key real estate concepts, earn a credential, and improve their marketability in the industry.

The proposed certificate may be obtained by completing fifteen (15) credit hours of coursework. A grade of "C" (2.0) or better is required in each course to be applied to the certificate, and an overall GPA of 2.5 within the certificate is required to earn the credential. The Certificate in Real Estate is not available for undergraduate business majors.

#### Real Estate Certificate Required Course

Code	Title	Credits
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES	3

#### Real Estate Certificate Elective Courses 12

Select 12 credit hours from the following:

RELU 3430	REAL ESTATE BROKERAGE AND SALES
RELU 3450	PROPERTY MANAGEMENT
RELU 3460	REAL ESTATE LAW
RELU 4390	REAL ESTATE INVESTMENTS
RELU 4400	RESIDENTIAL REAL ESTATE FINANCE
RELU 4410	BASIC APPRAISAL PROCEDURES
RELU 4440	REAL ESTATE DEVELOPMENT
RELU 4460	COMMERCIAL REAL ESTATE FINANCE
RELU 4500	REAL ESTATE INDEPENDENT STUDY <sup>1</sup>
RELU 4510	REAL ESTATE INTERNSHIP <sup>1</sup>

**Total Credits 15**

<sup>1</sup> Can be applied towards the UNO Real Estate Certificate, but cannot be used as pre-licensure courses required by the Nebraska Real Estate Commission.

## Management

### Contact

UNO Management Department  
402.554.2525

### Degrees Offered

- Bachelor of Science in Business Administration (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/>)

### Management Concentrations

Management concentrations include Management, Human Resource Management, and Supply Chain Management. Managers combine human and material resources to accomplish organizational objectives. Such results are achieved through the managerial processes of planning, leading, organizing and controlling. Today's competitive, global business environment presents many challenges to managers including managing change and innovation, managing diversity, developing a global perspective, becoming an effective leader, and improving organizational

performance by focusing on quality and continuous improvement. The management concentrations are designed to prepare students to effectively face these challenges in an environment of risk, uncertainty, and ambiguity. All Management concentrations require a minimum of eighteen (18) credit hours. **Students must complete MGMT 3490 with a C+ or above in order to take additional management courses to complete the Management concentration, the Human Resource Management concentration, or the secondary concentration in Management.** A student may choose more than one concentration with a resulting increase in the number of required courses.<sup>1</sup>

<sup>1</sup> Note: Students completing more than one Management concentration cannot apply more than six common credits to each Management concentration.

### Concentrations Offered:

- Management Concentration (p. 396)
- Human Resource Management Concentration (p. 398)
- Logistics & Supply Chain Management Concentration (p. 399)

### Secondary Concentrations Offered:

- Secondary Concentration in Management (p. 396)
- Secondary Concentration in Logistics & Supply Chain Management (p. 399)

### Management

- Account Executive
- Business Analyst
- Business Development Manager
- Business Systems Analyst
- Compliance Analyst
- Customer Relationship Manager
- Human Resources and Management Consultant
- Human Resources Executive
- Human Resources Manager
- Logistics Analyst
- Office Manager
- Operations Officer
- Project Manager
- Purchasing Specialist
- Retail Manager
- Training and Development Specialist

### MGMT 1500 INTRODUCTION TO BUSINESS (3 credits)

This course is for students who are interested in gaining foundational knowledge in many aspects of the business world including economics, finance, marketing, management, and accounting.

**Distribution:** Social Science General Education course

### MGMT 3100 MANAGEMENT INFORMATION SYSTEMS (3 credits)

The course covers a broad spectrum of knowledge and techniques in MIS. It presents an overview of the issues and strategies in managing IT resources for organizational effectiveness. Covered topics include but are not limited to IT planning, network computing, functional information systems and their integration, electronic commerce, decision support systems, and data and knowledge management.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, MGMT 3200 or MKT 3200, and MGMT 3490, each with a 'C' (2.0) or better, and a 2.5 GPA. Not open to non-degree graduate students.

### MGMT 3300 STRATEGYU: IDENTIFYING AND LEVERAGING YOUR DISTINCTIVE PROFESSIONAL CAPABILITIES (3 credits)

StrategyU is a course designed to merge strategic thinking with personal and professional growth. The goal of the course is to enable individuals to identify where they are personally and professionally, where they want to be in both areas in the future, and develop strategies for how to get there.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

### MGMT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MKT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

### MGMT 3490 MANAGEMENT (3 credits)

In this course, students will develop a clear understanding of management concepts, develop critical thinking skills in applying management concepts to real world problems and begin to develop the technical, interpersonal, communication, conceptual and decision-making skills that are important to success as a manager in modern organizations. Current management trends are emphasized.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and MGMT 3200 or MKT 3200 each with a "C"(2.0) or above, and a 2.5 cumulative GPA.

### MGMT 3600 BUSINESS ETHICS (3 credits)

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MKT 3600)

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of 'C' (2.0). Not open to non-degree graduate students.

### MGMT 3800 CROSS-SECTOR COLLABORATIVE LEADERSHIP (3 credits)

The goal of PA 3800/MGMT 3800 is to prepare students to serve as collaborative leaders of cross-sector initiatives. Specifically, this course will prepare students for success in working collaboratively across private, nonprofit and public sector organizations while also enhancing their overall development as a leader. Examples of successful and unsuccessful cross-sector collaborations will be explored along with discussions of theories related to cross-sector collaboration. (Cross-listed with PA 3800).

**Prerequisite(s)/Corequisite(s):** Permission from instructor or MGMT 3490 with a grade of C or higher or enrollment in the cross-sector collaborative leadership minor.

### MGMT 4000 SPECIAL TOPICS IN MANAGEMENT (3 credits)

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a management, supply chain management, or human resources management concentration.

**Prerequisite(s)/Corequisite(s):** Permission from the Department of Management chairperson.

**MGMT 4010 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with BSAD 8146).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor

**MGMT 4030 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with BSAD 8136).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4040 ORGANIZATIONAL BEHAVIOR (3 credits)**

In this course students will learn the knowledge and skills necessary to effectively manage and lead others. The discussion and application of topics such as leadership, motivation and attitudes will provide a theoretical grounding in these areas and the opportunity to practice applying these concepts to real-world problems.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

**MGMT 4050 MANAGERIAL DECISION MAKING (3 credits)**

This course will provide students with the opportunity to learn, understand, and apply techniques for effective individual and organizational problem solving. The students will interactively participate in generating, prioritizing and organizing their ideas in order to become better managerial decision-makers/problem solvers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C, or a 2.5 GPA, or permission of instructor

**MGMT 4060 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with BSAD 8066, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 or SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MGMT 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**MGMT 4100 ORGANIZATION CHANGE AND DESIGN (3 credits)**

This course is designed to increase students' understanding and knowledge of how organizations are designed and structured in order to create value and competitive advantage, and how organizations can operate in an effective and efficient manner in an ever-changing environment.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4110 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with BSAD 8166).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor. Students are encouraged to take MGMT 4220 prior to taking this course.

**MGMT 4120 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with BSAD 8156).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4150 INTERNATIONAL MANAGEMENT (3 credits)**

The purpose of this course is to explore management theory and practice from an international or cross-cultural perspective to gain an appreciation for the complexities of managing in diverse cultural, political and economics environments. Specific emphasis is placed on studying the challenges of management and organization in multinational corporations.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA, or permission of instructor.

**MGMT 4220 EMPLOYMENT LAW (3 credits)**

This course is a comprehensive review of the legal framework in human resource management practice. The course is designed to prepare future managers and human resource professionals for the myriad legal issues involved in the employer-employee relationship and what is required for effective compliance. (Spring)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, MGMT 3510 or MGMT 4030 with a C(2.0) or better, and a 2.5 GPA; or permission of instructor.

**MGMT 4230 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices. Students are given a background into systematic decision-making processes, and then are introduced to cases of how actual leaders think and solve problems. Building on these foundational models, students learn how to perform problem solving requirements they will experience as managers. Finally, it concludes with a look at psychological biases and traps that may affect decision-makers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a minimum cumulative GPA of 2.5, or permission of instructor. Not open to non-degree graduate students.

**MGMT 4330 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with SCMT 4330, BSAD 8336)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of the instructor. Not open to non-degree graduate students.

**MGMT 4440 MANAGEMENT OF QUALITY AND PROCESS IMPROVEMENT (3 credits)**

Major topics in this course include TQM, reengineering, process improvement, and tools and techniques to formulate, change and implement these concepts in organizations. Students can develop their knowledge and skills to apply these concepts in organizations through the applied orientation of this course.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4450 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with SMCT 4450, BSAD 8456)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor.

**MGMT 4480 CORPORATE AND BUSINESS STRATEGY (3 credits)**

A comprehensive study of the analytical techniques and managerial tasks associated with developing, executing and monitoring a strategic course of action for medium to large firms. The interrelationships between the functional business areas will be stressed using a combination of contemporary readings, business cases, team projects or computerized situations.

**Prerequisite(s)/Corequisite(s):** Must be a graduating senior, have a declared major in BSBA program, 2.5 cumulative GPA, MGMT 3200 or MKT 3200, MGMT 3490, MKT 3310, FNBK 3250 with a "C" (2.0) or better.

**MGMT 4500 SPECIAL PROBLEMS IN MANAGEMENT (1-3 credits)**

This is an independent study course in which the student completes a focused project in the field of management, human resource management, international business, supply chain management, or entrepreneurship under faculty supervision.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 C+ or better, 2.5 GPA; permission of program chair; junior/senior standing; must obtain agreement from a faculty member to supervise; submit completed Special Problems contract to MGMT Dept chairperson. Forms in CBA advising office.

**MGMT 4510 MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general management or a specialization within the domain (i.e. strategy, production/operations, project management, planning, organizing, leading, or controlling).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4520 HUMAN RESOURCES MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the human resource management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general human resource management or a specialization within the domain (i.e. staffing, training, employee relations).

**Prerequisite(s)/Corequisite(s):** MGMT 4030 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4610 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices by providing students with the knowledge and skills necessary to solve problems and make decisions as leaders.

**Prerequisite(s)/Corequisite(s):** Completion of at least 30 credit hours and a minimum 3.3 GPA. Not open to non-degree graduate students.

**MGMT 4690 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, BSAD 8696).

**Prerequisite(s)/Corequisite(s):** Junior standing or higher; 2.75 minimum GPA; or permission of instructor

**MGMT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MGMT 4960 CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE (3 credits)**

This is a capstone course that prepares students to be effective leaders in the 21st century. This course is the final leadership course in the Cross-Sector Collaborative Leadership minor. This minor requires a capstone project that encompasses the student's knowledge and training. It is designed to provide an applied service-learning opportunity for students. (Cross-listed with PA 4960).

**Prerequisite(s)/Corequisite(s):** Must be completing Cross-Sector Collaborative Leadership Minor. Not open to non-degree graduate students.

## Management Concentration

The management concentration provides students with opportunities to develop the technical, interpersonal, conceptual, diagnostic, communication, and decision-making skills to effectively carry out management functions. The management concentration is designed with the flexibility to permit students to select management courses that will meet their specific interests and career objectives.

For this concentration, students must complete a total of eighteen (18) credit hours including nine (9) credit hours in required concentration core courses and nine (9) credit hours in concentration electives.

Code	Title	Credits
<b>Management Concentration Required Courses</b>		
Students must take at least 3 of the 4 courses listed below for a minimum of 9 credit hours. If a student takes all 4 courses, one will count as an elective.		9-12
MGMT 4040	ORGANIZATIONAL BEHAVIOR	
MGMT 4100	ORGANIZATION CHANGE AND DESIGN	
MGMT 4150	INTERNATIONAL MANAGEMENT	
MGMT 4230	APPLIED LEADERSHIP FOR MANAGERS	
Select two or three additional (3 credit) Management elective courses from the following:		6-9
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	

SCMT 4170	EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT	
MGMT 4720	INNOVATION VENTURES	
MGMT 4030	HUMAN RESOURCE MANAGEMENT	
MGMT/BSAD/MKT 3600	BUSINESS ETHICS	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
MGMT 4000	SPECIAL TOPICS IN MANAGEMENT <sup>1</sup>	
MGMT 4050	MANAGERIAL DECISION MAKING	
MGMT 4110	STAFFING THE ORGANIZATION	
MGMT/SCMT 4330	PROJECT MANAGEMENT	
MGMT/ITIN 4090	PRINCIPLES OF COLLABORATION	
MGMT 4440	MANAGEMENT OF QUALITY AND PROCESS IMPROVEMENT	
MGMT/SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
MGMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS	
MGMT 3300	STRATEGYU: IDENTIFYING AND LEVERAGING YOUR DISTINCTIVE PROFESSIONAL CAPABILITIES	
MGMT 4510	MANAGEMENT INTERNSHIP	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> MGMT 4000 can be taken multiple times and may include any department chair approved topic.

**Note:** Courses utilized to satisfy the management required courses may **not** be utilized to fulfill management elective course requirements.

## Secondary Concentration in Management

A secondary concentration in management, as a supplement to another BSBA concentration, may be obtained by completing the following:

Code	Title	Credits
MGMT 3490	MANAGEMENT <sup>1</sup>	3
Plus nine (9) credit hours of specified MGMT courses		9
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> MGMT 3490 with a grade of C+ or above.

Students must meet all prerequisites to enroll in MGMT 3490. At least one of the courses must be MGMT 4040 or MGMT 4100. To fulfill the additional six (6) credit hours required for the secondary concentration in Management, any course approved for the management concentration may also be used for the secondary concentration in management. A grade of C (2.00) or better is required in each course to apply to the secondary concentration in management.

## BSBA Degree with Management Concentration

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3

Humanities and Fine Arts with US Diversity	3
Humanities and Fine Arts	3
Natural/Physical Science	3

**Credits** **15**

### Sophomore

#### Fall

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science		4
International Dimension		3

**Credits** **16**

#### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT <sup>3</sup>	3
Elective		3

**Credits** **15**

### Junior

#### Fall

FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MGMT Core <sup>4</sup>		3
International Dimension		3
Elective		3

**Credits** **15**

#### Spring

MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
MGMT Core <sup>5</sup>		3
MGMT Elective <sup>5</sup>		3
Second Speech <sup>6</sup>		3
Elective		3

**Credits** **15**

### Senior

#### Fall

MGMT Core <sup>5</sup>		3
MGMT Elective <sup>5</sup>		3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3

**Credits** **15**

#### Spring

MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
MGMT Elective <sup>7</sup>		3
Elective		3
Elective		3
1 Credit Elective		1

**Credits** **13**

**Total Credits** **120**

<sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.

- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> Students who are concentrating in Management must receive a grade of "C+" or better in MGMT 3490
- <sup>4</sup> For this requirement students must choose from an approved list of Management Core classes. (See DegreeWorks for approved options)
- <sup>5</sup> For these requirements students must choose from an approved list of Management Core/Elective classes. (See DegreeWorks for approved options)
- <sup>6</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160
- <sup>7</sup> For this requirement students must choose from an approved list of Management Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Human Resource Management Concentration

The Human Resource Management concentration is for students who wish to focus on the human resource management functions of an organization. These functions include workforce staffing (recruitment and selection), talent development (training and development), performance management,

total rewards (compensation and benefits), employee and labor relations, and strategic human resource planning.

For this concentration, students complete a total of eighteen (18) credit hours including six (6) credit hours in required concentration courses and twelve (12) credit hours in concentration electives. Students must complete MGMT 4030 with a C+ or above in order to complete the Human Resource Management concentration.

Code	Title	Credits
<b>Human Resource Management Concentration Required Courses</b>		
MGMT 4030	HUMAN RESOURCE MANAGEMENT	3
MGMT 4040	ORGANIZATIONAL BEHAVIOR	3
<b>Human Resource Management Concentration Elective Courses</b>		
Select 12 credit hours from the following:		12
MGMT 4010	TOTAL REWARDS	
MGMT 4110	STAFFING THE ORGANIZATION	
MGMT 4120	TALENT DEVELOPMENT	
MGMT 4220	EMPLOYMENT LAW	
MGMT 4520	HUMAN RESOURCES MANAGEMENT INTERNSHIP	
<b>Total Credits</b>		<b>18</b>

#### BSBA Degree with Human Resource Management Concentration

##### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>

##### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

##### Sophomore

###### Fall

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>

###### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT <sup>3</sup>	3
Elective		3
<b>Credits</b>		<b>15</b>

**Junior  
Fall**

FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
MGMT 4040	ORGANIZATIONAL BEHAVIOR	3
MGMT 4030	HUMAN RESOURCE MANAGEMENT <sup>4</sup>	3
International Dimension		3
Elective		3

**Credits 15**

**Spring**

MGMT 4120	TALENT DEVELOPMENT	3
MGMT 4220	EMPLOYMENT LAW	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Second Speech <sup>5</sup>		3
Elective		3

**Credits 15**

**Senior  
Fall**

MGMT 4010	TOTAL REWARDS	3
MGMT 4110	STAFFING THE ORGANIZATION	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3

**Credits 15**

**Spring**

MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
Elective		3
Elective		3
1 Credit Elective		1

**Credits 13**

**Total Credits 120**

<sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.

<sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.

<sup>3</sup> Students who are concentrating in Human Resource Management must receive a grade of "C+" or better in MGMT 3490

<sup>4</sup> Students who are concentrating in Human Resource Management must receive a grade of "C+" or better in MGMT 4030

<sup>5</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

**Graduation Requirements:**

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Logistics & Supply Chain Management Concentration

The logistics & supply chain management concentration is for students who wish to focus on the supply chain functions within an organization. These functional areas include logistics (transportation management and scheduling), procurement (purchasing and materials management), effective resource management (lean manufacturing and lean supply chain management), and the three pillars of sustainable chains (people, profit, and planet).

For this concentration, students complete a total of eighteen (18) credit hours including nine (9) credit hours in required concentration core courses and nine (9) credit hours in concentration electives.

Code	Title	Credits
<b>Logistics &amp; Supply Chain Management Concentration Required Courses</b>		
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	3
SCMT/MKT 4380	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
SCMT 4350	GLOBAL SOURCING AND INNOVATION	3
<b>Logistics &amp; Supply Chain Management Concentration Elective Courses</b>		
Select 9 credit hours from the following:		
ACCT 3000	MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT	3
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	3
AVN 3700	TRANSPORTATION ANALYSIS	3
ISQA/SCMT 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING	3

SCMT/MGMT 4330	PROJECT MANAGEMENT	
MGMT 4440	MANAGEMENT OF QUALITY AND PROCESS IMPROVEMENT	
MKT 3610	BUSINESS TO BUSINESS MARKETING	
SCMT 4370	SUPPLY CHAIN ANALYTICS	
SCMT/MGMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
SCMT 4540	SUPPLY CHAIN MANAGEMENT INTERNSHIP	
SCMT 4060	HEALTHCARE ANALYTICS FOR BUSINESS	
SCMT 4170	EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT	
SCMT 4460	SUPPLY CHAIN INTEGRATION	
SCMT 4070	INTERNATIONAL LOGISTICS MANAGEMENT	
<b>Total Credits</b>		<b>18</b>

## Secondary Concentration in Logistics & Supply Chain Management

A secondary concentration in logistics & supply chain management, as a supplement to another BSBA concentration, may be obtained by completing SCMT 3410 plus nine (9) credit hours of specified SCMT courses. Students must meet all prerequisites to enroll in SCMT 3410. At least one of the courses must be SCMT 4380 or SCMT 4350. To fulfill the additional six (6) credit hours of upper-division courses (3000 or 4000 level) required for the secondary concentration in logistics & supply chain management, any course approved for the logistics & supply chain management concentration may also be used for the secondary concentration in logistics & supply chain management. A grade of C (2.00) or better is required in each course to apply to the secondary concentration in logistics & supply chain management.

### BSBA Degree with Logistics and Supply Chain Management Concentration

#### Freshman

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Sciences		3
<b>Credits</b>		<b>16</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
National/Physical Science		3
<b>Credits</b>		<b>15</b>

#### Sophomore

<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
Internatinal Dimension		3
<b>Credits</b>		<b>16</b>

#### Spring

ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	3
MGMT 3490	MANAGEMENT	3
Elective		3

**Credits 15**

#### Junior

##### Fall

FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MKT 3310	PRINCIPLES OF MARKETING	3
SCMT Elective <sup>3</sup>		3
Elective		3

**Credits 15**

##### Spring

SCMT 4380	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
SCMT Elective <sup>3</sup>		3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Elective		3
Elective		3

**Credits 15**

#### Senior

##### Fall

SCMT 4350	GLOBAL SOURCING AND INNOVATION	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Second Speech <sup>4</sup>		3
Elective		3
Elective		3

**Credits 15**

##### Spring

MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
SCMT Elective <sup>3</sup>		3
Elective		3
Elective		3
1 Credit Elective		1

**Credits 13**

**Total Credits 120**

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> For this requirement students must choose from an approved list of Logistics and Supply Chain Management Elective classes. (See DegreeWorks for approved options)
- <sup>4</sup> For this requirement students must choose from the following list: MKT 3100, CMST 2120, CMST 3100, CMST 3120, CMST 3130, CMST 3140, CMST 3150, or CMST 3160

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual

sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### **Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

#### **GPA Requirements:**

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### **Graduation Requirements:**

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Marketing

### **Contact:**

UNO Marketing Department  
402.554.3986

### **Degrees Offered**

- Bachelor of Science in Business Administration (<https://catalog.unomaha.edu/undergraduate/college-business-administration/bs-business-administration/>)

### **Concentrations Offered:**

- Entrepreneurship Concentration (p. 405)
- Marketing Concentration (p. 406)
- Sales Concentration (p. 408)

### **Secondary Concentrations Offered:**

- Secondary Concentration in Marketing (p. 406)
- Secondary Concentration in Sales (p. 408)

### **Marketing and Entrepreneurship**

- Advertising Specialist
- Brand Specialist
- Business Owner
- Communications Director

- Copywriter
- Design and Digital Content Specialist
- Entrepreneur
- Market Research Analyst
- Marketing and Communications Consultant
- Marketing Specialist
- Sales and Marketing Manager
- Sales Representative
- Search Engine Optimization (SEO) Specialist

### **ENTR 2550 BUSINESS AND ECONOMICS IN AFRICAN AMERICAN COMMUNITIES (3 credits)**

This course traces the evolution of African American business and economic development systems in the U.S. and will examine historical economic and political influences which impact African American business communities. Students will be exposed to various aspects of African American business and economics, including Black entrepreneurship and Black owned businesses before, during, and after slavery; an analysis of the role of Black churches in African-American communities; and the impact of modern economic and political systems on African American business communities. (Cross-listed with BLST 2550).

**Distribution:** U.S. Diversity General Education course

### **ENTR 2980 SEMINAR IN ENTREPRENEURSHIP (1 credit)**

This seminar exposes students to entrepreneurs and innovators from multiple industries and varied backgrounds. This course will explicitly link entrepreneurship theories with the best practice experiences of successful entrepreneurs in the region. Through purposeful interaction with the region's start-up community, this course will strengthen the networks of entrepreneurship students and equip students with the knowledge and tools to make their business ideas a reality.

### **ENTR 3330 ENTREPRENEURIAL FINANCE (3 credits)**

This course focuses on venture capital formation and the financing of entrepreneurial ventures. The course is intended for students interested in entrepreneurship, venture capital markets, investment banking, and other careers related to new venture financing and/or deal structuring. The course applies basic financial theory to the unique environment of incubating and growing new ventures. (Cross-listed with FNBK 3330).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C or better

### **ENTR 3710 ENTREPRENEURIAL FOUNDATIONS (3 credits)**

A study of the analytical techniques and managerial tasks associated with developing and executing business plans for small firms and start-ups. These skills, including strategic positioning and competitor analysis, marketing, teaming, project and operations management, and cash flow projection will be taught through a combination of contemporary readings, speakers, and hands-on practice problems.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and 2.0 GPA.

### **ENTR 4000 SPECIAL TOPICS IN ENTREPRENEURSHIP (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing an entrepreneurship concentration.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 plus 6 hours of Entrepreneurship, all with C+ or better; GPA of 2.5 or better; or permission of instructor.

### **ENTR 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with ENTR 8156, GEOG 4150, GEOG 8156, WGST 4150, WGST 8156)

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**ENTR 4390 MEDIA ENTREPRENEURSHIP (3 credits)**

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 4390, JMC 8396).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

**ENTR 4530 ENTREPRENEURSHIP INTERNSHIP (1-3 credits)**

Students engage in part time employment in a new or small business to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to establishing or growing a small business such as market research, customer development, systems design and implementation, funding activities, etc.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C+ or better, a 2.5 GPA, and junior level standing, and permission of instructor. Not open to non-degree graduate students.

**ENTR 4690 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with MGMT 4690, BSAD 8696).

**Prerequisite(s)/Corequisite(s):** Junior standing or higher; 2.75 minimum GPA; or permission of instructor

**ENTR 4710 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with ENTR 8716, PSCI 4710, PSCI 8716).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing

**ENTR 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**ENTR 4730 NEW VENTURE FORMATION (3 credits)**

This course is a comprehensive study of the interrelationships between functional business areas in a start-up or small firm. These interrelationships will be taught through the development of a complete business plan for a start-up or small business.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C (2.00) or better; GPA 2.5

**ENTR 4740 TECHNOLOGY AND INNOVATION MANAGEMENT (3 credits)**

This course covers the challenges that surround technology and innovation management. Approaching innovation management as a strategic process, this course will focus in on how the innovation process works and what kinds of organizational environments support this process, as well as how innovation affects the competitive dynamics of markets so that firms can better manage their innovation(s).

**Prerequisite(s)/Corequisite(s):** ENTR 3710. Not open to non-degree graduate students.

**ENTR 4750 SOCIAL ENTREPRENEURSHIP (3 credits)**

Motivated by the desire for social change and community betterment, social entrepreneurs use innovation to solve society's problems in a variety of settings - nonprofits, for-profit businesses, or government agencies. Guest speakers, case discussion, lecture, and student presentations will be used in this course and students will be expected to develop a detailed business plan for a social enterprise.

**Prerequisite(s)/Corequisite(s):** Minimum GPA 2.5

**ENTR 4760 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with MKT 4760, BSAD 8766)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**ENTR 4770 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with BSAD 8776).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval.

**ENTR 4780 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with BSAD 8786).

**Prerequisite(s)/Corequisite(s):** Students must have taken Maverick Venture Fund - 1: Venture Capital Concepts (ENTR 4770/8770).

**ENTR 4790 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with BSAD 8796).

**Prerequisite(s)/Corequisite(s):** Students must have taken MAVERICK VENTURE FUND - 2: APPLICATION, SOURCING DEALS & DUE DILIGENCE

**MKT 2210 SURVEY OF MARKETING (3 credits)**

This course is designed for any student who has an interest in marketing and focuses on basic product and services marketing as well as digital and social media marketing.

**MKT 3100 PROFESSIONAL SELLING (3 credits)**

This course focuses on professional selling and relationship marketing principles and practices. A variety of personal and direct sales techniques, psychology, and application of personal communication theory will be applied. Role-plays and presentations will be utilized to help students learn and execute the sales process model.

**Prerequisite(s)/Corequisite(s):** ECON 2220 and ENGL 1160 both with 'C' (2.0) or better and GPA of 2.3 or better; or permission of instructor.

**MKT 3200 BUSINESS COMMUNICATIONS (3 credits)**

This course develops business communication skills such as selecting and using appropriate technologies for reaching intended audiences. Students will practice effective explanatory, narrative, persuasive, and investigative writing in the context of business communication.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110, each with a grade of "C" (2.0) or better; 2.5 GPA.

**Distribution:** Writing in the Discipline Single Course

**MKT 3310 PRINCIPLES OF MARKETING (3 credits)**

An examination of marketing functions and the institutions which perform them, choice of criteria for marketing strategy decisions, marketing structural relationships, and the role of marketing in society.

**Prerequisite(s)/Corequisite(s):** ECON 2200, MATH 1310 or MATH 1220, ENGL 1160, and MGMT 3200 or MKT 3200 all with 'C'(2.0) or better, and 2.5 GPA.

**MKT 3320 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with BSAD 8345).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor.

**MKT 3340 CHANNELS OF DISTRIBUTION (3 credits)**

Channels management focuses on the associations of businesses and the performance of required functions making products and services available to end users when and where buyers demand them. Attention is paid to how intermediaries (e.g. wholesalers and retailers) interact and organize an efficient system to ensure that products and services are available in proper quantities and on time for consumers.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; and GPA of 2.5 or better; or permission of instructor.

**MKT 3350 MARKETING SERVICE PRODUCTS (3 credits)**

This elective explores how intangibility forces customers to evaluate service products differently, creating more challenges for marketers. The course is based on the premise that financial benefits reward services that provide value to customers, and develops strategies for creating value.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 3360 DIGITAL MARKETING COMMUNICATIONS (3 credits)**

This course considers the functions and resources necessary to place effective digital marketing communications before target audiences and thus help to achieve marketing objectives for both business and non-business organizations. Specifically, it includes leveraging the digital media in communicating, connecting, and engaging with various stakeholders such as customers, partners, government, and public institutions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better and GPA of 2.5 or better; or permission of instructor.

**MKT 3370 SOCIAL MEDIA MARKETING (3 credits)**

The students will become familiar with the full range of promotional media, techniques and methodologies, understand the structuring of a promotional campaign according to the strategic objectives, be able to effectively integrate promotions into a composite marketing program, and be able to design and present a complex promotional strategy employing a diverse array of techniques and methods according to the specific objectives.

**Prerequisite(s)/Corequisite(s):** Completion of MKT 3310 with a C+ or better.

**MKT 3380 INTERNATIONAL MARKETING (3 credits)**

A study of the processes, procedures, characteristics and environments for goods and services in foreign market places. Reference is drawn to the theories and concepts of domestic marketing to appraise their applicability to international markets. Considerable attention is given to the features of the foreign market environments which both facilitate the marketing processes, inhibit them, and require strategies and tactics of accommodation.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better.

**MKT 3390 GRAPHIC DESIGN FOR MARKETERS (3 credits)**

The course provides a hands-on introduction to the concepts and tools used in graphic design to create marketing communications. Material and assignments will focus on how design supports marketing communication strategy. Students will learn the principles and vocabulary of design, how to critique graphic design, and how to create basic print materials. Students will learn and practice the skills necessary to communicate with graphic designers and advertising professionals in order to successfully implement marketing strategies.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better.

**MKT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MGMT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MGMT 3600).

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of "C" (2.0). Not open to non-degree graduate students.

**MKT 3610 BUSINESS TO BUSINESS MARKETING (3 credits)**

This course examines the decisions involved in marketing goods and services to the industrial buyer as opposed to the consumer buyer. Buyer motivation, promotion decisions, channel decisions, product development and pricing policies involved in the marketing of industrial goods are considered.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor

**MKT 4000 SPECIAL TOPICS IN MARKETING (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a marketing or sales concentration.

**Prerequisite(s)/Corequisite(s):** MKT 3310 plus 6 hours of Marketing, all with 'C+' or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4200 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with BSAD 8206)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**MKT 4220 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers. (Cross-listed with BSAD 8226)

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**MKT 4300 MARKETING MANAGEMENT (3 credits)**

This case study course examines product, price, promotion and channel of distribution policies. Major emphasis is placed on analysis of marketing problems and the facets of making marketing decisions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with grade of 'C+' or better plus 6 hours of marketing, all with 'C' (2.0) or better, senior standing; GPA of 2.5 or better; or permission of instructor.

**MKT 4320 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with BSAD 8326).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4340 MARKETING RESEARCH (3 credits)**

Application of analytical tools to marketing problems including markets, products, distribution channels, sales efforts and advertising. Emphasis on planning, investigation, collection, interpretation of data and presentation of results.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4360 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with BSAD 8366).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4370 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with BSAD 8396).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4380 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with SCMT 4380, BSAD 8386.)

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 4420 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with BSAD 8426).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA 2.5 or better, Junior Standing; or permission of instructor. Not open to non-degree graduate students.

**MKT 4500 SPECIAL PROBLEMS IN MARKETING (1-3 credits)**

This course consists of an individual investigation of specific marketing topics under the supervision of a faculty member and could include readings, independent research, and a written research paper.

**Prerequisite(s)/Corequisite(s):** Principles of Marketing (MKT 3310) with minimum C+ or permission of instructor.

**MKT 4510 MARKETING INTERNSHIP (1-3 credits)**

Students engage in part time employment in the marketing discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general marketing or a specialization within the domain (i.e. selling, social media, advertising, market research).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MKT 4540 SUPPLY CHAIN MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part-time employment in supply chain management to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to the field of supply chain management (i.e., purchasing, scheduling, supplier relations, materials management, or logistics). (Cross-listed with SCMT 4540)

**Prerequisite(s)/Corequisite(s):** MKT-MGMT 3410 Sustainable Supply Chain Management and GPA of 2.5 or better; or by permission of the instructor. Not open to non-degree graduate students.

**MKT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MGMT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MKT 4760 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, BSAD 8766)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4800 HONORS STUDIES IN MARKETING (3 credits)**

A comprehensive examination of marketing as it is practiced among firms representing different industrial sectors. Course objectives include individual inquiry, theoretical applications and limitations, and an increased academic understanding of the discipline of marketing. Only grades 'B' and above will be awarded. Students exhibiting performance below the 'B' level will receive an 'F' for the course. Admission to this course is by invitation only.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Senior standing, 3.2 GPA or above, declared business college specialization in MKT or BFIN or MGMT or communications (journalism, PR or broadcasting). Not open to non-degree graduate students.

## Entrepreneurship Concentration

The Entrepreneurship Concentration is for students interested in starting, owning, and/or operating a business venture as well as students interested in serving entrepreneurial ventures as consultants, bankers, accountants, and marketing professionals. The entrepreneurship concentration has a practical emphasis designed to assist students in developing and operating their new and/or small ventures. Courses in this concentration lead students through the different processes of getting into business, addresses important operating issues relevant to the running of day-to-day activities of a venture, and discuss the important topic of planning for business growth and development.

For this concentration, students complete a total of eighteen (18) credit hours including twelve (12) credit hours in required concentration courses, and six (6) credit hours in concentration electives.

Code	Title	Credits
<b>Entrepreneurship Concentration Required Courses</b>		
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
ENTR 3330	ENTREPRENEURIAL FINANCE	3
ENTR 4730	NEW VENTURE FORMATION	3
ENTR 4750	SOCIAL ENTREPRENEURSHIP	3
<b>Entrepreneurship Concentration Elective Courses</b>		
Select 6 credit hours from the following:		6
ENTR 4690	EMERGING TECHNOLOGY AND INNOVATION	
ENTR 4740	TECHNOLOGY AND INNOVATION MANAGEMENT	
ENTR 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
ENTR 4720	INNOVATION VENTURES	
ENTR 4000	SPECIAL TOPICS IN ENTREPRENEURSHIP	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
ENTR 4770	INTRODUCTORY MAVERICK VENTURE FUND	
ENTR 4780	INTERMEDIATE MAVERICK VENTURE FUND	
ENTR 4790	ADVANCED MAVERICK VENTURE FUND	
ENTR 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	
ENTR 4710	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	
ENTR 4530	ENTREPRENEURSHIP INTERNSHIP	
ENTR 4390	MEDIA ENTREPRENEURSHIP	
MKT 4000	SPECIAL TOPICS IN MARKETING <sup>1</sup>	
MGMT 4000	SPECIAL TOPICS IN MANAGEMENT <sup>1</sup>	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> The only approved MGMT 4000 and MKT 4000 courses must include "Special Topics in Entrepreneurship" in the course "topic."

**BSBA Degree with Entrepreneurship Concentration****Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3

**Credits** **16**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3

**Credits** **15**

**Sophomore****Fall**

MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3

Natural/Physical Science with Laboratory	4
International Dimension	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
ACCT 2020 PRINCIPLES OF ACCOUNTING II	3
BSAD 2130 PRINCIPLES OF BUSINESS STATISTICS	3
ENTR 3710 ENTREPRENEURIAL FOUNDATIONS	3
MGMT 3490 MANAGEMENT	3
Elective	3
<b>Credits</b>	<b>15</b>
<b>Junior</b>	
<b>Fall</b>	
FNBK 3250 PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930 BUSINESS LAW FUNDAMENTALS	3
MKT 3310 PRINCIPLES OF MARKETING	3
ENTR 4750 SOCIAL ENTREPRENEURSHIP	3
Elective	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
ENTR 3330 ENTREPRENEURIAL FINANCE	3
MGMT 3100 MANAGEMENT INFORMATION SYSTEMS	3
Elective	3
International Dimension	3
2nd Speech	3
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
ENTR 4730 NEW VENTURE FORMATION	3
ENTR Elective <sup>3</sup>	3
SCMT 3500 OPERATIONS MANAGEMENT	3
Elective	3
Elective	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
ENTR Elective <sup>4</sup>	3
MGMT 4480 CORPORATE AND BUSINESS STRATEGY	3
Elective	3
Elective	3
1 Credit Elective	1
<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

<sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.

<sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.

<sup>3</sup> For this requirement students must choose from an approved list of Entrepreneurship Elective classes. (See DegreeWorks for approved options)

<sup>4</sup> For this requirement students must choose from an approved list of Entrepreneurship Elective classes. (See DegreeWorks for approved options)

sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Marketing Concentration

Students earning a concentration in marketing learn research skills necessary for discovering the needs or desires of their firm's target market. These skills enable marketers to develop a thorough understanding of their target market(s), the marketplace—whether local, national, global or virtual, the firm's competitors, and the competitive environment. Working together with other units in the firm, marketers design products and services that provide benefits and/or solve customer problems better or more efficiently than competitors' products. In other words, marketers contribute to the firm's competitive advantages to avoid being easily copied by competitors. Marketers design and implement strategic marketing plans in order to

1. Communicate effectively with the target market so customers understand the benefits offered by the firm relative to competitors;
2. Distribute products and services in ways that maximize customer satisfaction while simultaneously minimizing the firm's costs; and
3. Provide value to the target market so that customers are satisfied with the benefits received for the price paid, especially when compared to value available from competitors.

Students must complete MKT 3310 with a C+ or above in order to take additional marketing courses, to complete the marketing concentration, or to complete the secondary concentration in marketing.

Code	Title	Credits
<b>Marketing Concentration Required Courses</b>		
MKT 3100	PROFESSIONAL SELLING	3

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual

MKT 4300	MARKETING MANAGEMENT	3
MKT 4340	MARKETING RESEARCH	3
<b>Marketing Concentration Elective Courses</b>		
Select 9 credit hours in marketing electives (see below)		9
MKT 3320	CONSUMER BEHAVIOR	
MKT 3340	CHANNELS OF DISTRIBUTION	
MKT 3350	MARKETING SERVICE PRODUCTS	
MKT 3360	DIGITAL MARKETING COMMUNICATIONS	
MKT 3370	SOCIAL MEDIA MARKETING	
MKT 3380	INTERNATIONAL MARKETING	
MKT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	
MKT 3600	BUSINESS ETHICS	
MKT 3610	BUSINESS TO BUSINESS MARKETING	
MKT 4000	SPECIAL TOPICS IN MARKETING <sup>2</sup>	
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	
MKT 4210	SELLING FINANCIAL SERVICES	
MKT 4220	GLOBAL STRATEGIC ACCOUNT MANAGEMENT	
MKT 4320	SALES MANAGEMENT	
MKT 4360	E-MARKETING	
MKT 4370	MARKETING ANALYTICS	
MKT 4420	BUSINESS DEMOGRAPHICS	
MKT 4500	SPECIAL PROBLEMS IN MARKETING	
MKT 4510	MARKETING INTERNSHIP	
MKT 4720	INNOVATION VENTURES	
MKT 4800	HONORS STUDIES IN MARKETING	
MKT 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
<b>Total Credits</b>		<b>18</b>

## Secondary Concentration in Marketing

A secondary concentration in marketing, as a supplement to another BSBA concentration, may be obtained by completing the following:

Code	Title	Credits
MKT 3310	PRINCIPLES OF MARKETING <sup>1</sup>	3
Plus nine (9) hours of upper-division (3000-4000 level) courses in marketing		9
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> MKT 3310 with a grade of C+ or above.

<sup>2</sup> MKT 4000 can be taken multiple times and may include any department chair approved topic

Students must meet all prerequisites to enroll in MKT 3310. For students who wish to complete a secondary concentration in marketing, at least one of the courses must be MKT 4300 or MKT 4340. For the remaining six (6) hours of upper-division (3000 or 4000 level) marketing courses, any course approved for the marketing concentration may also be used for the secondary concentration in marketing, with the exception of MKT 4500. A grade of C (2.00) or better is required for a course to apply to the secondary concentration.

### BSBA Degree with Marketing Concentration

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3
Social Science		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING <sup>3</sup>	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MKT 3100	PROFESSIONAL SELLING	3
International Dimension		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
MKT Elective <sup>4</sup>		3
MKT Elective <sup>4</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
MKT 4340	MARKETING RESEARCH	3
MKT Elective <sup>4</sup>		3
SCMT 3500	OPERATIONS MANAGEMENT	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>

**Spring**

MKT 4300	MARKETING MANAGEMENT	3
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Elective		3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> Students who are concentrating in Marketing must receive a grade of "C+" or better in MKT 3310
- <sup>4</sup> For this requirement students must choose from an approved list of Marketing Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

**Graduation Requirements:**

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## Sales Concentration

The Sales concentration provides students with the opportunity to develop communication, interpersonal, decision-making, and critical-thinking

skills that will enable them to effectively carry out sales functions across a variety of contexts, career paths, and industries. The Sales concentration is specifically designed to develop knowledge and skills in relational and consultative selling.

### Sales Concentration Curriculum - 18 credit hours

Code	Title	Credits
<b>Core Requirements</b>		<b>9</b>
MKT 3100	PROFESSIONAL SELLING <sup>1</sup>	
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	
MKT 4320	SALES MANAGEMENT	
<b>Electives (select 9 credit hours from courses listed below)</b>		<b>9</b>
MKT 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
MKT 4510	MARKETING INTERNSHIP	
MKT 4220	GLOBAL STRATEGIC ACCOUNT MANAGEMENT	
MKT 4210	SELLING FINANCIAL SERVICES	
MKT 3610	BUSINESS TO BUSINESS MARKETING	
MKT 3600	BUSINESS ETHICS	
MKT 3350	MARKETING SERVICE PRODUCTS	
MKT 3340	CHANNELS OF DISTRIBUTION	
MKT 3320	CONSUMER BEHAVIOR	
MKT 4000	SPECIAL TOPICS IN MARKETING	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	

### Sales Secondary BSBA Concentration Curriculum - 12 Credit Hours

Code	Title	Credits
<b>Required Courses</b>		<b>3</b>
MKT 3100	PROFESSIONAL SELLING <sup>1</sup>	
<b>Electives (select 9 credit hours from the courses listed below)</b>		<b>9</b>
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	
MKT 4320	SALES MANAGEMENT	
MKT 4760	SELLING IN AN ENTREPRENEURIAL CONTEXT	
MKT 4510	MARKETING INTERNSHIP	
MKT 4220	GLOBAL STRATEGIC ACCOUNT MANAGEMENT	
MKT 4210	SELLING FINANCIAL SERVICES	
MKT 3610	BUSINESS TO BUSINESS MARKETING	
MKT 3600	BUSINESS ETHICS	
MKT 4210	SELLING FINANCIAL SERVICES	
MKT 4000	SPECIAL TOPICS IN MARKETING	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	

<sup>1</sup> C+ or better is required

### BSBA Degree with Sales Concentration

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS <sup>2</sup>	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts with Global Diversity		3

Social Sciences		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Natural/Physical Science with Laboratory		4
International Dimension		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
MKT 3310	PRINCIPLES OF MARKETING <sup>3</sup>	3
MGMT 3490	MANAGEMENT	3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
LAWS 3930	BUSINESS LAW FUNDAMENTALS	3
MKT 3100	PROFESSIONAL SELLING <sup>4</sup>	3
International Dimension		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MKT 4320	SALES MANAGEMENT	3
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	3
Sales Elective <sup>5</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
MKT 4200	CONSULTATIVE SELLING PRINCIPLES	3
SCMT 3500	OPERATIONS MANAGEMENT	3
Sales Elective <sup>5</sup>		3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MGMT 4480	CORPORATE AND BUSINESS STRATEGY	3
Sales Elective <sup>5</sup>		3
Elective		3
Elective		3
1 Credit Elective		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Requires placement from UNO's English Placement and Proficiency Exam.
- <sup>2</sup> Requires placement from ACT/SAT scores, UNO's Math Placement Exam, or an approved prerequisite course within the last two years. Students might be required to take a lower level math course before MATH 1370 depending on their placement scores.
- <sup>3</sup> Students who are concentrating in Sales must receive a grade of "C+" or better in MKT 3310
- <sup>4</sup> Students who are concentrating in Sales must receive a grade of "C+" or better in MKT 3100
- <sup>5</sup> For this requirement students must choose from an approved list of Sales Elective classes. (See DegreeWorks for approved options)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

General Education courses (Humanities, Social Science & Natural Science) must be from at least two different disciplines <https://www.unomaha.edu/general-education/overview/index.php>. (<https://www.unomaha.edu/general-education/overview/index.php.html>)

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

Courses within the College of Business require students to obtain a minimum NU GPA of 2.5 or better.

#### Graduation Requirements:

Students must earn a minimum of 120 credit hours for a BSBA.

42 of those credit hours must be in upper division courses.

Students must earn a C (2.00) or above in all fundamental academic skills, pre-business, upper division business core, and business concentration courses.

CBA students must earn a minimum NU GPA of 2.50 and a minimum Business GPA of 2.50. If students are earning an accounting concentration or secondary concentration, a minimum upper division accounting GPA of 2.50 is additionally required.

## College of Communication, Fine Arts and Media

### College Vision Statement

The College of Communication, Fine Arts and Media (CFAM) is united by its common conviction that imagination and human communication are inseparable aspects of the same intellectual process. Through innovative and traditional teaching and the use of emerging technologies, the college promotes learning, research, scholarship, creative activity, and service

to the profession and to the broader community in all aspects of human communication.

Central to the college's educational mission is the instruction of students in the essential, practical and theoretical knowledge that they will need to succeed in their chosen disciplines. Through its diverse outreach activities, the college is equally committed to the engagement of a broad constituency. The college makes important contributions to the cultural growth and well-being of the people of the region and prepares students to participate in a global community.

## General Information

### Overview of Degree Programs

The college is structured as three distinct schools: the School of the Arts (Art & Art History, Theatre, Writer's Workshop), the School of Communication and the School of Music.

The College of Communication, Fine Arts and Media (CFAM) offers the following degree programs:

- Bachelor of Arts
- Bachelor of Fine Arts
- Bachelor of Music
- Bachelor of Science
- Graduate Degrees (offered through Graduate Studies)

### Accreditation Information

Major	Degree	Accreditation Body
Art History	BA	National Association of Schools of Art and Design (NASAD)
Music	BA	National Association of Music (NASM)
Music Conducting	MM	National Association of Schools of Music (NASM)
Music Education	BM	- National Association of Schools of Music (NASM) - National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education
Music Education	MM	National Association of Schools of Music (NASM)
Music Performance	BM MM	National Association of Schools of Music (NASM)
Studio Art	BASA BFA	National Association of Schools of Art and Design (NASAD)
Studio Art with K-12 Certification	BASA BFA	- National Association of Schools of Art and Design (NASAD) - National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education

### Choice of Catalog Policy

The catalog year (requirement term) is what ties the student to the catalog year curriculum that they are required to follow and determines the

contract of degree requirements a student must fulfill in order to graduate. Generally, the catalog year defaults to the same semester that the student entered the University in a degree program; however, students are eligible for more recent catalog years if it is to their benefit and approved by their advisor. By changing catalogs, a student is responsible for fulfilling all of the graduation requirements in their newly chosen catalog year. Requests to Change of Catalog Year must be approved by your Academic Advisor(s) and the CFAM Dean's Office. Students who suspend their matriculation for more than two semesters forfeit the requirements under their initial catalog and must complete the program under the catalog for the academic year in which they return.

### Program Contact Information

College of Communication, Fine Arts and Media Dean's Office:  
402.554.3857

Program Website (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/>)

### Admission Requirements

Admission to programs in the College of Communication, Fine Arts and Media follow regular admission procedures of the University outlined in the current undergraduate catalog. The application deadline for admission to a degree seeking program is August 1 for fall semester, December 1 for spring semester.

Students who wish to transfer into CFAM from another college within the University must obtain written permission from and meet with a CFAM Dean's Office advisor. A minimum cumulative grade point average (GPA) of 2.25 is required to transfer into the college.

### Academic Requirements for the College Degrees

#### Number of Hours to Graduate

Students must complete a minimum of 120 semester hours of college credit toward the degree of Bachelor of Science in Communication, Bachelor of Arts in Communication, Bachelor of Arts in Art History, Bachelor of Arts in Studio Art, Bachelor of Fine Arts (Studio Art and Creative Writing), Bachelor of Arts in Theatre, Bachelor of Arts in Music or Bachelor of Music. The minimum credit hour requirement for students in art or music seeking K-12 certification may vary according to current guidelines for teacher certification. Students must maintain close contact with an advisor each semester to insure progress toward fulfillment of their course of study. No student may count more than 87 semester hours of credit in any one discipline toward graduation. Actual limits are determined by faculty in the various disciplines.

#### General Education Requirements

Students are required to complete the UNO General Education requirements. See below for specific information about quantitative literacy and writing in the discipline.

#### Quantitative Literacy

Students seeking degrees within the College of Communication, Fine Arts and Media can complete any of the courses approved for quantitative literacy.

#### Writing in the Discipline

The following courses have been approved to fulfill the requirement for Writing in the Discipline for students seeking degrees within the College of Communication, Fine Arts and Media:

#### Students in Art/Art History, Music (not K-12), and Writer's Workshop

WRWS 3500 Creative Writing in the Arts

### **Students in Communication studies or Journalism/Media Communication**

JMC 2100/JMC 2104 Media Writing/Lab (For students in communication studies or journalism/media communication)

### **Students in Art, K-12 and Music, K-12 Only**

TED 2100 Educational Foundations

### **Students in Theatre Only**

THEA 3710 Theatre History and Literature: Modern 1850-2000

THEA 4780 Theatre History and Literature: Classical to 1500

THEA 4790 Theatre History and Literature: Renaissance to 1850

Academic advisors can provide information about the specific course required for each degree program

### **Foreign Language Requirement for BA degrees in Music, Theater, and Studio Art degrees**

While Bachelor of Arts degrees typically require foreign language as part of the degree requirements, students in music, theatre, and studio arts are exempt from this requirement.

### **Minimum GPA/Additional Requirements**

All students who have not yet earned any college credit and who are eligible to enter the university are accepted for admission to the college. Students who are seeking a degree within the School of Music are also required to complete an entrance audition for admission into the music program.

Admission of transfer students or students who have previously been enrolled at UNO is evaluated on an individual basis. A 2.25 grade point average in previous course work is required.

Application deadline for admission: August 1 for fall semester, December 1 for spring semester

### **Transfer Credit Policy**

Students may apply no more than 96 quarter hours (64 semester hours), transferred from a two year institution, towards a UNO bachelor's degree. Academic advisors retain the right to accept or reject courses based on their transferability and validity to fulfill major requirements.

### **Unacceptable Credits**

Credits in any courses classified as "remedial" or courses in other colleges of the university not approved by the College of Communication, Fine Arts and Media faculty may not be applied toward degrees offered by CFAM.

### **Retroactive Credit Policy**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Advanced Placement Credits**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Military Credit**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **IB Credit**

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### **Placement Exams and Credit by Examinations Policies/Practices**

<https://nextcatalog.unomaha.edu/undergraduate/student-life-support-services/testing-center/> (p. 64)

### **Residency Requirement**

Thirty (30) of the last 36 hours required for the degree must be registered for and completed at the University of Nebraska at Omaha.

### **Quality of Work**

A grade of "C" or higher will be required for any major course accepted for any College of Communication, Fine Arts and Media degree requirement. All students must maintain a minimum 2.0 grade point average (GPA) in all course work, including work transferred from other institutions, to remain in good standing in the college.

The School of Communication requires students to earn a minimum of "C" in all major course work. Furthermore, students who take sophomore level or above journalism and media communication courses, or junior level or above communication studies courses must maintain at least a 2.25 cumulative GPA.

The unit of Art & Art History requires students maintain a cumulative 2.5 GPA in all art courses. Studio majors must maintain a 3.0 GPA in their concentration studio areas. Students seeking K-12 certification must adhere to the GPA/grading standards set for the UNO Teacher Educator Preparation Program.

The School of Music requires a 2.5 GPA in all music courses. Students enrolled in the Bachelor of Music, performance concentration must maintain a 3.0 average in their major applied field. Students seeking K-12 certification must adhere to the GPA/grading standards set for the UNO Educator Preparation Program

All grades reported by the faculty to the registrar become a part of the student's permanent record and are included in computation of the cumulative grade point average, regardless of the total number required for the degree.

### **Good Academic Standing Policy**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Credit/No Credit (CR/NC) Grades**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Completion of Incomplete Grade**

Students have one semester after an incomplete is awarded to complete the course work. After this, the grade changes to a withdrawal. Students who complete the required course work outside of the allotted time frame may still receive credit by re-enrolling and paying tuition for the course. Exceptions are made when a student has been working in good faith continuously to complete the course work, with no breaks in work submitted, or within contracted terms determined by the faculty member.

### **Repeatable Grades/Courses**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Appeal Process**

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### **Grade Appeal Policy**

Undergraduate students wanting to appeal a grade received in a College of Communication, Fine Arts and Media unit course should first discuss the matter directly with the instructor. If a satisfactory agreement is not

reached, the student may submit an appeal in writing to the chair/director of the academic unit in which the course is offered.<sup>1</sup>

If the student and chair/director of the academic unit do not reach a satisfactory agreement, the student may submit an appeal in writing to the Dean of the College of Communication, Fine Arts and Media, at which point the appeal may be referred to the Education Policy Committee of the College for review. The student's written appeal to the Dean must be made by the end of the following semester after the academic unit's decision. For example, if the academic unit's decision is made in the fall semester, the student has until the end of the spring semester to submit a written appeal. If the Education Policy Committee of the College reviews the appeal it may request additional information from the student, the instructor, the academic unit or its chair/director as needed. Education Policy Committee members who have voted on the case at the academic unit level must recuse themselves from the Committee's vote. Upon making a decision, the Education Policy Committee will send its recommendation to the Dean's office in writing, and the Dean's office will notify the student of the College's decision.

## Academic Amnesty

A student enrolled in the College of Communication, Fine Arts and Media may request to have one or two semesters (taken at UNO, UNL, and/or UNK) removed from their cumulative grade point average and degree consideration by petitioning for academic amnesty. The form for academic amnesty can be found at [The form for applying for Academic Amnesty can be found here \(https://www.unomaha.edu/college-of-communication-fine-arts-and-media/\\_files/docs/AcademicAmnestyPetition.pdf\)](https://www.unomaha.edu/college-of-communication-fine-arts-and-media/_files/docs/AcademicAmnestyPetition.pdf)

The following conditions for academic amnesty apply:

- The student must be at least four years removed from the semester(s) to be considered for academic amnesty.
- Petitioning students must have completed 24 credit hours of successful course work with a minimum grade point average of 2.5 since the amnesty period at UNO, UNL or UNK.
- Removal of GPA computation shall be by entire semester(s).
- Students who are granted academic amnesty will not be considered for degrees with academic honors. Names of petitioners will be reviewed by the dean's office for final action. There shall be no physical obliteration of any part of the student's record. Academic amnesty is not allowed after a student has graduated.

## Academic Probation and Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Reinstatement Policy Following Academic Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Academic Advising

Each student enrolled in a College of Communication, Fine Arts and Media degree program is encouraged to review requirements for their intended degree with an assigned academic advisor. Information on assigned advisors is available in the student's relevant school offices. Additionally, students can contact academic advisors via the MavTRACK (<https://www.unomaha.edu/my/advising-system-mavtrack.php>). Review of specific degree requirements should be conducted with an advisor at scheduled times each semester in preparation for and prior to each enrollment/registration period.

## Advising Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Student Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Senior Check

Students who have completed 91+ credit hours toward their chosen degree program are required to have a senior check completed by an academic advisor. This process will assure the student's graduation date, assuming satisfactory completion of all approved courses. All substitutions and/or changes to a student's degree requirements must be noted in writing during the advising process. Should this procedure not be followed, responsibility for meeting graduation requirements falls on the student. Errors made could prevent timely graduation.

# School of Communication

## Mission

The School of Communication provides a student-centered, dynamic environment designed to elevate, empower, and engage students to become skilled, ethical citizens and professionals who can excel in diverse local and global communities.

## Vision

Our vision is to be a recognized leader in innovative teaching, leading-edge research/creative activity, and community-engagement initiatives. We will achieve this by supporting and attracting exceptional faculty and outstanding undergraduate and graduate students from within and outside the metropolitan area.

## Other information

For students who are majors in the School of Communication, courses that have been applied toward general education requirements may also be applied to the major, minor, or second-field of concentration requirements, with the exception of the courses used to fulfill the general education oral communication requirement.

All students who take most sophomore-level or above (2000-, 3000- or 4000-level) journalism and media communication courses (JMC), or junior-level or above (3000- or 4000-level) communication studies (CMST) courses, are required to have a cumulative grade-point average of at least 2.25. Any exceptions will be by written permission of the school. Students will receive a worksheet listing requirements to track their progress toward a degree.

Communication studies majors may not complete more than a total of three hours of credit for forensics activities (CMST 3150 and CMST 3160) or more than a total of four hours of credit for internships, Applied Journalism/Broadcasting (JMC 3970), independent study, and advanced practicum. Exceptions to these limits can be made by the School of Communication director.

Journalism and media communication majors may not complete more than a total of four hours of credit for internships, Applied Journalism/Broadcasting (JMC 3970), independent study, and advanced practicum. Exceptions to these limits may be made by the School of Communication director.

Students may have two majors within the School of Communication by completing the requirements for both majors. Journalism and Media Communication majors may have a second major in Communication Studies, and Communication studies majors may have a second major in Journalism and Media Communication. Some classes, such as JMC 4970 /CMST 4970, Internship Experience, may count toward both majors with adviser approval.

The Bachelor of Arts in Communication (BAC) degree includes a foreign language requirement (16 credit hours or high school equivalent), while the Bachelor of Science in Communication (BSC) degree includes a minimum of

15 hours in a second field of study (or a minor as specified by a department or school). A second field of study is defined as courses within a single department of the university or as courses that all relate to a single subject area or topic. The second field of study must include at least six hours of upper-level courses (3000- or 4000-level) except as specifically exempted in writing by a school adviser or the school director.

Students must earn at least a "C" in all courses required for the major, as well as in all foreign language courses required for the Bachelor of Arts in Communication and in all classes in the second field of study (or minor) required for the Bachelor of Science in Communication.

## Contact

The School of Communication office areas are located in Arts and Sciences Hall Room 140, Room 107, Room 108, and Room 105. Phone: 402.554.2600 or 402.554.2520.

Website (<http://communication.unomaha.edu/>)

## Degrees Offered

The School of Communication offers Bachelor of Arts and Bachelor of Science degree programs with majors in Communication Studies (course prefix is CMST) and Journalism and Media Communication (course prefix is JMC).

- Communication Studies, Bachelor of Arts (p. 421)
- Communication Studies, Bachelor of Science (p. 423)
- Journalism and Media Communication, Bachelor of Arts (p. 426)
- Journalism and Media Communication, Bachelor of Science (p. 430)

## Writing in the Discipline

The advanced writing classes for all School of Communication majors are Media Writing Lab and Lecture JMC 2100 and JMC 2104 ).

## Communication Studies

The requirements for the major in communication studies will include a minimum of 48 credits, plus 15 credits in a second field of study for a Bachelor of Science in Communication and 16 hours in a foreign language for a Bachelor of Arts in Communication.

Communication studies majors may choose from four career pathways: 1) *Corporate Training & Organizational Leadership*; 2) *Diversity & Cultural Affairs*; 3) *Human Relations & Conflict Management*; and 4) *Public Advocacy & Civic Engagement*.

## Journalism and Media Communication

The major in journalism and media communication requires a minimum of 60 credits, plus 15 credits in a second field of study for a Bachelor of Science in Communication degree and 16 hours in a foreign language for a Bachelor of Arts in Communication degree. A total of 120 credits are required, including general education requirements and general electives.

Journalism and media communication majors must select one of three sequences (journalism, public relations/advertising, and creative media). Note: journalism and media communication courses may also be listed under the former course prefixes, JOUR and BRCT.

## Minors Offered

- Communication Studies Minor (p. 425)
- Journalism and Media Communication Minor (p. 435)
- Visual Communication and Culture Minor (p. 435)

## Communication Studies

Effective communication, whether written, spoken or non-verbal is essential for success in any career field and students who major in Communication Studies develop and hone these critical skills. Besides strong verbal,

nonverbal, and written communication skills, students who major in Communication Studies also develop expertise in speaking in front of small and large audiences. As part of the curriculum, students complete internships with nationally and internationally recognized organizations, both profit and non-profit.

The undergraduate program in Communication Studies offers students four career pathways: *Corporate Training and Organizational Leadership*; *Diversity and Cultural Affairs*; *Human Relations and Conflict Management*; and *Public Advocacy and Civic Engagement*.

### Possible careers in Corporate Training and Organizational Leadership include:

- Career Planning Consultant
- Customer Relations Representative
- Trainer/Recruiter
- Personnel Interviewer
- Team Facilitator
- Employee Relations Representative
- Project Manager

### Possible careers in Diversity and Cultural Affairs include:

- Community Relations
- Cultural Adjustment Facilitator
- Diversity Trainer/Consultant
- Peace Corp/Social and Human Services
- Political Coordinator

### Possible careers in Human Relations and Conflict Management include:

- Claims Representative
- Community Relations
- Customer Service
- Social and Human Services
- Community Organizer
- Conflict Resolution Trainer
- Group/Team Facilitator
- Negotiator/Mediator

### Possible careers in Public Advocacy and Civic Engagement include:

- Community Affairs Liaison
- Elected Official/Leader
- Legislative Assistant
- Lobbyist
- Press Secretary

## Journalism and Media Communication

Journalism and Media Communication provides a comprehensive education in convergence journalism. Coursework in video/radio production, mass communication, media story-telling and communication law provide a foundation for any form of media communication.

Beyond the classroom, students get hands-on experiences working in the field through internships; service learning projects; production of the Omaha News, a weekly news program from the studios of UNO Television; working both on-air and behind the scenes at MavRadio (<https://www.mavradio.fm/>), our student-run radio station; broadcasts of UNO athletic events held at Baxter Arena; and working directly with professional clients in MavPR and Capstone Communications. Regardless of the path a student chooses, a degree in journalism/media communication can lead to

multiple career opportunities in front of the camera, behind it, in print, and online.

### **Creative Media**

- Social media manager
- Brand manager
- Podcaster/host
- Video blogger
- Radio broadcaster

### **Journalism**

- Journalist
- Technical writer
- Business editor
- Staff writer
- News producer
- Digital strategist

### **Public Relations/Advertising**

- Public Relations specialist
- Copywriter
- Marketing director
- Campaign manager
- Media buyer

## **Communication Studies**

### **CMST 1000 PUBLIC SPEAKING ANXIETY: CONQUER IT (1 credit)**

This course will provide you with the practical techniques needed to reduce public speaking anxiety. You will learn the causes, bases, effects, and techniques to help you conquer public speaking anxiety while taking or before taking a public speaking class or before giving a presentation at any level for any major.

### **CMST 1110 PUBLIC SPEAKING FUNDS (3 credits)**

Public Speaking Fundamentals helps students become effective public speakers, as well as critical listeners and evaluators of public communication. Students will learn the principles of audience adaptation, topic selection, organization, development of ideas and presentation of speeches. Each student will design and present a minimum of four public speeches. (Special 'Speaking Confidently' sections are available for the students with excessive levels of fear about public communication. Contact the School of Communication for applications.)

**Distribution:** Fundamental Academic Skills-Public Speaking

### **CMST 1310 PERSPECTIVES IN COMMUNICATION STUDIES (3 credits)**

This course surveys concepts in the dynamic field of speech communication. Students will examine how communication practices shape our worldviews and our relationships in both private and public contexts. This course emphasizes concepts including, but not limited to: a) interpersonal relationships, b) organizational communication & employee relations, c) public & political communication, d) communication technology & human relationships, e) culture & communication, f) health communication, g) communication training & instructional development and h) conflict resolution. Students will also have the opportunity to be informed about possible careers in speech communication.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree graduate students

**Distribution:** Social Science General Education course

### **CMST 2010 INTERPERSONAL COMMUNICATION (3 credits)**

This course is an introduction to the study of interpersonal communication. Within this course, students will be introduced to the theories, research, and concepts relevant to interpersonal communication and will be given opportunities to develop and enhance their own communication skills.

**Distribution:** Social Science General Education course

### **CMST 2100 INTRODUCTION TO COMMUNICATION THEORY (3 credits)**

Communication Theory is an undergraduate course designed to introduce students to the major foundational theories that inform the field of communication. Special emphasis is placed on communication theories that examine the self, the message, relationship development, groups and organizations, the public and the media, as well as culture and diversity. Skills learned in this course are necessary foundations for the upper-level communication courses as well as the Communication Studies capstone course.

### **CMST 2120 ARGUMENTATION AND DEBATE (3 credits)**

Theory and practice of effective argumentation and debate. Students will participate in a variety of speaking activities involving the application of argumentation principles to current political and social issues.

**Distribution:** Fundamental Academic Skills-Public Speaking

### **CMST 2410 SMALL GROUP COMMUNICATION AND LEADERSHIP (3 credits)**

This course is an introduction to the theory and practice of communication and leadership within small group settings. This course will provide students with broad knowledge about small group communication processes.

**Distribution:** Social Science General Education course

### **CMST 2420 PARLIAMENTARY PROCEDURE AND MEETING MANAGEMENT (2 credits)**

Theory and practice of parliamentary procedure; forming organizations and drawing up constitutions and by-laws.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120. Not open to non-degree graduate students.

### **CMST 3100 PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES (3 credits)**

This course will provide you with the knowledge and practice of techniques related to reducing presentational speaking and interview anxieties. You will learn the causes, bases, measurement, correlates, effects, and treatment techniques for those who experience communication anxieties, especially related to giving a speech or preparing for an interview. Then you will develop a plan and execute the plan to reduce your presentation and interview anxieties.

**Prerequisite(s)/Corequisite(s):** A minimum cumulative GPA of 2.25 and CMST 1110 or 2120 and Junior Standing

### **CMST 3120 PERSUASIVE SPEAKING (3 credits)**

This course explores persuasive public speaking and helps students learn to create messages of influence. Students will engage in audience analysis, organization, language choices, presentational slide development, delivery, and evaluation with an emphasis on effective use of persuasion speaking methodologies.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120 (or SPCH 1110 or SPCH 2120); and minimum cumulative GPA of 2.25

### **CMST 3130 SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS (3 credits)**

This course is designed to introduce students to the important and varied role communication plays in the workplace and other professional settings. The course emphasizes informative and persuasive communication principles and practices in one-to-many presentational situations as well as group communication and interviewing.

**Prerequisite(s)/Corequisite(s):** Junior standing and CMST 1110 or 2120 or SPCH 1110 or 2120; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

### **CMST 3140 ADVANCED PUBLIC SPEAKING (3 credits)**

This course covers the techniques, theory, and practice in the composition and presentation of public speeches.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120 (or SPCH 1110 or SPCH 2120); and a minimum cumulative GPA of 2.25.

**CMST 3150 INTERCOLLEGIATE FORENSIC ACTIVITIES (1-3 credits)**

For those communication, pre-law, and other interested students who desire to participate in intercollegiate debate and forensics (informative, persuasive, impromptu, extemporaneous, and after-dinner speaking; oral interpretation, solo and or duet acting, rhetorical criticism, and discussion).

**Prerequisite(s)/Corequisite(s):** Permission of the Director of Forensics only

**CMST 3160 INTERCOLLEG FORENSIC ACTVTS (1-3 credits)**

For those communication, pre-law, and other interested students who desire to participate in intercollegiate debate and forensics (informative, persuasive, impromptu, extemporaneous, and after-dinner speaking; oral interpretation, solo and or duet acting, rhetorical criticism, and discussion).

**Prerequisite(s)/Corequisite(s):** Permission of the Director of Forensics only

**CMST 3510 CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA (3 credits)**

This course examines ways in which cultural identity is communicated through African-American cinema, defined as movies with predominantly African American filmmakers, producers, and/or actors. Cultural communication is integrated with historical, political, and social motivation for African-American cinema. (Cross-listed with BLST 3510)

**Prerequisite(s)/Corequisite(s):** Sophomore standing and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**CMST 3520 INTERVIEWING (3 credits)**

This course is a practical course that focuses on various types of interview performances. The course will explore interview types such as probing/journalistic, survey, recruiting/employment, performance, counseling, and persuasive

**Prerequisite(s)/Corequisite(s):** SPCH 1110 or SPCH 2120 or CMST 1110 or CMST 2120; sophomore standing; a minimum cumulative GPA of 2.25.

**CMST 3600 SPECIAL TOPICS IN COMMUNICATION STUDIES (3 credits)**

A variable topic course in communication studies at the Junior level. Topics to be covered may include but are not limited to: marital and family communication, instructional communication, organizational communication, intercultural communication, conflict, relational communication, communication competence, health communication, communication research or theory, communication and gender, social movements, political communication, listening, communication and the aged, etc. (May be repeated for credit as long as the topic is not the same.)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor; a minimum cumulative GPA of 2.25.

**CMST 3750 GENDER AND COMMUNICATION (3 credits)**

This course provides a survey of literature on communication about, by, and between women and men in society, personal relationships, and organizations. Students develop an understanding of how cultural meanings of gender both shape and are shaped by communication. (Cross-listed with WGST 3750).

**Prerequisite(s)/Corequisite(s):** Junior standing; minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**CMST 4110 RHETORICAL THEORY AND CRITICISM (3 credits)**

Rhetorical theory and criticism, emphasizing ways of evaluating oral communication. (Cross-listed with CMST 8116)

**Prerequisite(s)/Corequisite(s):** Junior standing and (Journalism/Media Communication major or Communication Studies major)

**CMST 4120 COMMUNICATION AND SOCIAL PROTEST (3 credits)**

This class will examine the role played by communication in movements for social change in contemporary society. We will examine social movements which rely on speeches (i.e. women's rights movements), social movements which rely on the grassroots political efforts of their members (i.e. the environmental rights movement) and the overall strategies of persuasion utilized in movements which seek social change, including emerging communication technologies. (Cross-listed with CMST 8126)

**Prerequisite(s)/Corequisite(s):** Junior Standing; 2.25 GPA

**CMST 4130 FAMILY COMMUNICATION (3 credits)**

This course emphasizes the role of communication in family relationships. Theories, models, and research methods will be used to examine the family in various cultures and contexts (e.g., nuclear families, single-parent families, and blended families). Topics that will be covered in this course include: family conflict, family roles, family stories, family stress, family well-being, genograms, marriage, and divorce. (Cross-listed with CMST 8136)

**Prerequisite(s)/Corequisite(s):** The prerequisite for the course is junior standing, and CMST 2010 or CMST 2410; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4140 COMMUNICATION AND HUMAN RELATIONSHIPS (3 credits)**

This course applies theories of interpersonal processes and communication principles to the study of close, significant and personal human relationships. Discussion focuses on the communication in different types of relationships and relational stages, e.g., strangers, acquaintances, friendships and intimates. (Cross-listed with CMST 8146)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4150 CORPORATE TRAINING AND DEVELOPMENT (3 credits)**

This course introduces students to the process of designing communication training programs and workshops for a variety of professional settings. It provides students, especially those who are prospective trainers and/or consultants, with experiential and cognitive knowledge about needs assessment, adult learning, communication training research, objectives writing, module design, interactive delivery methods and program evaluation. (Cross-listed with CMST 8156)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4160 COMMUNICATION FOR INSTRUCTIONAL SETTINGS (3 credits)**

This course is designed to help prospective instructors and/or trainers understand and apply the principles of communication in instructional settings (i.e., classrooms, workshops, training programs). It introduces students to the research area in the speech communication discipline called 'Instructional Communication' by covering these five units:

1) Communication Strategies, Objectives, & Content; 2) Student Communication Needs & Expectations; 3) Feedback, Reinforcement, & Discussion; 4) Context, Climate, & Influence; and 5) Teacher Communicator Style, Characteristics, & Behaviors. (Cross-listed with CMST 8166)

**Prerequisite(s)/Corequisite(s):** Junior standing, and CMST 2010 or CMST 2410 (or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25.

**CMST 4170 ORGANIZATIONAL COMMUNICATION (3 credits)**

This course will help students understand organizational communication theories, models, and processes; apply these principles in organizational communication speaking exercises; and learn management and leadership skills. (Cross-listed with CMST 8176)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4180 COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS (3 credits)**

This course provides theoretical and experiential knowledge about such topics as communication leadership styles and tactics, superior and subordinate interactions, power, ethical responsibilities, and diversity gender issues related to communication leadership. (Cross-listed with CMST 8186)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4190 COMPUTER-MEDIATED COMMUNICATION (3 credits)**

Computer Mediated Communication addressing emerging issues of virtual communities, identity, civic life and participation, online relationships, collaborative work environments, digital networks, gender race class issues, legal and ethical considerations of technology, and commodification of mediated communication. (Cross-listed with CMST 8196)

**Prerequisite(s)/Corequisite(s):** CMST 1110 (or SPCH 1110) and Junior standing; a minimum cumulative GPA of 2.25.

**CMST 4220 HEALTH COMMUNICATION (3 credits)**

This course introduces students to the interdisciplinary field of health communication. In this course, students will learn various theories of health communication as well as current research and trends in health communication and its related fields. To speak to the complexity and dynamism of health communication, this course will expose students to the multiple voices and perspectives involved in the delivery of health and healthcare. (Cross-listed with CMST 8226)

**Prerequisite(s)/Corequisite(s):** Junior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4510 PERSUASION AND SOCIAL INFLUENCE (3 credits)**

The primary goal of this course is to provide students with a solid grounding in theories, principles, and strategies of persuasion social influence as they apply to everyday contexts in which influence attempts take place. Students should gain familiarity with findings from empirical investigations on persuasion, social influence, and compliance gaining, and will learn about strategies and techniques of persuasion relating. (Cross-listed with CMST 8516)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4520 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds (Cross-listed with CMST 8526.)

**Prerequisite(s)/Corequisite(s):** Senior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4530 INTERCULTURAL COMMUNICATION-US (3 credits)**

This course will provide a foundation that leads to Intercultural Communication competence. Specifically, this course is to introduce the concepts of cross-cultural communication. Theory and research are integrated with application and necessary skills are identified and developed. (Cross-listed with CMST 8536)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**CMST 4540 CONTEMPORARY SYSTEMS OF COMMUNICATION (3 credits)**

An adaptation of General Systems Theory concepts to the study of human communication processes with emphasis on systems analysis of contemporary interpersonal communication perspectives. (Cross-listed with CMST 8546)

**Prerequisite(s)/Corequisite(s):** CMST 1110 and three hours of mathematics and three hours of natural sciences; or permission; and a minimum cumulative GPA of 2.25.

**CMST 4550 NONVERBAL COMMUNICATION (3 credits)**

This course is designed to familiarize the student with current knowledge and research about nonverbal communication and to provide a wide variety of practical experiences through which the student can analyze and evaluate his or her own nonverbal behavior and that of others. The course, also, reviews the functions, areas and applied contexts of nonverbal communication. (Cross-listed with CMST 8556)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4560 COMMUNICATION, TEAMWORK, & FACILITATION (3 credits)**

This course focuses on the communication practices, process tools, and theory associated with team problem solving, group discussion, facilitation skills, facilitative leadership, meeting management, and training in effective group interaction. (Cross-listed with CMST 8566)

**Prerequisite(s)/Corequisite(s):** A minimum cumulative GPA of 2.25. Not open to nondegree students.

**CMST 4570 INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE (3 credits)**

This course examines the intercultural perspective of organizational communication in a modern global world by focusing on the management of cultural differences in the global workplace. The trend towards a global economy is bringing people of different ethnic and cultural background together. Thus, the development of greater intercultural understanding has become an essential element of global workplace. After taking this course you will be more aware of cultural diversity in an organizational setting and further develop intercultural sensitivity and intercultural competence that will help you adapt to your future organizational life. (Cross-listed with CMST 8576).

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**Distribution:** Global Diversity General Education course

**CMST 4580 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with CMST 8586, BLST 4580, BLST 8586)

**Prerequisite(s)/Corequisite(s):** CMST 4530 or Junior standing or instructor permission; minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**CMST 4600 COMMUNICATION THEORY AND APPLICATION (3 credits)**

This course begins by introducing students to two broad categories of theory development - objective and interpretive. Then concepts and assumptions associated with each of these two perspectives are employed to critically evaluate several specific theories that fall within different of the sub-disciplines of the field of communication: interpersonal, group, organizational, mass, public/rhetorical, cultural, and intercultural/gender. Along with critically evaluating and comparing/contrasting different communication theories, emphasis is placed on how the theories can be effectively applied in concrete settings and circumstances. (Cross-listed with CMST 8606)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**CMST 4620 DIRECTING FORENSICS (3 credits)**

To provide students planning to teach speech in high school or college with a philosophy and detailed knowledge of how to direct a forensics program. (Cross-listed with CMST 8626)

**CMST 4700 INTERPERSONAL CONFLICT (3 credits)**

This course provides an overview of interpersonal conflict processes. It examines perspectives on conflict, patterns of constructive and destructive conflict, conflict styles and tactics, interpersonal power, negotiation strategies, conflict assessment, and conflict skill development. (Cross-listed with CMST 8706)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or SPCH 2010); and a minimum cumulative GPA of 2.25.

**CMST 4800 CONFLICT MEDIATION (3 credits)**

This course develops knowledge of mediation theory, research, and practice and communication skills essential to the effective mediation of disputes in various contexts. (Cross-listed with CMST 8806)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 3520 or CMST 4700 or SPCH 2010 or SPCH 3520 or SPCH 4700); and a minimum cumulative GPA of 2.25.

**CMST 4940 COMMUNICATION STUDIES CAPSTONE SEMINAR (3 credits)**

Communication Studies Capstone Seminar is an undergraduate course designed to provide students with the opportunity to integrate the knowledge and skills they have acquired as communication majors and to prepare them to enter the job market or graduate school using their speech communication skills and knowledge.

**Prerequisite(s)/Corequisite(s):** Senior standing; minimum cumulative GPA of 2.25 and major in Communication Studies. Not open to non-degree students.

**CMST 4960 INTERNSHIP AND CAREER PREPARATION SEMINAR (1 credit)**

This course will prepare students for doing an internship in a communication-related field by addressing such topics as writing resumes and cover letters, interviewing for jobs, and organizing a professional portfolio of their work. The topics covered also will assist with general career preparation. (Cross-listed with JMC 4960)

**Prerequisite(s)/Corequisite(s):** Sophomore standing; School of Communication major or minor; and minimum cumulative GPA of 2.25.

**CMST 4970 INTERNSHIP EXPERIENCE (1 credit)**

This course will provide students professional communication-related experience in an internship approved and supervised by the School of Communication. (Cross-listed with JMC 4970)

**Prerequisite(s)/Corequisite(s):** JMC 4960, CMST 4960, BRCT 4960, JOUR 4960, or SPCH 4960; junior standing; School of Communication major or minor; instructor permission; and minimum cumulative GPA of 2.25.

**CMST 4980 INDEPENDENT STUDY COMMUNICATION (1-3 credits)**

Specialized studies in communication supplementing regular courses: readings, research, tutorial.

**Prerequisite(s)/Corequisite(s):** Junior standing and Communication Major

**CMST 4990 ADVANCED COMMUNICATION PRACTICUM (1-3 credits)**

Special practicum experience in an area of communication.

**Prerequisite(s)/Corequisite(s):** Junior standing and Communication Major

## Journalism and Media Communication

**JMC 1050 FILM HISTORY AND APPRECIATION (3 credits)**

A journey through one of many different possible worlds of film. Students will learn about various dimensions of filmmaking—historical development, cinematography, editing, screenwriting, and so much more. Exposure to critical perspectives on the genre(s) under consideration. Includes regular viewing of excerpts and full-length films. (Cross-listed with THEA 1050).

**Distribution:** Humanities and Fine Arts General Education course

**JMC 1500 INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION (3 credits)**

A survey of the history, organization and social significance of the mass media, including newspapers, radio, television, books, magazines, advertising, public relations and films.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**JMC 2000 INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS (3 credits)**

This course adapts information literacy to the specific needs of communication professionals, focusing on subject matter that is often in the news, in areas (such as geography, mathematics, various methods of professional practice, and concepts in natural sciences) that have been identified as shortcomings by faculty.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**JMC 2100 MEDIA WRITING LABORATORY (3 credits)**

This class will teach students to gather information and write for all areas of mass communication, including print, broadcast, online media, public relations and advertising.

**Prerequisite(s)/Corequisite(s):** ENGL 1150; concurrent registration with JMC 2104

**Distribution:** Writing in the Discipline Single Course

**JMC 2104 MEDIA WRITING LECTURE (1 credit)**

Media Writing Lecture will help students master grammar, punctuation, spelling, Associated Press style and other language skills required for working in communication fields.

**Prerequisite(s)/Corequisite(s):** ENGL 1150; concurrent registration with JMC 2100

**JMC 2150 NEWS WRITING AND REPORTING (3 credits)**

The class addresses the theory and practice of writing and reporting for media audiences, with an emphasis on print and online media. Some of the assignments in the class will focus on covering public affairs and analyzing media coverage of public affairs.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum cumulative GPA of 2.25.

**JMC 2160 EDITING PRINCIPLES (3 credits)**

This class encompasses the evaluation, editing and production of content for the print and online media, as well as public relations. It also includes writing headlines and captions, as well as learning layout and design principles.

**Prerequisite(s)/Corequisite(s):** JMC 2150 and minimum overall GPA of 2.25

**JMC 2200 MEDIA STORYTELLING (3 credits)**

Media Storytelling applies the skills learned in JOUR 2100 and JOUR 2104, Media Writing Lab and Lecture. Writing will remain a central focus of the class. Students will create online spaces and manage the content of those spaces. The class will provide a survey of skills in photography, videography, audio production and social media.

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 2320 VIDEO FIELD PRODUCTION (3 credits)**

The class provides in-depth, hands-on theory and practice of field production and editing principles and techniques. It expands from single-camera to multi-camera projects. The goal is for students to leave this course with a strong understanding of aesthetic shooting principles, audio and video equipment, and a solid working knowledge of field production and post-production practices.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**JMC 2370 RADIO/AUDIO I (3 credits)**

This course emphasizes the fundamentals of audio production and writing for radio and its online communication venues. On-air delivery, use of video and audio streaming and broadcast industry issues are also covered.

**JMC 3030 ELECTRONIC NEWS WRITING AND REPORTING (3 credits)**

This class offers an overview of writing news stories for radio, television and online venues. Writing style and technique, as well as news judgment, are emphasized. Some of the assignments in the class will focus on covering public affairs and analyzing media coverage of public affairs.

**Prerequisite(s)/Corequisite(s):** JMC 2100 or JMC 2104; and minimum cumulative GPA of 2.25.

**JMC 3110 PHOTOGRAPHY (3 credits)**

The theory, techniques and application of basic photographic operations of exposure, development and printing.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and minimum overall GPA of 2.25

**JMC 3220 CRITICAL WRITING FOR THE MASS MEDIA (3 credits)**

This course is an introduction into journalistic opinion writing covering editorials, columns and popular entertainment reviews.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104; and minimum cumulative GPA of 2.25.

**JMC 3230 PRINCIPLES OF PUBLIC RELATIONS (3 credits)**

This course will focus primarily on techniques to garner and sustain public understanding, acceptance and support for an organization. This course will explain the merits of these techniques through theory and application, and will offer constant reminders of the relationship between theory and practice. Understanding theory can result in more efficient and effective use of techniques. (Cross-listed with JMC 8235).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum GPA of 2.25

**JMC 3270 PUBLIC AFFAIRS REPORTING (3 credits)**

The class is designed to help students build and refine their researching, interviewing, reporting and writing skills through the coverage of a public affairs news beat for print, broadcast and online formats.

**Prerequisite(s)/Corequisite(s):** JMC 2150 or JMC 3030; minimum cumulative GPA of 2.25.

**JMC 3300 SOCIAL MEDIA METRICS (3 credits)**

Social Media Metrics applies quantitative literacy methods and online media skills to current measurement of social media. Students will experiment with currently available measurement tools to identify and learn to use best practices.

**Prerequisite(s)/Corequisite(s):** JMC 2200; and minimum cumulative GPA of 2.25

**JMC 3320 VIDEO FIELD AND STUDIO PRODUCTION (3 credits)**

The class introduces the student to the studio-production environment, equipment, and best practices. It applies single- and multi-camera field-production concepts to a multi-camera live switched environment. It provides reinforcement of field production and editing principles by integrating pre-produced elements into a live production. The goal is for students to leave this course with a strong understanding of live-production principles, studio-production equipment, and a solid working knowledge of studio-production and field-production practices.

**Prerequisite(s)/Corequisite(s):** JMC 2320 and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 3330 TELEVISION NEWS VIDEO (3 credits)**

Theories and techniques of shooting and editing TV news video.

**Prerequisite(s)/Corequisite(s):** JMC 3030 and minimum cumulative GPA of 2.25. Concurrent registration with JMC 3030 is permissible.

**JMC 3350 MEDIA COMMUNICATION RESEARCH (3 credits)**

Comprehensive overview of mass communication research focusing on planning, designing, conducting, analyzing, interpreting and applying research to address communication issues and problems.

**Prerequisite(s)/Corequisite(s):** Junior standing, and 2.25 cumulative GPA

**JMC 3370 RADIO/AUDIO II (3 credits)**

This course emphasizes the use of audio-editing techniques in multimedia digital production. The course uses computer-based audio production systems to create interactive media.

**Prerequisite(s)/Corequisite(s):** JMC 2370; and cumulative GPA of 2.25.

**JMC 3400 MAGAZINE ARTICLE WRITING (3 credits)**

This course is an introduction to news and feature writing for magazines.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104, and minimum cumulative GPA of 2.25.

**JMC 3410 MAGAZINE EDITING, DESIGN AND PRODUCTION (3 credits)**

A hands-on approach to magazines as an area of specialization involving development of editorial objectives and content, planning, writing articles, design and layout for magazine production and management. Students will work individually and as a part of the team to produce a magazine for print and digital publishing.

**Prerequisite(s)/Corequisite(s):** Minimum overall GPA of 2.25, JMC 2100, 2104

**JMC 3500 PR AND ADVERTISING DESIGN (3 credits)**

This is a course concerned with the principles of print and electronic public relations and advertising design using applied digital methods and skills. Students will learn the principles of design in a variety of print and interactive formats relating to public relations and advertising. Concepts will be taught in a lecture setting, and skills will be demonstrated in a lab setting. An advertising and public relations design campaign will be completed.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum cumulative GPA of 2.25.

**JMC 3620 PRINCIPLES OF CREATIVE ADVERTISING (3 credits)**

This is an introduction to advertising principles in all media, including the psychology of advertising; the creative, production and marketing aspects; and practical exercises in print, broadcast and social media. The course is organized in a way to take students through the process of creating relevant solutions to solve client advertising problems/opportunities.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25.

**JMC 3700 INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE (3 credits)**

This course will introduce students to 'the visual,' both in production and critique. This course provides students the opportunity to further their own understanding of what "visual culture" is and how they both can critically create and consume the various products of that culture. In addition, this course will help students create, develop, and cultivate the knowledge base they will need to successfully complete the Visual Communication and Culture minor.

**Distribution:** Humanities and Fine Arts General Education course

**JMC 3970 APPLIED JOURNALISM/BROADCASTING (1 credit)**

For work on the campus student newspaper or radio or TV station.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, minimum overall GPA of 2.25.

**JMC 4010 HISTORY OF MASS COMMUNICATION (3 credits)**

This class covers development of the U.S. media from 1690 to present day, including newspapers, magazines, radio, television, the new media of the Internet, advertising and public relations. A special emphasis is placed on freedom of the press.(Cross-listed with JMC 8016).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4040 SOCIAL MEDIA MEASUREMENT AND MANAGEMENT (3 credits)**

Social Media Measurement and Management explores the dynamic development of social media platforms within a journalism and media communication context. Students of journalism, broadcasting, public relations, advertising and marketing will examine theories and best practices of social media interaction and engagement. (Cross-listed with JMC 8046)

**Prerequisite(s)/Corequisite(s):** JMC 2200; JMC 3350 taken previously or concurrently; and minimum cumulative GPA of 2.25.

**JMC 4100 ROLE OF THE PRODUCER (3 credits)**

Students will develop and refine skills in understanding the planning process behind various types of media production. Students will utilize information gathering, strategic thinking, writing, storyboarding, site surveys, analysis of lighting requirements, audio requirements, selecting and working with voiceover or on-camera talent, with the goal of taking these elements through various projects. Students will shoot, edit, and post-produce finished projects reflecting an understanding of professional requirements and the necessity for planning and troubleshooting.

**Prerequisite(s)/Corequisite(s):** JMC 3320; sophomore status; and cumulative GPA of 2.25.

**JMC 4110 RADIO/AUDIO III (3 credits)**

This course builds on skills, techniques and theory introduced in Radio/Audio I and Radio/Audio II. It will emphasize the management of college, public and commercial radio stations. Students will learn the administrative, program, production, news and sales aspects of a station. Because of the rapid growth of online media, students will also be expected to write online content for the university's radio and television stations. In addition to advanced production projects and managerial duties, students will research, write and produce an audio documentary.

**Prerequisite(s)/Corequisite(s):** JMC 3370 and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4200 VISUAL COMMUNICATION AND CULTURE CAPSTONE (3 credits)**

This course is meant for those students who have declared the Visual Communication and Culture minor (VCC), housed within the School of Communication (CFAM). This course allows completion of the minor through an independent, juried research project that is conducted by the student under the direct supervision of the instructor of record for the course.

**Prerequisite(s)/Corequisite(s):** Junior-standing is required for registration; Declaration of VCC Minor; Completion of JMC 3700; Completion of other courses declared for Minor

**JMC 4220 LITERARY JOURNALISM (3 credits)**

Survey of the journalistic works of pertinent American writers through readings, lectures, discussions, plus creative writing assignments. (Cross-listed with JMC 8226).

**Prerequisite(s)/Corequisite(s):** Junior standing and JMC 2100 or JMC 2150 and minimum overall GPA of 2.25

**JMC 4240 PUBLIC RELATIONS CASE STUDIES (3 credits)**

The course is designed to enable the student: 1) to integrate issue-management and decision-making theoretical models with the communication theory and research techniques presented in JMC 3230/ JMC 8236 and 2) to apply professional judgment to the public relations problem-solving process through the development of structured analysis of historical cases. (Cross-listed with JMC 8246).

**Prerequisite(s)/Corequisite(s):** JMC 3230; JMC 3350; and minimum overall GPA of 2.25

**JMC 4250 STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING (3 credits)**

This is an advanced skills course that combines theory and practical application in writing for public relations and advertising. Students will plan and execute strategy and tactics to craft and deliver a persuasive message to a variety of audiences.

**Prerequisite(s)/Corequisite(s):** JMC 3500 & JMC 3230, minimum overall GPA of 2.25 Not open to non-degree graduate students.

**JMC 4260 MEDIA RELATIONS (3 credits)**

This course focuses on the communication tools used in media relations, the nuances of working with reporters from press and various media, news writing, news judgment, strategic planning, and the application of communication theories in understanding the relationship between news organizations and media relations representatives for organizations and corporations. (Cross-listed with JMC 8266).

**Prerequisite(s)/Corequisite(s):** JMC 3230; JMC 3350; junior standing; and minimum cumulative GPA of 2.25.

**JMC 4310 MEDIA & POLITICS (3 credits)**

An in-depth study of the impact of the media on political communication. This course will explore the symbiotic relationship of media and political communication, including the influence of traditional mass media, digital media, and social media on the political communication process. Students will delve into media theories and critically examine the influence of the media on the political communication process. (Cross-listed with JMC 8316).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL 1160 and JMC 3350, and cumulative GPA 2.25

**JMC 4340 SPORTS BROADCASTING AND PRODUCTION (3 credits)**

Students will learn to distinguish between the differences between sports production and sports performance. Students will also learn to broadcast a variety of sports using multiple platforms. Accuracy and immediacy are vital skills that students will be expected to develop. Students will learn and understand the importance and process of preparing for play-by-play and color commentary.

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; JMC 2200; JMC 2300; JMC 2370; sophomore status; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4370 COMMUNICATION WORKSHOP (3 credits)**

A workshop to explore communication theory and processes and to develop skills in their application. (Cross-listed with JMC 8376).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL1160, permission of instructor, and minimum overall GPA of 2.25

**JMC 4380 FILM THEORY AND CRITICISM (3 credits)**

Study of major trends in film criticism and theory in (primarily) Europe and America, with concentrated analysis of selected films. (Cross-listed with JMC 8386).

**Prerequisite(s)/Corequisite(s):** JMC 1050/THEA 1050; ENGL 1160; JMC 3350; junior standing; and minimum overall GPA of 2.25

**JMC 4390 MEDIA ENTREPRENEURSHIP (3 credits)**

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 8396, ENTR 4390).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

**JMC 4400 MASS MEDIA ETHICS (3 credits)**

The course examines ethical standards and practices of the media - print, electronic and online media, as well as advertising, public relations and entertainment media. It includes development of ethical decision-making skills. (Cross-listed with JMC 8406).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4410 COMMUNICATION LAW AND POLICY (3 credits)**

Communication practitioners need to understand legal protections and constraints. This course explores legal concepts, frameworks and principles to understand constitutional, statutory, regulatory and case law and policies. The student must have a basic understanding of government, social studies and human rights principles. The First Amendment and international law provide a framework for exploring current cases and issues. (Cross-listed with JMC 8416).

**Prerequisite(s)/Corequisite(s):** Junior and ENGL1160 and minimum overall GPA of 2.25

**JMC 4420 SPORTS WRITING (3 credits)**

Students will learn all aspects of the specialized aspect of sports media communication. Areas covered will include writing, interviewing, storytelling, using multiple media platforms and the ethics of sports reporting. Various writing experiences across the media spectrum, from traditional media to the new forms of online journalism, will be addressed. (Cross-listed with JMC 8426).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104; JMC 2200; JMC 2300; JMC 2370; sophomore status; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4430 GLOBAL MEDIA COMMUNICATION (3 credits)**

In-depth study of global media communication systems. This course will examine cultural influence of dominant global media, the changing global media climates, information flow, regulation and censorship of media worldwide. Students will look at the various aspects of mass communication including advertising, public relations, broadcasting, movies and social media. There will be an emphasis on global communication theories and on critical examinations of media systems. (Cross-listed with COMM 8436).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL 1160 and permission of instructor, minimum overall GPA of 2.25.

**JMC 4450 JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I (3 credits)**

Students will work in a professional environment to produce content for various School of Communication media outlets. This brings together the skills and theory they have learned throughout their coursework.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25. Senior standing. JMC 2300; instructor permission. A portfolio of work must be submitted for admission to the class, which may not be taken concurrently with JMC 4460. Not open to non-degree graduate students.

**JMC 4460 JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II (3 credits)**

This advanced course provides students with professional development opportunities to polish their skills. Students will continue to create content for the School of Communication's media outlets and will assume mentoring and leadership roles under the supervision of instructors of the capstone classes.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25. JMC 4450; This class may not be taken concurrently with JMC 4450. Not open to non-degree graduate students.

**JMC 4500 MASS COMMUNICATION AND PUBLIC OPINION (3 credits)**

This class represents a study of the philosophy, process and effects of mass communication; the relationship between the mass media and public opinion and propaganda; and the nature, function and measurement of public opinion. (Cross-listed with JMC 8506).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4810 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, ENGL 8816, JMC 8816).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 or permission of instructor.

**JMC 4820 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with PSCI 4820, JMC 8826, PSCI 8826).

**JMC 4830 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, ENGL 8836, JMC 8836).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 and minimum overall GPA of 2.25

**JMC 4850 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, ENGL 8856, JMC 8856).

**Prerequisite(s)/Corequisite(s):** JMC 4810 or JMC 4830 or permission of instructor

**JMC 4870 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, ENGL 8876, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**JMC 4890 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, ENGL 8896, JMC 8896).

**Prerequisite(s)/Corequisite(s):** JMC 4810, JMC 4830, JMC 4870, JMC 4850 or permission of instructor

**JMC 4900 SEMINAR MASS COMMUNICATION (3 credits)**

A senior seminar applying historical and theoretical perspective to current issues and developments in mass communications. (Cross-listed with JMC 8906).

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies or Journalism and Media Communication major) and ENGL 1160 and minimum overall GPA of 2.25

**JMC 4920 MEDIA LITERACY (3 credits)**

An advanced seminar on the study of media and information literacy through deconstruction of mass communication content, meaning construction, framing analyses and critical/cultural approaches. (Cross-listed with JMC 8926).

**Prerequisite(s)/Corequisite(s):** Junior standing; JMC 3350; and minimum GPA of 2.25

**JMC 4960 INTERNSHIP AND CAREER PREPARATION SEMINAR (1 credit)**

This course will prepare students for doing an internship in a communication-related field by addressing such topics as writing resumes and cover letters, interviewing for jobs, and organizing a professional portfolio of their work. The topics covered also will assist with general career preparation. (Cross-listed with CMST 4960).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; School of Communication major or minor; and minimum cumulative GPA of 2.25.

**JMC 4970 INTERNSHIP EXPERIENCE (1 credit)**

This course will provide students professional communication-related experience in an internship approved and supervised by the School of Communication. (Cross-listed with CMST 4970).

**Prerequisite(s)/Corequisite(s):** JMC 4960, CMST 4960; junior standing; School of Communication major or minor; instructor permission; and minimum cumulative GPA of 2.25.

**JMC 4980 INDEPENDENT STUDY IN COMMUNICATION (1-3 credits)**

Specialized studies in communication supplementing regular courses: readings; research; tutorial.

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies or Journalism and Media Communication major) and minimum overall GPA of 2.25

**JMC 4990 ADVANCED COMMUNICATION PRACTICUM (1-3 credits)**

Special practicum experience in an area of communication.

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies major or Journalism and Media Communication major)

# Communication Studies, Bachelor of Arts

## Requirements

Code	Title	Credits
<b>Communication Studies Core Courses</b>		
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	3
CMST 2010	INTERPERSONAL COMMUNICATION	3
CMST 2100	INTRODUCTION TO COMMUNICATION THEORY	3
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3
CMST 4940	COMMUNICATION STUDIES CAPSTONE SEMINAR	3
CMST/JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
CMST/JMC 4970 or CMST 4990	INTERNSHIP EXPERIENCE ADVANCED COMMUNICATION PRACTICUM	1-3
Select one of the following Advanced Communication Performance courses:		3
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	
CMST 3140	ADVANCED PUBLIC SPEAKING	
Diversity Requirement: Select one of the following		3
Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired		
CMST 3750	GENDER AND COMMUNICATION	
CMST 4530	INTERCULTURAL COMMUNICATION-US	
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
CMST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	
<b>Journalism and Media Communication Courses</b>		
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
Approved Course - JMC Elective (adviser approved)		3
<b>Research Methods or Statistics</b>		

JMC 3350	MEDIA COMMUNICATION RESEARCH	
<b>Additional Bachelor of Arts Requirement</b>		
Foreign Language (Bachelor of Arts ONLY)		16
<b>Electives</b>		
Electives (as needed to meet the 120-hour minimum for degree)		
<b>Communication Studies Career Pathways</b>		<b>18</b>
<b>Total Credits</b>		<b>64-66</b>

## Communication Studies Career Pathways

Students will complete 18 hours of communication studies courses in one of the following career pathways.

### Career Pathway # 1: Corporate Training & Organizational Leadership

Code	Title	Credits
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	3
CMST 4170	ORGANIZATIONAL COMMUNICATION	3
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

### Career Pathway # 2: Diversity & Cultural Affairs

Code	Title	Credits
CMST/WGST 3750	GENDER AND COMMUNICATION	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	3
CMST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

### Career Pathway # 3: Human Relationships & Conflict Management

Code	Title	Credits
CMST 4130	FAMILY COMMUNICATION	3
CMST 4140	COMMUNICATION AND HUMAN RELATIONSHIPS	3
CMST 4700	INTERPERSONAL CONFLICT	3
CMST 4800	ADVANCED CONFLICT MEDIATION	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

### Career Pathway # 4: Public Advocacy & Civic Engagement

Code	Title	Credits
CMST 2120	ARGUMENTATION AND DEBATE	3
CMST 4110	RHETORICAL THEORY AND CRITICISM	3
CMST 4120	COMMUNICATION AND SOCIAL PROTEST	3
JMC 4310	MEDIA & POLITICS	3
Plus 6 additional hours in CMST/JMC courses		6

The following JMC classes can be used as electives for Career Pathway # 4; however, these courses cannot double-count for the Career Pathway and for a minor in JMC

JMC 4500, 4920, 4040, 4240, 4260	
<b>Total Credits</b>	<b>18</b>

Communication Studies students select from the following CMST courses to complete the additional hours in their career pathway.

<b>Code</b>	<b>Title</b>	<b>Credits</b>
CMST 2120	ARGUMENTATION AND DEBATE	3
CMST 2420	PARLIAMENTARY PROCEDURE AND MEETING MANAGEMENT	2
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	3
CMST 3140	ADVANCED PUBLIC SPEAKING	3
CMST 3150	INTERCOLLEGIATE FORENSIC ACTIVITIES	1-3
CMST 3160	INTERCOLLEG FORENSIC ACTVTS	1-3
CMST/BLST 3510	CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA	3
CMST 3600	SPECIAL TOPICS IN COMMUNICATION STUDIES	3
CMST/WGST 3750	GENDER AND COMMUNICATION	3
CMST 4110	RHETORICAL THEORY AND CRITICISM	3
CMST 4120	COMMUNICATION AND SOCIAL PROTEST	3
CMST 4130	FAMILY COMMUNICATION	3
CMST 4140	COMMUNICATION AND HUMAN RELATIONSHIPS	3
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	3
CMST 4160	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	3
CMST 4170	ORGANIZATIONAL COMMUNICATION	3
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 4190	COMPUTER-MEDIATED COMMUNICATION	3
CMST 4220	HEALTH COMMUNICATION	3
JMC 4310	MEDIA & POLITICS	3
CMST 4520	PSYCHOLINGUISTICS	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3
CMST 4540	CONTEMPORARY SYSTEMS OF COMMUNICATION	3
CMST 4550	NONVERBAL COMMUNICATION	3
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	3
CMST/BLST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	3
CMST 4600	COMMUNICATION THEORY AND APPLICATION	3
CMST 4620	DIRECTING FORENSICS	3
CMST 4700	INTERPERSONAL CONFLICT	3
CMST 4800	ADVANCED CONFLICT MEDIATION	3
<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3

Language Requirement I <sup>1</sup>		5
Quantative Literacy		3
Credits		14
Spring		
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES <sup>2</sup>	3
ENGL 1160	ENGLISH COMPOSITION II	3
Language Requirement II		5
Natural/Physical Science with Lab		4
Credits		15
Sophomore		
Fall		
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP <sup>3</sup>	3
Global Diversity or US Diversity		3
Social Science		3
Language Requirement III		3
Natural/Physical Science		3
Credits		15
Spring		
CMST 2010	INTERPERSONAL COMMUNICATION <sup>4</sup>	3
CMST 2100	INTRODUCTION TO COMMUNICATION THEORY	3
Humanities and Fine Arts		3
Language Requirement IV		3
Humanities and Fine Arts		3
Credits		15
Junior		
Fall		
CMST Diversity Requirement (CMST 3750, CMST 4580, CMST 4530, or CMST 4570) <sup>5</sup>		3
CMST Career Pathways Class #1		3
JMC 2100 & JMC 2104	MEDIA WRITING LABORATORY and MEDIA WRITING LECTURE	4
CMST 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
Elective		3
Credits		14
Spring		
CMST Career Pathways Class #2		3
CMST Career Pathways Class #3		3
Electives		7
JMC 3350	MEDIA COMMUNICATION RESEARCH	3
Credits		16
Senior		
Fall		
CMST 4970/4990	INTERNSHIP EXPERIENCE	1
CMST Career Pathways Class #4		3
CMST Career Pathways CClass #5		3
JMC Elective		3
Electives		6
Credits		16
Spring		
CMST 4940	COMMUNICATION STUDIES CAPSTONE SEMINAR	3
CMST Career Pathways Class #6		3
Electives		6

CMST Advanced Communication Performance (CMST 3100, CMST 3130, or CMST 3140)	3
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>120</b>

- <sup>1</sup> Language Requirement could be Global Diversity and/or Humanities/ Fine Arts class instead.
- <sup>2</sup> CMST 1310 is required for the major and double counts as a Social Science General Education Course
- <sup>3</sup> CMST 2410 is required for the major and double counts as a Social Science General Education Course
- <sup>4</sup> CMST 2010 is required for the major and double counts as a Social Science General Education Course
- <sup>5</sup> Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired. Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired. Career Pathways are as follows with course requirements: Corporate Training & Organizational Leadership Required: CMST 4150, 4170, 4180 or 4560; plus 6 hours CMST electives Diversity & Cultural Affairs Required CMST 3750, 4530, 4570, or 4850, plus 6 hours CMST electives Human Relations & Conflict Management Required: CMST 4130, 4140, 4700, or 4800; plus 6 hours CMST electives Public Advocacy & Civic Engagement CMST 2120, 4110, 4120, JMC 4310; plus 6 hours elective (can use JMC 4500, 4920, 4240, or 4260)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Communication Studies, Bachelor of Science

### Requirements

Code	Title	Credits
<b>Communication Studies Core Courses</b>		
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	3
CMST 2010	INTERPERSONAL COMMUNICATION	3
CMST 2100	INTRODUCTION TO COMMUNICATION THEORY	3
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3

CMST 4940	COMMUNICATION STUDIES CAPSTONE SEMINAR	3
CMST/JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
CMST/JMC 4970 or CMST 4990	INTERNSHIP EXPERIENCE ADVANCED COMMUNICATION PRACTICUM	1-3

Select one of the following Advanced Communication Performance courses:

CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	
CMST 3140	ADVANCED PUBLIC SPEAKING	

Diversity Requirement: Select one of the following 3

Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired.		
CMST 3750	GENDER AND COMMUNICATION	
CMST 4530	INTERCULTURAL COMMUNICATION-US	
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
CMST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	

#### Journalism and Media Communication Courses

JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
Approved Course - JMC Elective (adviser approved)		3

#### Research Methods or Statistics

JMC 3350	MEDIA COMMUNICATION RESEARCH	
----------	------------------------------	--

#### Additional Bachelor of Science Requirement

Second Field of Study or Minor (Bachelor of Science ONLY) (15 credits in one subject/or related area outside of major)	15
--	----

#### Electives

Electives (as needed to meet the 120-hour minimum for degree)	
Communication Studies Career Pathways	18

**Total Credits 63-65**

### Communication Studies Career Pathways

Students will complete 18 hours of communication studies courses in one of the following career pathways in consultation with an adviser.

#### Career Pathway # 1: Corporate Training & Organizational Leadership

Code	Title	Credits
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	3
CMST 4170	ORGANIZATIONAL COMMUNICATION	3
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

#### Career Pathways # 2: Diversity & Cultural Affairs

Code	Title	Credits
CMST/WGST 3750	GENDER AND COMMUNICATION	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3

CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	3
CMST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

### Career Pathways # 3: Human Relations & Conflict Management

Code	Title	Credits
CMST 4130	FAMILY COMMUNICATION	3
CMST 4140	COMMUNICATION AND HUMAN RELATIONSHIPS	3
CMST 4700	INTERPERSONAL CONFLICT	3
CMST 4800	ADVANCED CONFLICT MEDIATION	3
Plus 6 additional hours in CMST courses		6
<b>Total Credits</b>		<b>18</b>

### Career Pathways # 4: Public Advocacy & Civic Engagement

Code	Title	Credits
CMST 2120	ARGUMENTATION AND DEBATE	3
CMST 4110	RHETORICAL THEORY AND CRITICISM	3
CMST 4120	COMMUNICATION AND SOCIAL PROTEST	3
JMC 4310	MEDIA & POLITICS	3
Plus 6 additional hours CMST/JMC electives		6
The following JMC classes can be used as electives for Career Pathway # 4; however, these courses cannot double-count for the Career Pathway and for a minor in JMC		
JMC 4500, 4920, 4040, 4240, 4260		
<b>Total Credits</b>		<b>18</b>

Communication Studies students select from the following CMST courses to complete the additional hours in their career pathway.

Code	Title	Credits
CMST 2120	ARGUMENTATION AND DEBATE	3
CMST 2420	PARLIAMENTARY PROCEDURE AND MEETING MANAGEMENT	2
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	3
CMST 3140	ADVANCED PUBLIC SPEAKING	3
CMST 3150	INTERCOLLEGIATE FORENSIC ACTIVITIES	1-3
CMST 3160	INTERCOLLEG FORENSIC ACTVTS	1-3
CMST/BLST 3510	CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA	3
CMST 3600	SPECIAL TOPICS IN COMMUNICATION STUDIES	3
CMST/WGST 3750	GENDER AND COMMUNICATION	3
CMST 4110	RHETORICAL THEORY AND CRITICISM	3
CMST 4120	COMMUNICATION AND SOCIAL PROTEST	3
CMST 4130	FAMILY COMMUNICATION	3
CMST 4140	COMMUNICATION AND HUMAN RELATIONSHIPS	3
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	3

CMST 4160	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	3
CMST 4170	ORGANIZATIONAL COMMUNICATION	3
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 4190	COMPUTER-MEDIATED COMMUNICATION	3
CMST 4220	HEALTH COMMUNICATION	3
JMC 4310	MEDIA & POLITICS	3
CMST 4520	PSYCHOLINGUISTICS	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3
CMST 4540	CONTEMPORARY SYSTEMS OF COMMUNICATION	3
CMST 4550	NONVERBAL COMMUNICATION	3
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	3
CMST/BLST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY	3
CMST 4600	COMMUNICATION THEORY AND APPLICATION	3
CMST 4620	DIRECTING FORENSICS	3
CMST 4700	INTERPERSONAL CONFLICT	3
CMST 4800	ADVANCED CONFLICT MEDIATION	3

## Second Field of Study for BSC Degree for Communication Studies Majors

A second field of study is required for the Bachelor of Science in Communication (BSC) degree. Communication studies majors pursuing the BSC should complete 15 hours of courses (including at least six hours of 3000- to 4000-level courses) in one department or academic program, or inter-related courses from various departments or academic programs other than communication studies. Communication studies majors may have a *second field of study* in journalism and media communication by completing 12 hours of courses in JMC (six hours of which must be at the 3000- or 4000-level), in addition to the JMC courses already required for the communication studies major. Communication studies majors may have a *minor* in journalism and media communication by completing 15 hours of JMC offerings (12 hours of which must be upper level) in addition to the JMC courses already required for the communication studies major. All courses in the minor must be completed with a grade of "C" or higher.

### Freshman

Fall		Credits
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
Humanities Fine Arts		3
Quantative Literacy		3
Social Science		3

**Credits 15**

### Spring

CMST 2010	INTERPERSONAL COMMUNICATION <sup>1</sup>	3
CMST 1310	PERSPECTIVES IN COMMUNICATION STUDIES	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
Natural/Physical Science		3

**Credits 15**

**Sophomore****Fall**

CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP <sup>2</sup>	3
Global Diversity or US Diversity		3
Elective		3
Humanities and Fine Arts		3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>16</b>

**Spring**

CMST 2100	INTRODUCTION TO COMMUNICATION THEORY	3
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
JMC Elective		3
Elective		3
Second Field/Minor 1		3
<b>Credits</b>		<b>16</b>

**Junior****Fall**

CMST Career Pathways Class #1		3
CMST Diversity Requirement (CMST 3750, CMST 4580, CMST 4530 or CMST 4570) <sup>3</sup>		3
Second Field/Minor 2		3
Elective		3
CMST Career Pathways Class #2		3
<b>Credits</b>		<b>15</b>

**Spring**

JMC 3350	MEDIA COMMUNICATION RESEARCH	3
CMST Career Pathways Class #3		3
CMST Career Pathways Class #4		3
Second Field/Minor 3		3
CMST 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
Elective		3
<b>Credits</b>		<b>16</b>

**Senior****Fall**

CMST Advanced Performance (CMST 3100, CMST 3130, or CMST 3140)		3
CMST Career Pathways Class # 5		3
Elective		3
Second Field/Minor 4		3
CMST 4970/4990	INTERNSHIP EXPERIENCE	1
<b>Credits</b>		<b>13</b>

**Spring**

CMST 4940	COMMUNICATION STUDIES CAPSTONE SEMINAR	3
CMST Career Pathways Class # 6		3
Elective		3
Second Field/Minor 5		3
Elective		2
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> CMST 2010 and 1310 are required for the major and count as Social Science General Education Courses

<sup>2</sup> CMST 2410 are required for the major and count as Social Science General Education Courses

<sup>3</sup> Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired. Course used for Communication Studies diversity requirement may double count toward area of emphasis in the major. This could also count for the general education diversity requirement, if desired. Career Pathways are as follows with course requirements: Corporate Training & Organizational Leadership Required: CMST 4150, 4170, 4180 or 4560; plus 6 hours CMST electives Diversity & Cultural Affairs Required: CMST 3750, 4530, 4570, or 4850; plus 6 hours CMST electives Human Relations & Conflict Management Required: CMST 4130, 4140, 4700, or 4800; plus 6 hours CMST electives Public Advocacy & Civic Engagement Required: CMST 2120, 4110, 4120, JMC 4310; plus 6 hours electives (can use JMC 4500, 4920, 4240, or 4260)

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:****University Degree Requirements:**

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:**

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Communication Studies Minor

### Requirements

Students may earn a minor in communication studies. To fulfill the minor, students whose major is outside the School of Communication must complete 18 hours in communication studies courses, including 12 hours of upper-level (3000- and 4000-level) courses. All CMST classes except the course used to fulfill the general education oral communication competency (CMST 1110 or CMST 2120) may count toward the minor in communication studies. Cross-listed courses with CMST courses may also count. Journalism and media communication majors may minor in communication studies by taking 12 hours of upper-level (3000- and 4000-level) courses in addition to the six hours of CMST courses already required for journalism and media communication majors, for a total of 18 hours. All courses in the minor must be completed with a grade of "C" or higher.

# Journalism and Media Communication, Bachelor of Arts

## Requirements

Code	Title	Credits
<b>Core Courses for All Journalism and Media Communication Majors</b>		
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
JMC 2200	MEDIA STORYTELLING	3
JMC/CMST 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC/CMST 4970	INTERNSHIP EXPERIENCE	1
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC 4460 Capstone II not required for PR/Advertising Sequence Students		
Instead of JMC 4460 Capstone II, PR/Advertising students select one of the following advanced writing and editing courses:		
JMC 3220	CRITICAL WRITING FOR THE MASS MEDIA	
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	
JMC 3400	MAGAZINE ARTICLE WRITING	
JMC 3410	MAGAZINE EDITING, DESIGN AND PRODUCTION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4220	LITERARY JOURNALISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4420	SPORTS WRITING	
JMC 4990	ADVANCED COMMUNICATION PRACTICUM	
For those who entered the School before August 2019, these substitutions will be made in Degree Works.		
Research class:		
JMC 3350	MEDIA COMMUNICATION RESEARCH	3
Select two communication studies (CMST) classes with advisor		6
<b>Sequences</b>		
Select one of three concentrations		24
<b>Additional Bachelor of Arts Requirement</b>		
Foreign Language		16
<b>Total Credits</b>		<b>73</b>

<sup>1</sup> This class may also be used for social science credits.

## Creative Media Concentration

Code	Title	Credits
<b>Requirements</b>		
JMC 2320	VIDEO FIELD PRODUCTION	3
JMC 2370	RADIO/AUDIO I	3
JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	3
JMC 3370	RADIO/AUDIO II	3
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with advisor:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Journalism Concentration

Code	Title	Credits
<b>Requirements</b>		
JMC 2150	NEWS WRITING AND REPORTING	3
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	3
JMC 3330	TELEVISION NEWS VIDEO	3
Select one of the following JMC advanced writing and editing classes with adviser:		3
JMC 2160	EDITING PRINCIPLES	
JMC 3400	MAGAZINE ARTICLE WRITING	
JMC 3220	CRITICAL WRITING FOR THE MASS MEDIA	
JMC 4220	LITERARY JOURNALISM	
JMC 3270	PUBLIC AFFAIRS REPORTING	
JMC 4420	SPORTS WRITING	
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with adviser:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	

JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Public Relations and Advertising Concentration

Code	Title	Credits
<b>Requirements</b>		
JMC 4250	STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING	3
JMC 3500	PR AND ADVERTISING DESIGN	3
JMC 3620	PRINCIPLES OF CREATIVE ADVERTISING	3
JMC 3230	PRINCIPLES OF PUBLIC RELATIONS	3
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with advisor:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Creative Media

### Freshman

<b>Fall</b>			<b>Credits</b>
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3	
ENGL 1150	ENGLISH COMPOSITION I	3	
Foreign Language I		5	
Quantative Literacy		3	
<b>Credits</b>			<b>14</b>

### Spring

JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3	
ENGL 1160	ENGLISH COMPOSITION II	3	
CMST 1110	PUBLIC SPEAKING FUNDS	3	
or CMST 2120	or ARGUMENTATION AND DEBATE		
Foreign Language II		5	
<b>Credits</b>			<b>14</b>

### Sophomore

<b>Fall</b>			
JMC 2100	MEDIA WRITING LABORATORY <sup>2</sup>	3	
JMC 2104	MEDIA WRITING LECTURE <sup>2</sup>	1	
Foreign Language III		3	
Humanities and Fine Arts		3	
Natural/Physical Science		3	

US Diversity	3
<b>Credits</b>	<b>16</b>

### Spring

JMC 2200	MEDIA STORYTELLING	3
JMC 2320	VIDEO FIELD PRODUCTION	3
CMST Elective <sup>3</sup>		3
Foreign Language IV		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

### Junior

#### Fall

JMC 3350	MEDIA COMMUNICATION RESEARCH	3
JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 2370	RADIO/AUDIO I	3
JMC Elective		3
Social Science		3
CMST Elective		3
<b>Credits</b>		<b>16</b>

### Spring

JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	3
JMC 3370	RADIO/AUDIO II	3
JMC Elective		3
Natural/Physical Science with Lab		4
Elective		3
<b>Credits</b>		<b>16</b>

### Senior

#### Fall

JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4970	INTERNSHIP EXPERIENCE	1
or JMC 4990	or ADVANCED COMMUNICATION PRACTICUM	
JMC Critical Thinking Course		3
Social Science		3
Elective		3
<b>Credits</b>		<b>16</b>

### Spring

JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Elective		8
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>121</b>

- <sup>1</sup> JMC 1500 is a major requirement but also fulfills Social Science requirement  
First foreign language class also works as a Humanities/Fine Arts & Global Diversity course
- <sup>2</sup> JMC 2100 & JMC 2104 is JMC's 3<sup>rd</sup> writing requirement and a major requirement
- <sup>3</sup> CMST Electives (CMST 1310, CMST 2010, CMST 2410) could also work as a Humanities/Fine Arts course

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual

sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

##### GPA Requirements:

##### 2.25 cumulative GPA

### Journalism

#### Freshman

		Credits
<b>Fall</b>		
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
ENGL 1150	ENGLISH COMPOSITION I	3
Foreign Language 1		5
Quantative Literacy		3
<b>Credits</b>		<b>14</b>

#### Spring

JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Foreign Language 2		5
<b>Credits</b>		<b>14</b>

#### Sophomore

<b>Fall</b>		
JMC 2100	MEDIA WRITING LABORATORY <sup>2</sup>	3
JMC 2104	MEDIA WRITING LECTURE <sup>2</sup>	1
Foreign Language 3		3
Humanities and Fine Arts		3
Natural/Physical Science		3
US Diversity		3
<b>Credits</b>		<b>16</b>

#### Spring

JMC 2200	MEDIA STORYTELLING	3
JMC 2150	NEWS WRITING AND REPORTING	3
CMST Elective <sup>3</sup>		3
Foreign Language 4		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

#### Junior

<b>Fall</b>		
JMC 3350	MEDIA COMMUNICATION RESEARCH	3

JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	3
JMC Elective		3
Social Science		3
CMST Elective		3

**Credits 16**

#### Spring

JMC 3330	TELEVISION NEWS VIDEO	3
JMC Elective		3
JMC Advanced Writing & Editing Course (JMC 2160, JMC 3400, JMC 3220, JMC 4220, JMC 4420)		3
Natural/Physical Science with Lab		4
Elective		3

**Credits 16**

#### Senior

<b>Fall</b>		
JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4970	INTERNSHIP EXPERIENCE	1
or JMC 4990	or ADVANCED COMMUNICATION PRACTICUM	
JMC Critical Thinking Course		3
Social Science		3
Elective		3

**Credits 16**

#### Spring

JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Electives		8

**Credits 14**

**Total Credits 121**

- JMC 1500 is a major requirement but also fulfills Social Science requirement  
First foreign language class also works as a Humanities/Fine Arts & Global Diversity course
- JMC 2100 & JMC 2104 is JMC's 3<sup>rd</sup> writing requirement and a major requirement
- CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.25 cumulative GPA

### Public Relations and Advertising

#### Freshman

		Credits
<b>Fall</b>		
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
ENGL 1150	ENGLISH COMPOSITION I	3
Foreign Language 1		5
Quantative Literacy		3
<b>Credits</b>		<b>14</b>

#### Spring

JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Foreign Language 2		5
<b>Credits</b>		<b>14</b>

#### Sophomore

<b>Fall</b>		
JMC 2100	MEDIA WRITING LABORATORY <sup>2</sup>	3
JMC 2104	MEDIA WRITING LECTURE <sup>2</sup>	1
Foreign Language 3		3
Humanities and Fine Arts		3
Natural/Physical Science		3
US Diversity		3
<b>Credits</b>		<b>16</b>

#### Spring

JMC 2200	MEDIA STORYTELLING	3
JMC 3230	PRINCIPLES OF PUBLIC RELATIONS	3
CMST Elective <sup>3</sup>		3
Foreign Language 4		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

#### Junior

<b>Fall</b>		
JMC 3350	MEDIA COMMUNICATION RESEARCH	3
JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 3500	PR AND ADVERTISING DESIGN	3
JMC Elective		3
Social Science		3
CMST Elective		3
<b>Credits</b>		<b>16</b>

#### Spring

JMC 3620	PRINCIPLES OF CREATIVE ADVERTISING	3
JMC 4250	STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING	3
JMC Elective		3
Natural/Physical Science with Laboratory		4

Elective	3
<b>Credits</b>	<b>16</b>

#### Senior

##### Fall

JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4970 or JMC 4990	INTERNSHIP EXPERIENCE or ADVANCED COMMUNICATION PRACTICUM	1
JMC Critical Thinking Course		3
Social Science		3
Elective		3
<b>Credits</b>		<b>16</b>

##### Spring

JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Electives		8
<b>Credits</b>		<b>14</b>

<b>Total Credits</b>	<b>121</b>
----------------------	------------

<sup>1</sup> JMC 1500 is a major requirement but also fulfills Social Science requirement First foreign language class also works as a Humanities/ Fine Arts & Global Diversity course

<sup>2</sup> JMC 2100 & JMC 2104 is JMC's 3rd writing requirement and a major requirement

<sup>3</sup> CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.25 cumulative GPA

# Journalism and Media Communication, Bachelor of Science

## Requirements

Code	Title	Credits
<b>Core Courses for All Journalism and Media Communication Majors</b>		
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
JMC 2200	MEDIA STORYTELLING	3
JMC/CMST 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC/CMST 4970	INTERNSHIP EXPERIENCE	1
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC 4460 Capstone II not required for PR/Advertising Sequence Students		
Instead of JMC 4460 Capstone II, PR/Advertising students select one of the following advanced writing and editing courses:		
JMC 3220	CRITICAL WRITING FOR THE MASS MEDIA	
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	
JMC 3400	MAGAZINE ARTICLE WRITING	
JMC 3410	MAGAZINE EDITING, DESIGN AND PRODUCTION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4220	LITERARY JOURNALISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4420	SPORTS WRITING	
JMC 4990	ADVANCED COMMUNICATION PRACTICUM	
For those who entered the School before August 2019, these substitutions will be made in Degree Works.		
Research class:		
JMC 3350	MEDIA COMMUNICATION RESEARCH	3
Select two communication studies (CMST) classes with advisor		6
<b>Sequences</b>		
Select one of three concentratins		24
<b>Additional Bachelor of Science Requirement</b>		
Second Field of Study (see below)		15
<b>Total Credits</b>		<b>72</b>

<sup>1</sup> This class may also be used for social science credits.

## Second Field of Study for BSC Degree for Journalism and Media Communication Majors

A second field of study is required for the Bachelor of Science in communication degree. Journalism and media communication majors pursuing the BSC should complete 15 hours of courses (including at least six hours of 3000- or 4000-level courses) in one department or academic program, or related courses from various departments or academic programs other than journalism and media communication. Journalism and media communication majors may have a second field of study in communication studies by completing 12 hours of CMST courses (six hours of which must be at the 3000- or 4000-level), in addition to the six hours of CMST courses already required for the journalism and media communication major. The course used to fulfill the general education oral communication competency (CMST 1110 or CMST 2120) cannot count toward the second field of study in communication studies.

## Creative Media Concentration

Code	Title	Credits
<b>Requirements</b>		
JMC 2320	VIDEO FIELD PRODUCTION	3
JMC 2370	RADIO/AUDIO I	3
JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	3
JMC 3370	RADIO/AUDIO II	3
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with advisor:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Journalism

Code	Title	Credits
<b>Requirements</b>		
JMC 2150	NEWS WRITING AND REPORTING	3
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	3
JMC 3330	TELEVISION NEWS VIDEO	3
Select one of the following JMC advanced writing and editing classes with adviser:		3
JMC 2160	EDITING PRINCIPLES	
JMC 3400	MAGAZINE ARTICLE WRITING	
JMC 3220	CRITICAL WRITING FOR THE MASS MEDIA	
JMC 4220	LITERARY JOURNALISM	
JMC 3270	PUBLIC AFFAIRS REPORTING	

JMC 4420	SPORTS WRITING	
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with adviser:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Public Relations and Advertising Concentration

Code	Title	Credits
<b>Requirements</b>		
JMC 4250	STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING	3
JMC 3500	PR AND ADVERTISING DESIGN	3
JMC 3620	PRINCIPLES OF CREATIVE ADVERTISING	3
JMC 3230	PRINCIPLES OF PUBLIC RELATIONS	3
Select two JMC electives with adviser		6
Select two of the following Critical-thinking classes with advisor:		6
JMC 3700	INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE	
JMC 4010	HISTORY OF MASS COMMUNICATION	
JMC 4040	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT	
JMC 4240	PUBLIC RELATIONS CASE STUDIES	
JMC 4260	MEDIA RELATIONS	
JMC 4310	MEDIA & POLITICS	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4390	MEDIA ENTREPRENEURSHIP	
JMC 4400	MASS MEDIA ETHICS	
JMC 4430	GLOBAL MEDIA COMMUNICATION	
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	
JMC 4920	MEDIA LITERACY	
<b>Total Credits</b>		<b>24</b>

## Journalism and Media Communication, Bachelor of Science

<b>Freshman</b>		
<b>Fall</b>		
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3
ENGL 1150	ENGLISH COMPOSITION I	3
Humanities/Fine Arts General Education		3
Math General Education		3
Social Science General Education		3

JMC 1500 is a major requirement but also fulfills Social Science requirement		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Social Science General Education		3
Science General Education with lab		4
<b>Credits</b>		<b>16</b>
<b>Sophomore</b>		
<b>Fall</b>		
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
U.S Diversity Requirement		3
Humanities/Fine Arts General Education		3
Science General Education with no lab		3
Global Diversity Requirement		3
JMC 2100 & JMC 2104 is JMC's 3rd writing requirement and a major requirement		
<b>Credits</b>		<b>16</b>

<b>Spring</b>		
JMC 2200	MEDIA STORYTELLING	3
JMC 2150	NEWS WRITING AND REPORTING	3
CMST Elective		3
Minor/2nd Field of Study		3
Humanities/Fine Arts General Education		3
CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course		
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
JMC 3350	MEDIA COMMUNICATION RESEARCH	3
JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	3
JMC Elective		3
Minor/2nd Field of Study		3
CMST Elective		3

<b>Credits</b>		<b>16</b>
<b>Spring</b>		
JMC 3330	TELEVISION NEWS VIDEO	3
JMC Elective		3
JMC Advanced Writing & Editing course (JMC 2160, 3400, 3220, 4220, 4420)		3
Minor/2nd Field of Study		3
Elective		3
<b>Credits</b>		<b>15</b>

<b>Senior</b>		
<b>Fall</b>		
JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3

JMC 4970 or JMC 4990	INTERNSHIP EXPERIENCE or ADVANCED COMMUNICATION PRACTICUM	1
JMC Critical Thinking Course		3
Minor/2nd Field of Study		3
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Elective		3
Minor/2nd Field of Study		3
Elective		2
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.25 cumulative GPA

### Creative

#### Freshman

<b>Fall</b>		<b>Credits</b>
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
ENGL 1150	ENGLISH COMPOSITION I	3
Humanities and Fine Arts		3
Quantative Literacy		3
Social Science		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science		3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>16</b>

### Sophomore

#### Fall

JMC 2100	MEDIA WRITING LABORATORY <sup>2</sup>	3
JMC 2104	MEDIA WRITING LECTURE <sup>2</sup>	1
US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
Global Diveristy		3
<b>Credits</b>		<b>16</b>

#### Spring

JMC 2200	MEDIA STORYTELLING	3
JMC 2320	VIDEO FIELD PRODUCTION	3
CMST Elective <sup>3</sup>		3
Minor/Second Field of Study		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

### Junior

#### Fall

JMC 3350	MEDIA COMMUNICATION RESEARCH	3
JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 2370	RADIO/AUDIO I	3
JMC Elective		3
Minor/Second Field of Study		3
CMST Elective		3
<b>Credits</b>		<b>16</b>

#### Spring

JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	3
JMC 3370	RADIO/AUDIO II	3
JMC Elective		3
Minor/Second Field of Study		3
Elective		3
<b>Credits</b>		<b>15</b>

### Senior

#### Fall

JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4990 or JMC 4970	ADVANCED COMMUNICATION PRACTICUM or INTERNSHIP EXPERIENCE	1
JMC Critical Thinking Course		3
Minor/Second Field of Study		3
<b>Credits</b>		<b>13</b>

#### Spring

JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Elective		3
Elective		2
Minor/Second Field of Study		3
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> JMC 1500 is a major requirement but also fulfills Social Science requirement

<sup>2</sup> JMC 2100 & JMC 2104 is JMC's 3<sup>rd</sup> writing requirement and a major requirement

<sup>3</sup> CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

##### GPA Requirements:

##### 2.25 cumulative GPA

#### Journalism

##### Freshman

Fall		Credits
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION <sup>1</sup>	3
ENGL 1150	ENGLISH COMPOSITION I	3
Humanities and Fine Arts		3
Quantative Literacy		3
Social Science		3
<b>Credits</b>		<b>15</b>

##### Spring

JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Social Science		3
Natural/Physical Science with Laboratory		4
<b>Credits</b>		<b>16</b>

##### Sophomore

Fall		Credits
JMC 2100	MEDIA WRITING LABORATORY <sup>2</sup>	3
JMC 2104	MEDIA WRITING LECTURE <sup>2</sup>	1
US Diversity		3
Humanities and Fine Arts		3
Natural/Physical Science		3
Global Diversity		3
<b>Credits</b>		<b>16</b>

##### Spring

JMC 2200	MEDIA STORYTELLING	3
----------	--------------------	---

JMC 2150	NEWS WRITING AND REPORTING	3
CMST Elective <sup>3</sup>		3
Minor/Second Field of Study		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

##### Junior

##### Fall

JMC 3350	MEDIA COMMUNICATION RESEARCH	3
JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 3030	ELECTRONIC NEWS WRITING AND REPORTING	3
JMC Elective		3
Minor/Second Field of Study		3
CMST Elective		3
<b>Credits</b>		<b>16</b>

##### Spring

JMC 3330	TELEVISION NEWS VIDEO	3
JMC Elective		3
JMC Advanced Writing & Editing course (JMC 2160, 3400, 3220, 4220, 4420)		3
Minor/Second Field of Study		3
Elective		3
<b>Credits</b>		<b>15</b>

##### Senior

##### Fall

JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4970	INTERNSHIP EXPERIENCE	1
or JMC 4990	or ADVANCED COMMUNICATION PRACTICUM	
JMC Critical Thinking Course		3
Minor/Second Field of Study		3
<b>Credits</b>		<b>13</b>

##### Spring

JMC 4460	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II	3
JMC Critical Thinking		3
Elective		3
Minor/Second Field of Study		3
Elective		2
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> JMC 1500 is a major requirement but also fulfills Social Science requirement

<sup>2</sup> JMC 2100 & JMC 2104 is JMC's 3<sup>rd</sup> writing requirement and a major requirement

<sup>3</sup> CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**  
2.25 cumulative GPA

## Public Relations and Advertising

### Freshman

Fall		Credits
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3
ENGL 1150	ENGLISH COMPOSITION I	3
Humanities/Fine Arts General Education		3
Math General Education		3
Social Science General Education		3
JMC 1500 is a major requirement but also fulfills Social Science requirement		
<b>Credits</b>		<b>15</b>

### Spring

JMC 2000	INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science General Education		3
Science General Education with lab		4
<b>Credits</b>		<b>16</b>

### Sophomore

Fall		Credits
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
U.S Diversity Requirement		3
Humanities/Fine Arts General Education		3
Science General Education with no lab		3
Global Diversity Requirement		3
JMC 2100 & JMC 2104 is JMC's 3rd writing requirement and a major requirement		
<b>Credits</b>		<b>16</b>

### Spring

JMC 2200	MEDIA STORYTELLING	3
JMC 3230	PRINCIPLES OF PUBLIC RELATIONS	3
CMST Elective		3
Minor/2nd Field of Study		3
Humanities/Fine Arts General Education		3
CMST Electives (CMST 1310, 2010, 2410) could also work as a Humanities/Fine Arts course		
<b>Credits</b>		<b>15</b>

### Junior

Fall		Credits
JMC 3350	MEDIA COMMUNICATION RESEARCH	3

JMC 4960	INTERNSHIP AND CAREER PREPARATION SEMINAR	1
JMC 3500	PR AND ADVERTISING DESIGN	3
JMC Elective		3
Minor/2nd Field of Study		3
CMST Elective		3

**Credits** **16**

### Spring

JMC 3620	PRINCIPLES OF CREATIVE ADVERTISING	3
JMC 4250	STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING	3
JMC Elective		3
Minor/2nd Field of Study		3
Elective		3

**Credits** **15**

### Senior

Fall		Credits
JMC 4450	JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I	3
JMC 4410	COMMUNICATION LAW AND POLICY	3
JMC 4970	INTERNSHIP EXPERIENCE	1
JMC Critical Thinking Course		3
Minor/2nd Field of Study		3

**Credits** **13**

### Spring

JMC Advanced Elective (JMC 3030, 3400, 3410, 4040, 4220, 4390, 4220, 4990)		3
JMC Critical Thinking		3
Elective		3
Minor/2nd Field of Study		3
Elective		2

**Credits** **14**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.25 cumulative GPA

# Journalism and Media Communication Minor

## Requirements

Students may earn a minor in journalism and media communication with courses to be chosen from JMC offerings. To fulfill the minor, students whose major is outside the School of Communication must complete 18 hours in JMC offerings, including 12 hours of upper-level (3000- and 4000-level) courses. Within the journalism and media communication major, students may not have a minor in another sequence besides the primary sequence they have selected for their major. For example, students following the journalism sequence cannot minor in the creative media sequence. Communication studies majors may have a minor in journalism and media communication by completing 15 hours of JMC offerings (12 hours of which must be upper level) in addition to the JMC courses already required for the communication studies major. All courses in the minor must be completed with a grade of "C" or higher.

# Visual Communication and Culture Minor

## Requirements

Students may earn a minor in visual communication and culture by taking 18 hours in classes approved by an adviser to align with the underlying philosophy of the minor. Six of the hours must include Introduction to Visual Communication and Culture (JMC 3700) and Visual Communication and Culture Capstone (JMC 4200). The remaining 12 credits will come from both within the School of Communication (at least six credits/two classes) and outside the school (at least six credits/two classes). Nine of the total hours in the minor must be at the 3000-4000 level.

Courses may not be used for both the VCC minor and other major or minor programs, without approval from both VCC and major advisors. For students who are majoring in the School of Communication, courses may be used for the VCC minor and a student's general education requirements. School of Communication classes that journalism and media communication majors apply toward the VCC minor must come from communication studies. School of Communication classes that communication studies majors apply toward the minor must come from journalism and media communication. All courses in the minor must be completed with a grade of "C" or higher.

# School of Music

The School of Music is one of three schools within the College of Communication, Fine Arts, and Media. It is located in the newly renovated Janet A. and Willis S. Strauss Performing Arts Center, which is nestled near the focal point of the campus, a campanile that houses a carillon of forty-seven bells. The complex itself boasts a tunable 420 seat concert hall and 100 seat recital hall, impressive acoustic isolation, recording studio, and well-equipped classrooms and rehearsal spaces. The center serves as a nexus of musical activity not only for the university, but for the city of Omaha as well.

The School of Music has a faculty of 45 full and part time members and is a fully accredited member of the National Association of Schools of Music (NASM). Degrees offered include the Bachelor of Music degree in performance, the Bachelor of Music with K-12 certification and the Bachelor of Arts in Music degree with concentrations in music studies, jazz studies, music technology, and entrepreneurial studies in music.

## Other Information

All students wishing to declare a major in music must be accepted by audition. Audition requirements can be accessed at [music.unomaha.edu](http://music.unomaha.edu)

(<http://music.unomaha.edu>). Students who are interested in the Music Technology or Music Entrepreneurial Studies track within the BA program may substitute a portfolio examination and interview in lieu of an audition. Prospective majors should contact the Coordinator of Music Outreach and Recruitment at 402.554.2177 to discuss audition requirements.

For students who are not music majors, the School of Music offers many courses that will satisfy the general education requirements for Humanities/Fine Arts as well as Cultural Diversity. Click here (<https://www.unomaha.edu/general-education/overview/distribution-requirements.php>) for a list of music courses that are approved for general education. Additionally, the School of Music has numerous ensembles that are open to both majors and non-majors. Some ensembles require acceptance by audition. Auditions for select ensembles occur during the week before the semester begins. Information on all ensembles can be found online (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/music/student-involvement/>)

## Information for All Students

The specific requirements for the degrees in music are listed below. In addition to the specific music requirements, all students are required to complete the general education requirements found here (<https://www.unomaha.edu/general-education/>)

## Contact

402.554.3411

Website (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/music/>)

## Degrees Offered

- Music, Bachelor of Arts (p. 446)
- Music Performance, Bachelor of Music (p. 453)
- Music, Bachelor of Music, K-12 Certification (p. 461)

## Writing in the Discipline

As part of the fundamental academic requirements for the university, all students are required to take a writing in the discipline course within their major. The course for students in the Bachelor of Music or Bachelor of Arts in Music track is WRWS 3500. Students in the music education track (Bachelor of Music, K-12) take TED 2100.

## Bachelor of Music

The professional program in music provides a comprehensive music education that prepares students with the technical skills, historical context, and theoretical knowledge to create meaningful musical contributions.

Students in the music performance track are prepared for advanced graduate study in music while students in the music education track pursue teacher certification to apply their musical skills in the K-12 classroom.

## Performance

- Studio musician
- Concert musician
- Tutor/instructor
- Director
- National guard member
- Accompanist

## Music, K-12 Education

- Elementary music educator
- Secondary music educator
- Tutor/instructor

## Bachelor of Arts in Music

The Bachelor of Arts degrees allow students to develop advanced musical skills within a comprehensive liberal arts degree. Concentrations in instrumental, keyboard, or voice studies train students in classical music repertoire to prepare them for careers in a music field outside the concert hall or classroom. Jazz studies is similar, but focuses specifically on jazz and commercial applications of music. The concentration in music technology prepares students for audio recording, sound editing, and other computer-based applications of music. Finally, the concentration in Entrepreneurial Studies brings skills of innovation and application of business principles in a musical setting.

### Jazz Studies

- Recording musician
- Concert musician
- Instructor
- Music librarian
- Composer/arranger

### Music Technology

- Audio engineer
- Music producer
- Sound mixing artist
- Broadcast technician
- Multimedia specialist
- Foley artist
- Engraving technician

### Entrepreneurial Studies

- Arts administrator
- Music/licensing publisher
- Event planner
- Development specialist
- Publicist

### Music Studies

- Music librarian
- Music director
- Entertainment/music attorney
- Critic
- Music therapist

#### MUS 115A APPLIED BASSOON (1-2 credits)

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

#### MUS 115B APPLIED CELLO (1-2 credits)

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

#### MUS 115C APPLIED CLARINET (1-2 credits)

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

#### MUS 115D APPLIED DOUBLE BASS (1-2 credits)

This course provides individual weekly instruction on bass. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required. The primary goal of the bass student is to develop the highest level of technical and musical proficiency on his/her instrument. Through weekly applied lessons and personal practice time, it is intended that the student will gain the tools necessary to become a more mature musician.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

#### MUS 115E APPLIED EUPHONIUM (1-2 credits)

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

#### MUS 115F APPLIED FLUTE (1-2 credits)

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Students enrolled in this course must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 and MUS 1000-007.

#### MUS 115G APPLIED FRENCH HORN (1-2 credits)

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

#### MUS 115H APPLIED GUITAR (1-2 credits)

This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

#### MUS 115I APPLIED HARP (1-2 credits)

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

**MUS 115J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 115L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 115M APPLIED PIPE ORGAN (1-2 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 115N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

**MUS 115S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (violin majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

**MUS 115T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour (non music majors) or two credit hours (voice music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the voice faculty. Students must also enroll in a choral ensemble MUS 2700/MUS 4100 and attend the weekly masterclass. MUS 115T students are also required to attend Freshman Voice Seminar.

**MUS 115U APPLIED CARILLON (1-2 credits)**

This course provides individual weekly instruction on carillon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty.

**MUS 167B APPLIED CLASS - PIANO (1 credit)**

Basic reading of treble and bass clef are a prerequisite for this course. Beginning with learning correct posture, hand position and technique, a deeper understanding of key musical elements such as key signatures, dynamic markings, time signatures, rhythmic values, and musical terminology will begin the coursework. Reading, coordination, rhythm, scales, improvisation, technology, duet and solo repertoire will be used to strengthen both keyboard and overall musical skills. \*This is a sequential course whereby all students must pass the fall semester before enrolling in spring semester.

**MUS 167C APPLIED CLASS - VOICE I (1 credit)**

This course provides class instruction in the development of elementary basic skills in applied voice.

**MUS 169D APPLIED CLASS JAZZ PIANO (1 credit)**

This course will consist of class instruction designed to teach students basic jazz piano skills.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or MUS 2430

**MUS 215A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 215C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double bass and attend the weekly masterclass.

**MUS 215E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition for & approval by the woodwind faculty, OR successful completion of 4 hours of MUS 115F. Students must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 & 1000-007.

**MUS 215G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

**MUS 215I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 215J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 215L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 215M APPLIED PIPE ORGAN (1-2 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 215N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 215S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 215T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour (non music majors) or two credit hours (voice music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100). All students must attend the weekly masterclass.

**MUS 315A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 315C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double-bass and attend the weekly masterclass.

**MUS 315E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Audition for & approval by woodwind faculty OR successful completion of 4 hrs of MUS 215F and a "PASS" in the Sophomore Continuation Jury. Concurrent enrollment in an instrumental ensemble. Music majors: Concurrent enrollment in MUS 1000-001 & 1000-007.

**MUS 315G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215H. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of guitar and attend the weekly masterclass.

**MUS 315I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 315J APPLIED OBOE (1-3 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 315L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 315M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 315N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 315S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 315T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100). All students must attend the weekly masterclass.

**MUS 415A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 415C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double bass and attend the weekly masterclass.

**MUS 415E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. This level of applied study provides instruction on fundamental brass playing concepts. Weekly assignments can include technical studies, scale exercises, tone and articulation studies, breathing exercises, solo and orchestral repertoire, chamber music, etc.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition for & approval by the woodwind faculty, OR successful completion of 4 credit hours of MUS 315F. Students must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 & 1000-007.

**MUS 415G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on the guitar. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315H. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of guitar and attend the weekly masterclass.

**MUS 415I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 415J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 415L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 415M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 415N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 415S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 415T APPLIED VOICE (1-2 credits)**

This course is a continuation of the applied music sequence of study for music majors. This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315T. This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100) and attend the weekly masterclass.

**MUS 1000 APPLIED MUSIC LABORATORY RECITAL (0 credits)**

This course is a weekly meeting of all music majors which provides students with performance opportunities for themselves as well as recitals and lectures by guest artists.

**Prerequisite(s)/Corequisite(s):** Music majors only.

**MUS 1010 MUSIC TECHNOLOGY NOW (0 credits)**

This course is a weekly meeting of all music technology majors. The course includes presentations of ongoing student projects, lectures by resident and visiting music technologists, audio engineering training and practicum opportunities, and critical listening experiences.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MUS 1050 MUSIC OF THE PEOPLE: THE BEATLES (3 credits)**

The Beatles are arguably the most influential and important rock band in history. Their music influenced not only the shape of popular music but youth culture. Course objectives are to learn the history of the music of the Beatles from their early influences and formation to their break-up and legacy; to understand the relationship of this music to larger cultural, political, and economic formations; to become familiar with aspects of the diverse musical structures used in their music; and to become familiar with the advances in sound and recording technology their music spawned and influenced innovation to music today.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 1070 MUSIC OF THE PEOPLE: ROCK AND POP (3 credits)**

The objectives of this course are 1) to learn the history of rock music from its beginnings in earlier forms of popular music to the beginning of the 21st century 2) to understand the relationship of this music to larger cultural, political, and economic formations; and 3) to become familiar with aspects of musical structure which have been used in rock music.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1080 MUSIC OF THE PEOPLE: THE WORLD (3 credits)**

A study of music of various cultures throughout the world practiced primarily by individuals who produce music as a part of their everyday life. Using music as a window into various cultures the course gives students an insight into cultures that may vary from their own.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1090 MUSIC APPRECIATION (3 credits)**

A listening course for the non-music major designed to promote a better understanding of noteworthy compositions from various periods and styles. Lab fee required.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 1100 MUSIC OF THE PEOPLE: JAZZ (3 credits)**

In this course, the history of jazz will be traced from its origins up to the present. Designed primarily for non-music majors, the course will chronicle the development of various stylistic trends which characterize jazz and discuss the prominent musical artists that influenced each style period within the history of jazz. Lab fee required.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1170 FOUNDATIONS OF MUSIC TECHNOLOGY (3 credits)**

This course addresses the foundational people, concepts, and terms of music technology. The course covers a broad spectrum of themes including acoustics, psychoacoustics, microphones, Musical Instrument Digital Instrument (MIDI), synthesis, computer music, notation, and sampling. Intended for students pursuing a Bachelor of Arts with a concentration in Music Technology.

**MUS 1390 BASIC MUSICIANSHIP (3 credits)**

This course is designed to develop basic music reading skills through experiential learning that promotes music literacy skills of note reading, rhythmic reading, key signatures, and simple meter. It is designed for students interested in music degree tracks who have limited understanding of music theory.

**Prerequisite(s)/Corequisite(s):** Music major or permission of the instructor. Not open to non-degree graduate students.

**MUS 1400 MUSIC FUNDAMENTALS (3 credits)**

Introduction to Music Studies will cover the basics of music including music reading in multiple clefs, scales, key signatures, meter signatures, rhythm, triads, seventh chords, and elementary aural and singing skills. The primary purpose of the course is to prepare students for further study in music at the college level.

**Prerequisite(s)/Corequisite(s):** Music major or permission of instructor. Not open to non-degree graduate students.

**MUS 1410 MUSIC CORE CURRICULUM I (4 credits)**

The study of basic elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** Music Major or permission from the instructor. Successful completion of 1400 (C or better). Not open to non-degree graduate students.

**MUS 1420 MUSIC CORE CURRICULUM II (4 credits)**

The study of basic elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 1410 with the grade C or better or permission of the instructor. Not open to non-degree graduate students.

**MUS 1430 COMMERCIAL MUSIC THEORY I (3 credits)**

This course will integrate Roman Numeral, Lead Sheet, and Nashville notations through realization and analysis. It will also combine Common Practice Period music theory with Jazz theory in an effort to promote practical usage of theoretical systems in performance and practice.

**Prerequisite(s)/Corequisite(s):** Prerequisites include MUS 1390 and MUS 1400.

**MUS 1600 INTRODUCTION TO MUSIC EDUCATION (1 credit)**

This course is designed to provide an overview of the music education profession. It will focus on the history, philosophy, and fundamentals of music education in the United States.

**MUS 1640 DICTION FOR SINGERS I (1 credit)**

A study of the International Phonetic Alphabet (IPA) and the rules of pronunciation as applied to vocal literature of the English and Italian languages.

**Prerequisite(s)/Corequisite(s):** Music major

**MUS 1660 DICTION FOR SINGERS II (1 credit)**

A study of the rules and guidelines of pronunciation as applied to vocal literature of German and French languages.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 1640

**MUS 1690 KEYBOARD SKILLS I (1 credit)**

Instruction in this course will prepare students for keyboard skills for continued success as a professional musician, teacher or music educator. An emphasis will be placed on the following skills: scales/chords, sight reading, SATB reading, open score reading, improvisation, basic accompaniment, continued development of technical skills through individual piano selections and exciting project using contemporary music. Arrangements of popular music, chord charts and stylistic awareness in regards to the piano will be developed throughout the course. Beginning skills of ensemble playing will be encouraged throughout the semesters. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** MUS 167B (Piano) or equivalent. Permission.

**MUS 2200 AUDIO RECORDING TECHNIQUES I (3 credits)**

This course provides students with basic instruction in analog and digital audio recording. Topics include hardware, software, microphones, and basic production. Upon completion of the course students will have the skills and the knowledge to do basic audio recording such as recording live concerts and simple multi-track recording.

**Prerequisite(s)/Corequisite(s):** MUS 1170 OR permission of the instructor. Not open to non-degree graduate students.

**MUS 2410 MUSIC CORE CURRICULUM III (4 credits)**

The study of intermediate elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or permission. Not open to non-degree graduate students.

**MUS 2420 MUSIC CORE CURRICULUM IV (4 credits)**

The study of advanced elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** MUS 2410 or permission. Not open to non-degree graduate students.

**MUS 2430 COMMERCIAL MUSIC THEORY 2 (3 credits)**

As a continuation of MUS 1430, this course will integrate Roman Numeral, Lead Sheet, and Nashville notations through realization and analysis. It will also combine Common Practice Period music theory with Jazz theory in an effort to promote practical usage of theoretical systems in performance and practice.

**Prerequisite(s)/Corequisite(s):** MUS 1390, MUS 1400, and MUS 1430

**MUS 2480 CLASS APPLIED JAZZ IMPROVISATION (2 credits)**

This course is intended for the serious music student who wishes to gain basic knowledge and skills in the area of jazz improvisation. The course will emphasize beginning improvisation skills, basic jazz literature, chord scale relationships, melodic concepts, ear training, and analysis of improvised solos.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or MUS 2430

**MUS 2550 MUSIC HISTORY I (3 credits)**

This course is intended for music majors who wish to undertake a study of music literature and history of the Ancient, Medieval, Renaissance, and Baroque eras. The objective of the course is to illustrate the musical concepts, styles and performance practices through composers, individual works and scores that typify these eras and the cultural context surrounding them. Outside listening, reading, musical analysis and discussion will supplement lectures.

**MUS 2560 MUSIC HISTORY II (3 credits)**

This course is intended for music majors who wish to undertake a study of music literature and history of the Pre-Classical, Classical, Romantic, and Modern eras. The objective of the course is to illustrate the musical concepts, styles and performance practices through composers, individual works and scores that typify these eras and the cultural context surrounding them. Outside listening, reading, musical analysis and discussion will supplement lectures.

**MUS 2600 FUNDAMENTALS OF CONDUCTING (2 credits)**

The purpose of this course is to provide a basic foundation of conducting skills.

**Prerequisite(s)/Corequisite(s):** This course is limited to music majors. Students must have successfully completed MUS 1410, MUS 1420. Not open to non-degree graduate students.

**MUS 2610 ADVANCED PIANO TECHNIQUES I (1 credit)**

Instruction in this course will prepare piano majors with advanced keyboard techniques for continued success as a professional musician or private instructor. An emphasis will be placed on the following skills: sight reading, SATB reading, open score reading, improvisation, intermediate/advanced accompaniment, and continued crafting of personal skill sets. Students will arrange contemporary music. Intermediate to advanced skills of ensemble playing will be cultivated throughout the semesters. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** Piano Major

**MUS 2620 ADVANCED PIANO TECHNIQUES II (1 credit)**

Instruction in this course will prepare piano majors with advanced keyboard techniques for continued success as a professional musician or private instructor. An emphasis will be placed on the following skills: sight reading, SATB reading, open score reading, improvisation, intermediate/advanced accompaniment, and continued crafting of personal skill sets. Students will arrange contemporary music. Advanced skills of ensemble playing will be cultivated throughout the semester. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** Piano Major; Successful completion of MUS 2610. Not open to non-degree graduate students.

**MUS 2690 KEYBOARD SKILLS II (1 credit)**

Continuation of keyboard skills curriculum for continued success and independent thinking allowing students skill level for the following: scales/chords, sight reading, SATB reading, open score reading, improvisation, basic accompaniment, continued development of technical skills through individual piano selections and exciting project using contemporary music. Advanced arrangements of popular music, chord charts and stylistic awareness continue to develop throughout the course. Advanced skills of ensemble playing and experience will be a part of the curriculum. Class instruction in advanced development of keyboard skills including sight reading, harmonization, open score reading, accompaniments and facility.

**Prerequisite(s)/Corequisite(s):** MUS 1690 or equivalent. Permission.

**MUS 2700 UNIVERSITY CHORUS (0-1 credits)**

University Chorus is an ensemble open to all University students, faculty and staff. No audition necessary. All styles of music, including popular. Students wanting humanities/fine arts general education credit must register for 1 credit hour.

**Prerequisite(s)/Corequisite(s):** University Chorus participants need to be aware of the importance of rehearsals and concerts, and commit to those times in their schedule. Student must seek approval from the Director of Choral Activities in order to take this course for 0 credits.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 2730 CHAMBER ORCHESTRA (0-1 credits)**

A string orchestra with selected winds performing symphonic repertoire. Public performance. Open to all students and members of the greater metropolitan community.

**Prerequisite(s)/Corequisite(s):** Audition is required.

**MUS 2740 CHAMBER MUSIC (0-1 credits)**

Specialized chamber music groups from the string, wind, percussion, or technology area. Literature will be chosen from the extensive materials available for these combinations of instruments.

**Prerequisite(s)/Corequisite(s):** Audition and permission.

**MUS 2750 MARCHING BAND (0 credits)**

Open to all full and part-time UNO students during the fall semester only. No audition is required. K-12 instrumental music education majors are required to enroll in Marching Band for two semesters.

**MUS 2760 UNIVERSITY CONCERT BAND (0-1 credits)**

University Band is a performing ensemble that is open to all UNO students, staff, and faculty. The band has varied programming of contemporary and classical works. There is no audition necessary.

**Prerequisite(s)/Corequisite(s):** There are no prerequisites for University Band, but participants need to be aware of the importance of rehearsals and concerts and commit to those times in their schedules.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 2770 JAZZ ENSEMBLE (0-1 credits)**

A select ensemble performing jazz literature from all periods. Open to all full- and part-time UNO students. An audition is required with the director.

**Prerequisite(s)/Corequisite(s):** Acceptance into jazz ensemble is by audition only. Students must demonstrate technical command of their instrument, sightreading skills in multiple jazz styles and ability to demonstrate credible jazz improvisation skills.

**MUS 2790 COLLABORATIVE PIANO (1 credit)**

This course is designed to develop skills useful for pianists to learn to skills to collaborate with vocalists, instrumentalists and ensembles. Individual class times will also accompany rehearsals with designated collaborative partners. The vast repertoire and stylistic knowledge for areas such as musical theater, voice, choral, strings, brass, orchestra and wind ensemble set the beginning of exciting partnerships throughout a musical career.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 167B, MUS 1690, MUS 2690. Permission. Not open to non-degree graduate students.

**MUS 2800 SOUND REINFORCEMENT (3 credits)**

This course provides students with basic instruction in the fundamental knowledge and techniques of live sound production. Topics include equipment, processes, and systems used in a variety of scenarios with emphasis on practical, hands-on production. Upon completion of the course students will have the skills and the knowledge to provide basic sound reinforcement.

**Prerequisite(s)/Corequisite(s):** Activities include on-location sound reinforcement, written live sound observations, in-class practicum, and electronics labs. Not open to non-degree graduate students.

**MUS 3100 MUSIC INFORMATICS (3 credits)**

Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with ITIN 3100)

**Prerequisite(s)/Corequisite(s):** Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

**MUS 3170 EXPLORING MUSIC TECHNOLOGY (3 credits)**

An overview of computers and music. The course will focus on broad themes of people, procedures, data structures, software, hardware, and computer music environments. Intended for students with limited music or computer backgrounds.

**MUS 3180 DIGITAL SYNTHESIS (3 credits)**

An exploration of the potentials of computer music synthesis. Concepts of music synthesis are presented through the use of a computer, keyboard, and appropriate software. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with ITIN 3180)

**MUS 3190 JUNIOR/NON DEGREE RECITAL (1 credit)**

This course is designed for all undergraduate performance music majors performing a junior or any student who wants to perform a non-degree recital.

**Prerequisite(s)/Corequisite(s):** Applied Music (MUS 1150-3150) and/or permission of applied instructor. Payment of Recital Fee (Conductors' fees are automatically waived). Not open to non-degree graduate students.

**MUS 3200 JAZZ PEDAGOGY (1 credit)**

Course includes middle school and high school instrumental jazz literature, basic improvisation, rhythm section techniques and laboratory ensemble experiences.

**Prerequisite(s)/Corequisite(s):** MUS 2410 or MUS 2430

**MUS 3210 AUDIO RECORDING TECHNIQUES II (3 credits)**

This course provides students with advanced instruction in sound recording and digital audio production. Topics include microphone technique, analog audio hardware, digital audio software, and advanced production techniques.

**Prerequisite(s)/Corequisite(s):** MUS 2200

**MUS 3400 FORM AND ANALYSIS (2 credits)**

The study of musical forms and their application to musical arranging for choir, band, and orchestra.

**Prerequisite(s)/Corequisite(s):** MUS 2420

**MUS 3440 COMPOSITION I (1 credit)**

Individualized applied study of the basic craft of musical composition in small media and various styles.

**Prerequisite(s)/Corequisite(s):** MUS 2420 and written permission. Not open to non-degree graduate students.

**MUS 3480 CLASS APPLIED JAZZ IMPROVISATION II (2 credits)**

This course is intended for the serious music student who wishes to gain advanced knowledge and skills in the area of jazz improvisation. This course will emphasize advanced improvisation skills, standard jazz literature, advanced jazz harmony, chord/scale relationships, melodic concepts, ear training, and analysis of improvised solos.

**Prerequisite(s)/Corequisite(s):** MUS 2480

**MUS 3600 MUSIC EDUCATION CORE I - ELEMENTARY (5 credits)**

Methods and materials for teaching elementary (K-6) general, instrumental and choral music.

**Prerequisite(s)/Corequisite(s):** Students must be accepted to the College of Education, Health and Human Sciences (CEHHS) Teacher Preparation Program and have completed MUS 1600 and MUS 1410 with a C or better; Music Education Majors only. Not open to non-degree graduate students.

**MUS 3610 MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL (5 credits)**

Course includes brass and percussion pedagogy, middle school instrumental and choral literature and techniques, general music, conducting, and laboratory ensemble experiences.

**Prerequisite(s)/Corequisite(s):** MUS 3600 or permission.

**MUS 3630 MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS (5 credits)**

This course explores all aspects of administering high school vocal and instrumental music programs as well as prepares the student for clinical teaching and the job search process.

**Prerequisite(s)/Corequisite(s):** MUS 3600 and MUS 3610 or permission, 2.75 NU GPA, Passing Praxis Core scores

**MUS 3640 MUSIC EDUCATION FINAL PRACTICUM (2 credits)**

This course is designed to link theoretical concepts learned in the classroom to the practical application of "real world" situations and to familiarize students with the profession of music education. Hours completed in this course count as the final practicum as specified by the College of Education Teacher Preparation Program and required by the Nebraska Department of Education for teacher certification.

**Prerequisite(s)/Corequisite(s):** MUS 3630, 2.75 NU GPA, Passing Praxis Core scores. Not open to non-degree graduate students.

**MUS 3650 INTERNSHIPS IN MUSIC (0-3 credits)**

A course designed to link theoretical concepts learned in the classroom to the practical application of "real world" situations and to familiarize students with attitudes, operations and programs of various musical organizations.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of Music Department Chair. Not open to non-degree graduate students.

**MUS 3660 ADVANCED CONDUCTING (2 credits)**

An advanced course in conducting for music majors. This course will provide a theoretical and practical study of various materials and methods as they relate to conducting score study, gestures, rehearsal strategy and related performance practices.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 2420.

**MUS 4000 SPECIAL STUDIES IN MUSIC (1-3 credits)**

Seminars or workshops in Theory, History, Performance, and Music Education designed to meet specific interests and needs of students. Topics and number of credits for each specific offering will be announced during the prior semester. (Cross-listed with MUS 8006).

**MUS 4100 CONCERT CHOIR (0-1 credits)**

A select choral ensemble specializing in outstanding examples of music of all styles and from all periods. Public performance. Open to all University students.

**Prerequisite(s)/Corequisite(s):** The prerequisite for Concert Choir is an audition. Student must seek approval from the Director of Choral Activities in order to take this course for 0 credit.

**MUS 4120 CHAMBER CHOIR (0-1 credits)**

A select choral ensemble of 20-32 singers, specializing in outstanding examples of a cappella choral music. Preparation and performance of all styles of music. Appearances in concerts throughout the year, on campus; in the metropolitan area; and occasionally, in various other regions of Nebraska and the world.

**Prerequisite(s)/Corequisite(s):** Auditions at start of each semester - solo, sight-sing, range check, & group audition to match voice qualities. Must seek approval from Director of Choral Activities to take course for 0 credits. Not open to non-degree graduate students.

**MUS 4130 UNIVERSITY ORCHESTRA (0-1 credits)**

Heartland Philharmonic Orchestra is a full symphony orchestra performing symphonic repertoire. Public performance. Open to all students and members of the greater metropolitan community. Repertoire is drawn from the four periods of music associated with symphonic literature: Baroque, Classical, Romantic, and Modern.

**Prerequisite(s)/Corequisite(s):** Audition and permission.

**MUS 4160 SYMPHONIC WIND ENSEMBLE (0-1 credits)**

The Symphonic Wind Ensemble performs the finest concert band literature at four campus concerts, professional conferences, and tours. Open to all full- and part-time students.

**Prerequisite(s)/Corequisite(s):** Audition is required for membership in the Symphonic Wind Ensemble.

**MUS 4190 RECITAL (1 credit)**

This course is designed for all undergraduate students performing a senior recital. All recitals are to be one half hour to one hour depending on the student's degree requirements.

**Prerequisite(s)/Corequisite(s):** Recital fee payment (conductor's fees waived) & applied instructor's permission. BM-Education & BA Students: 4 semesters of appropriate Applied Music (MUS 1150-3150). BM-Performance: MUS 3190; 7 semesters of appropriate Applied Music (MUS 1150-3150).

**MUS 4220 AUDIO RECORDING TECHNIQUES III (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering.

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 4240 ADVANCED AUDIO RECORDING TECHNIQUES (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering. (Cross-listed with MUS 8246).

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 4280 ADVANCED TOPICS IN MUSIC TECHNOLOGY (3 credits)**

A seminar in Music Technology on an advanced or emerging topic in the field. The topic for each offering will be announced the prior semester.

**Prerequisite(s)/Corequisite(s):** Permission of department.

**MUS 4290 MUSIC CAPSTONE PROJECT (1 credit)**

This course is to serve as a capstone project for students in the Bachelor of Arts in Music degree. Projects must be approved by the faculty and a member of the faculty will be assigned to advise on the project.

**Prerequisite(s)/Corequisite(s):** Senior standing and successful completion of MUS 1420 or MUS 1430. Not open to non-degree graduate students.

**MUS 4300 BUSINESS OF MUSIC (3 credits)**

An overview of the global music industry as practiced in the United States, this course will provide insights into a number of key areas of business related to music. Students will also explore a diversity of music industry career paths in areas such as arts management, music products & merchandizing, public relations, music production & recording, publishing, and online music distribution.

**Prerequisite(s)/Corequisite(s):** Students must be enrolled as music majors, or by permission of instructor.

**MUS 4400 ADVANCED COMPOSITION (1 credit)**

Individualized applied study of the craft of musical composition in larger media and various styles.

**Prerequisite(s)/Corequisite(s):** MUS 3440 and written permission. Not open to non-degree graduate students.

**MUS 4430 ARRANGING FOR JAZZ ENSEMBLE (3 credits)**

Techniques of writing for jazz ensembles of various combinations of instruments. (Cross-listed with MUS 8436).

**Prerequisite(s)/Corequisite(s):** MUS 2480 or MUS 2420

**MUS 4440 MUSIC SINCE 1945 (3 credits)**

This course covers important developments in music in the United States and Europe since 1945. (Cross-listed with MUS 8446).

**Prerequisite(s)/Corequisite(s):** Completion of MUS 3420 or permission of instructor.

**MUS 4450 ORCHESTRATION (2 credits)**

Basics of instrumentation and scoring for band and orchestra.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 2420 with a C or better. Not open to non-degree graduate students.

**MUS 4530 HISTORY OF WESTERN OPERA (3 credits)**

This course will consist of significant music theater works in the Western world from 1600 to the present. (Cross-listed with MUS 8536).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560, Junior standing.

**MUS 4540 RENAISSANCE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature c. 1350-1600. (Cross-listed with MUS 8546).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560, and MUS 2570. Not open to non-degree graduate students.

**MUS 4550 BAROQUE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1600-1750. (Cross-listed with MUS 8556).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560.

**MUS 4560 CLASSICAL MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1750-1815. (Cross-listed with MUS 8566).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560, and MUS 2570.

**MUS 4570 ROMANTIC MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of Music literature from c. 1815-1912. (Cross-listed with MUS 8576).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560.

**MUS 4580 MUSIC FROM 1900 - 1945 (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from the post-romantic period to 1945. The objective will be to provide the student with a broad overview with special attention given to composers and individual works which typify a style or form. (Cross-listed with MUS 8586).

**Prerequisite(s)/Corequisite(s):** MUS 2560.

**MUS 4590 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 8596, BLST 8596, BLST 4590).

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing in the UNO School of Music

**MUS 4600 PIANO PEDAGOGY (3 credits)**

This course is a survey of the art of teaching the piano. Course content will include a survey of beginning and intermediate piano methods, literature for the beginning/intermediate piano student, studio business practice, professional organizations, and group piano instruction pedagogy. (Cross-listed with MUS 8606).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MUS 4610 VOICE PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of the vocal mechanism and of the various techniques used in developing the singing voice. Also, it will apply knowledge acquired about the voice through studio teaching and observations of other voice teachers. (Cross-listed with MUS 8616).

**Prerequisite(s)/Corequisite(s):** Voice Music Major or permission of instructor.

**MUS 4620 INSTRUMENTAL PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of various instruments and of techniques used in developing instrumental technique. Also, it will apply knowledge acquired about the instrument through studio teaching and observations of other instrumental teachers.

**MUS 4660 HEALTH AND WELLNESS FOR MUSICIANS (3 credits)**

Health and Wellness for Musicians gives an overview of the dimensions of wellness and common health/wellness challenges for musicians. The course provides students with a toolbox of ideas and strategies for the development, design, and implementation of a music wellness campaign for non-musicians and individualized wellness plans for specific instruments and voice types. (Cross-listed with MUS 8696).

**MUS 4720 CHORAL LITERATURE (3 credits)**

A survey course in the study of significant choral genre of the various periods of music from plain song to contemporary music. (Cross-listed with MUS 8726).

**Prerequisite(s)/Corequisite(s):** MUS 2570 and MUS 3640. Junior music major standing or permission of the instructor.

**MUS 4730 KEYBOARD LITERATURE (3 credits)**

This course will examine literature written for keyboard (piano) from the 16th century to the present. Emphasis will be placed on solo literature of the Baroque, Classic, Romantic, and Contemporary periods. Included are keyboard concertos with orchestra and works for four hands and two pianos. (Cross-listed with MUS 8736).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MUS 4740 VOICE LITERATURE (3 credits)**

This course is a study of the development of art song in Europe and America. Emphasis will be given to German and French song literature and their influence on English and American song. (Cross-listed with MUS 8746).

**Prerequisite(s)/Corequisite(s):** Junior voice or permission of instructor.

**MUS 4750 INSTRUMENTAL LITERATURE (3 credits)**

This course is a study of the development of instrumental (brass, winds, strings, percussion) literature in Europe and America.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## Music, Bachelor of Arts

Requirements:

Music Studies-Instrumental

Music Studies- Vocal

Music Studies- Keyboard

Code	Title	Credits
<b>Electives</b>		<b>32</b>
<b>General Education Core - for all Bachelor of Arts Students</b>		<b>41</b>
2 semesters of a foreign language should be selected in either the General Education Core or from Electives		
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2550	MUSIC HISTORY I	3
MUS 2560	MUSIC HISTORY II	3
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
<b>Concentration</b>		
Select a concentration		24
<b>Total Credits</b>		<b>120</b>

Requirements:

Music Technology

Jazz Studies

Music Entrepreneurial Studies

Code	Title	Credits
<b>Electives</b>		<b>31</b>
<b>General Education Core - for all Bachelor of Arts Students</b>		<b>41</b>
2 semesters of a foreign language should be selected in either the General Education Core or from Electives		
MUS 1390	BASIC MUSICIANSHIP	3
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 1430	COMMERCIAL MUSIC THEORY I	3
MUS 2430	COMMERCIAL MUSIC THEORY 2	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
MUS 1170	FOUNDATIONS OF MUSIC TECHNOLOGY	3

MUS 4300	BUSINESS OF MUSIC	3
MUS 4590	AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP	3
CONCENTRATION		
select a concentration		24

**Total Credits 120**

### Concentration in Music Studies Instrumental

Code	Title	Credits
MUS 115	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 215	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 315	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 415	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3660	ADVANCED CONDUCTING	2
MUS 4190 or MUS 4290	RECITAL MUSIC CAPSTONE PROJECT	1
Ensemble/Chamber Music	6 courses at 1 credit	6
Music History/Theory Elective	1 course at 3 credits (see list below)	3

**Total Credits 24**

### Concentration in Music Studies Keyboard

Code	Title	Credits
MUS 115	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 215	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 315	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 415	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2790	COLLABORATIVE PIANO (2 semesters at 1 credit)	1
MUS 3660	ADVANCED CONDUCTING	2
MUS 4190 or MUS 4290	RECITAL MUSIC CAPSTONE PROJECT	1
Ensemble/Chamber Music	4 courses at 1 credit	4
Music History/Theory Elective	1 course at 3 credits (see list below)	3

**Total Credits 24**

### Concentration in Music Studies Voice

Code	Title	Credits
MUS 115	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 215	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 315	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 415	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1640	DICTION FOR SINGERS I	1
MUS 1660	DICTION FOR SINGERS II	1
MUS 2420	MUSIC CORE CURRICULUM IV	4

MUS 3660	ADVANCED CONDUCTING	2
MUS 4190 or MUS 4290	RECITAL MUSIC CAPSTONE PROJECT	1
Ensemble/Chamber Music	4 courses at 1 credit	4

Music History/Theory 1 course at 3 credits (see list below) 3

**Total Credits 24**

History/Theory Elective

Code	Title	Credits
Select one of the following:		
MUS 3440	COMPOSITION I	3
MUS 4440	MUSIC SINCE 1945	3
MUS 4530	HISTORY OF WESTERN OPERA	3
MUS 4540	RENAISSANCE MUSIC LITERATURE	3
MUS 4550	BAROQUE MUSIC LITERATURE	3
MUS 4560	CLASSICAL MUSIC LITERATURE	3
MUS 4570	ROMANTIC MUSIC LITERATURE	3
MUS 4580	MUSIC FROM 1900 - 1945	3
MUS 4720	CHORAL LITERATURE	3

Note: Other courses may be eligible upon approval from the Director

### Concentration in Jazz Studies

Code	Title	Credits
MUS 115	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 215	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 315	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 415	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 2480	CLASS APPLIED JAZZ IMPROVISATION	2
MUS 3480	CLASS APPLIED JAZZ IMPROVISATION II	2
MUS 169D	APPLIED CLASS JAZZ PIANO	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 3200	JAZZ PEDAGOGY	1
MUS 4190 or MUS 4290	RECITAL MUSIC CAPSTONE PROJECT	1
MUS 4430	ARRANGING FOR JAZZ ENSEMBLE	3
Ensemble/Chamber Music	6 courses at 1 credit	6

**Total Credits 24**

### Concentration in Music Technology

Code	Title	Credits
MUS 1010	MUSIC TECHNOLOGY NOW (8 semesters)	0
MUS 2800	SOUND REINFORCEMENT	3
MUS/ITIN 3100	MUSIC INFORMATICS	3
MUS/ITIN 3180	DIGITAL SYNTHESIS	3
MUS 2200	AUDIO RECORDING TECHNIQUES I	3
MUS 3210	AUDIO RECORDING TECHNIQUES II	3
MUS 4240	ADVANCED AUDIO RECORDING TECHNIQUES	3
MUS 4280	ADVANCED TOPICS IN MUSIC TECHNOLOGY	3
MUS 4290	MUSIC CAPSTONE PROJECT	1

ENSEMBLES: 2 courses at 1 credit <sup>1</sup>	2
<b>Total Credits</b>	<b>24</b>

<sup>1</sup> Ensemble technical coordination may substitute ensemble performance after completing MUS 2800, MUS 4200, & MUS 4210. Please see Music Tech Coordinator for permission and details

### Concentration in Music Entrepreneurial Studies

Code	Title	Credits
MUS 115	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 215	APPLIED MUSIC (2 semesters at 1 credit)	2
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
MUS 2200	AUDIO RECORDING TECHNIQUES I	3
MUS 3650	INTERNSHIPS IN MUSIC	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
MUS 4290	MUSIC CAPSTONE PROJECT	1
ENSEMBLES: 4 courses at 1 credit		4
Music/Entrepreneurship Elective		3
<b>Total Credits</b>		<b>24</b>

### Music Studies Instrumental

#### Freshman

Fall		Credits
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lesson (MUS 115)		1
MUS 1400	MUSIC FUNDAMENTALS	3
Ensemble		1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical with Laboratory		4
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>

#### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
ENGL 1160	ENGLISH COMPOSITION II	3
Elective		3
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		Credits
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
Social Science		3
College Algebra or Equivalent		3
<b>Credits</b>		<b>15</b>

#### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4

MUS 2560	MUSIC HISTORY II	3
Social Science		3
Elective		3
<b>Credits</b>		<b>15</b>

#### Junior

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts		3
Elective		3
<b>Credits</b>		<b>14</b>

##### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2
History/Theory Elective Course		3
Elective		3
Elective		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>16</b>

#### Senior

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
Natural/Physical Science		3
Humanities and Fine Arts		3
Elective		3
Elective		3
<b>Credits</b>		<b>14</b>

##### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
MUS 4190	RECITAL	1
Elective		3
Elective		3
Social Science		3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
<b>Credits</b>		<b>15</b>

**Total Credits** **119**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Music Studies-Keyboard

### Freshman

Fall		Credits
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
MUS 1400	MUSIC FUNDAMENTALS	3
Ensemble		1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Laboratory		4
CMST 1110	PUBLIC SPEAKING FUNDS	3

**Credits 15**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
ENGL 1160	ENGLISH COMPOSITION II	3
Elective		3

**Credits 15**

### Sophomore

Fall		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
Social Science		3
College Algebra or Equivalent		3

**Credits 15**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2560	MUSIC HISTORY II	3
Social Science		3
Elective		3

**Credits 15**

### Junior

Fall		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts		3

Elective 3

**Credits 14**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2
History/Theory Elective Course		3
Elective		3
Elective		3
Humanities and Fine Arts		3

**Credits 16**

### Senior

Fall		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
Natural/Physical Science		3
Humanities and Fine Arts		3
Elective		3
Elective		3

**Credits 14**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
MUS 4190	RECITAL	1
Elective		3
Elective		3
Social Science		3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3

**Credits 15**

**Total Credits 119**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Studies-Voice****Freshman**

		Credits
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
MUS 1400	MUSIC FUNDAMENTALS	3
Ensemble		1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Laboratory		4
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
ENGL 1160	ENGLISH COMPOSITION II	3
Elective		3
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
Social Science		3
College Algebra or Equivalent		3
<b>Credits</b>		<b>15</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2560	MUSIC HISTORY II	3
Social Science		3
Elective		3
<b>Credits</b>		<b>15</b>

**Junior**

<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts		3
Elective		3
<b>Credits</b>		<b>14</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2
History/Theory Elective Course		3
Elective		3

Elective	3
Humanities and Fine Arts	3
<b>Credits</b>	<b>16</b>

**Senior**

<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
Natural/Physical Science		3
Humanities and Fine Arts		3
Elective		3
Elective		3
<b>Credits</b>		<b>14</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
MUS 4190	RECITAL	1
Elective		3
Elective		3
Social Science		3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>119</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Technology****Freshman**

		Credits
<b>Fall</b>		
MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
English Comp I (placement required)		3
Social Science		3
Public Speaking		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

**Spring**

MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 1390	BASIC MUSICIANSHIP	3

MUS 2200	AUDIO RECORDING TECHNIQUES I	3
College Algebra or Equivalent		3
English Comp II		3
Elective		3

**Credits 15**

### Sophomore Fall

MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 3210	AUDIO RECORDING TECHNIQUES II	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
Social Science		3
Natural/Physical with Laboratory		4

**Credits 16**

### Spring

MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 1430	COMMERCIAL MUSIC THEORY I	3
MUS 4240	ADVANCED AUDIO RECORDING TECHNIQUES	3
MUS 2800	SOUND REINFORCEMENT	3
Natural/Physical Science		3
Elective		3

**Credits 15**

### Junior Fall

MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 2430	COMMERCIAL MUSIC THEORY 2	3
MUS 4590	AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP	3
MUS 3180	DIGITAL SYNTHESIS	3
Elective		3
Elective		3
Ensemble		1

**Credits 16**

### Spring

MUS 1010	MUSIC TECHNOLOGY NOW	0
ITIN 2150	AUDIO FOR MULTIMEDIA	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
Social Science		3
Elective		3
Ensemble		1

**Credits 13**

### Senior Fall

MUS 1010	MUSIC TECHNOLOGY NOW	0
ITIN 3100	MUSIC INFORMATICS	3
MUS 4280	ADVANCED TOPICS IN MUSIC TECHNOLOGY	3
Elective		3
Elective		3
Ensemble		1
Humanities and Fine Arts		3

**Credits 16**

### Spring

MUS 1010	MUSIC TECHNOLOGY NOW	0
MUS 4290	MUSIC CAPSTONE PROJECT	3
MUS 4300	BUSINESS OF MUSIC	3

Elective Credits 8

**Credits 14**

**Total Credits 120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Music Entrepreneurial Studies

### Freshman

		Credits
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115?)		1
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
ENGL 1150	ENGLISH COMPOSITION I	3
Social Science		3
Elective		3

**Credits 14**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115?)		1
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
Natural/Physical Science wit Laboratory		4
Elective		3

**Credits 16**

### Sophomore

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215?)		1
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
ENGL 1160	ENGLISH COMPOSITION II	3
Social Science		3

**Credits 15**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lesson (MUS 215?)		1
Ensemble		1

MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2560	MUSIC HISTORY II	3
College Algebra or Equivalent		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Natural/Physical Science		3
Social Science		3
Ensemble		1
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MUS 4300	BUSINESS OF MUSIC	3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
Elective		3
<b>Credits</b>		<b>12</b>
<b>Senior</b>		
<b>Fall</b>		
MUS 3650	INTERNSHIPS IN MUSIC	3
Humanities and Fine Arts		3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
Elective		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MUS 4290	MUSIC CAPSTONE PROJECT	1
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
Elective		3
Elective		3
Elective		3
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>115</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Music Studies-Jazz

### Freshman

		<b>Credits</b>
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115?)		1
Ensemble		1
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Laboratory		4

**Credits** **15**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lesson (MUS 115?)		1
Ensemble		1
MUS 1390	BASIC MUSICIANSHIP	3
College Algebra or equivalent		3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
Elective		1

**Credits** **15**

### Sophomore

#### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215?)		1
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts		3
Elective Credits		5

**Credits** **16**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215?)		1
Ensemble		1
MUS 1430	COMMERCIAL MUSIC THEORY I	3
MUS 4300	BUSINESS OF MUSIC	3
Social Science		3
Elective		3
MUS 2480	CLASS APPLIED JAZZ IMPROVISATION	2

**Credits** **16**

### Junior

#### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315?)		1
Ensemble		1
MUS 2430	COMMERCIAL MUSIC THEORY 2	3
MUS 169D	APPLIED CLASS JAZZ PIANO	1
MUS 4590	AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP	3
MUS 4430	ARRANGING FOR JAZZ ENSEMBLE	3
MUS 3480	CLASS APPLIED JAZZ IMPROVISATION II	2

**Credits** **14**

### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (315?)		1

Ensemble	1
Social Science	3
Social Science	3
Humanities and Fine Arts	3
Elective Credits	4
MUS 3200 JAZZ PEDAGOGY	1
<b>Credits</b>	<b>16</b>
<b>Senior</b>	
<b>Fall</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (415?)	1
Ensemble	1
WRWS 3500 CREATIVE WRITING FOR THE ARTS	3
Natural/Physical Science	3
Elective Credits	8
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (415?)	1
Ensemble	1
MUS 4190 RECITAL	1
Elective	3
Elective	3
Elective	3
<b>Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Music Performance, Bachelor of Music

#### Requirements

Code	Title	Credits
General Education Core - for all Bachelor of Music Students		41
Electives - BM Vocal Majors take 2 elective hours, all other concentrations take 3		2-3
Musicianship Core for Bachelor of Music-Performance students		
MUS 1410	MUSIC CORE CURRICULUM I	4

MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2550	MUSIC HISTORY I	3
MUS 2560	MUSIC HISTORY II	3
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
MUS 3400	FORM AND ANALYSIS	2
MUS 3660	ADVANCED CONDUCTING	2
MUS 4450	ORCHESTRATION	2
<b>Select a Concentration</b>		<b>46-47</b>
<b>TOTAL CREDITS</b>		<b>120</b>

#### Music Performance: Brass

Code	Title	Credits
<b>Requirements</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music (2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 semesters at 2 credits)	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4620	INSTRUMENTAL PEDAGOGY	3
MUS 4750	INSTRUMENTAL LITERATURE	3
Ensemble/Chamber Music	8 courses at 1 credit	8

#### Music History/Theory Elective

Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	
MUS 4570	ROMANTIC MUSIC LITERATURE	
MUS 4580	MUSIC FROM 1900 - 1945	

Note: Other courses may be eligible upon approval from the Director

#### Entrepreneurship/Technology Elective

Select two from the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
MUS 2800	SOUND REINFORCEMENT	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4300	BUSINESS OF MUSIC	

<b>Total Credits</b>	<b>46</b>
----------------------	-----------

**Music Performance: Keyboard**

Code	Title	Credits
<b>Requirements:</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music (2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 semesters at 2 credits)	4
MUS 2790	COLLABORATIVE PIANO (2 semesters at 1 credit)	2
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4600	PIANO PEDAGOGY	3
MUS 4730	KEYBOARD LITERATURE	3
Ensemble/Chamber Music	8 courses at 1 credit	8
<b>Music History/Theory Elective</b>		
Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	
MUS 4570	ROMANTIC MUSIC LITERATURE	
MUS 4580	MUSIC FROM 1900 - 1945	
Note: Other courses may be eligible upon approval from the Director		
<b>Entrepreneurship/Technology Elective</b>		
Select two from the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
MUS 2800	SOUND REINFORCEMENT	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4300	BUSINESS OF MUSIC	
<b>Total Credits</b>		<b>46</b>

**Music Performance: Percussion**

Code	Title	Credits
<b>Requirements:</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music (2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 semesters at 2 credits)	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1

MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4620	INSTRUMENTAL PEDAGOGY	3
MUS 4750	INSTRUMENTAL LITERATURE	3
Ensemble/Chamber Music	8 courses at 1 credit	8
<b>Music History/Theory Elective</b>		
Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	
MUS 4570	ROMANTIC MUSIC LITERATURE	
MUS 4580	MUSIC FROM 1900 - 1945	
Note: Other courses may be eligible upon approval from the Director		
<b>Entrepreneurship/Technology Electives:</b>		
Select two from the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
MUS 2800	SOUND REINFORCEMENT	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4300	BUSINESS OF MUSIC	
<b>Total Credits</b>		<b>46</b>

**Music Performance: String**

Code	Title	Credits
<b>Requirements</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music (2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 semesters at 2 credits)	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4620	INSTRUMENTAL PEDAGOGY	3
MUS 4750	INSTRUMENTAL LITERATURE	3
Ensemble/Chamber Music	8 courses at 1 credit	8
<b>Music History/Theory Elective</b>		
Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	

MUS 4570	ROMANTIC MUSIC LITERATURE
MUS 4580	MUSIC FROM 1900 - 1945
Note: Other courses may be eligible upon approval from the Director	
<b>Entrepreneurship/Technology Elective</b>	
Select two of the following:	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS
ITIN 1110	INTRODUCTION TO IT INNOVATION
MUS 2800	SOUND REINFORCEMENT
MUS 3170	EXPLORING MUSIC TECHNOLOGY
MUS 4300	BUSINESS OF MUSIC
MUS 4200	AUDIO RECORDING TECHNIQUES I
<b>Total Credits</b>	<b>46</b>

**Music Performance: Voice**

Code	Title	Credits
<b>Requirements</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music (2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 semesters at 2 credits)	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167B	APPLIED CLASS - PIANO	1
MUS 1640	ENGLISH AND ITALIAN DICTION	1
MUS 1660	GERMAN AND FRENCH DICTION	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4610	VOICE PEDAGOGY	3
MUS 4740	VOICE LITERATURE	3
Ensembles/Chamber Music	8 courses at 1 credit	8

**Music History/Theory Elective**

Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	
MUS 4570	ROMANTIC MUSIC LITERATURE	
MUS 4580	MUSIC FROM 1900 - 1945	
MUS 4720	CHORAL LITERATURE	

Note: Other courses may be eligible upon approval from the Director

**Entrepreneurship/Technology Elective**

Select two from the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
MUS 2800	SOUND REINFORCEMENT	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	

MUS 4300	BUSINESS OF MUSIC
<b>Total Credits</b>	<b>47</b>

**Music Performance: Woodwind**

Code	Title	Credits
<b>Requirements</b>		
MUS 115	Applied Music (2 semesters at 2 credits)	4
MUS 215	Applied Music ( 2 semesters at 2 credits)	4
MUS 315	Applied Music (2 semesters at 2 credits)	4
MUS 415	Applied Music (2 secesters at 2 credits)	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1000	APPLIED MUSIC LABORATORY RECITAL (AOW - required for each semester enrolled in applied music)	0
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
MUS 4190	RECITAL	1
MUS 4620	INSTRUMENTAL PEDAGOGY	3
MUS 4750	INSTRUMENTAL LITERATURE	3
Ensemble/Chamber Music	8 courses at 1 credit	8

**Music History/Theory Elective**

Select one of the following:		3
MUS 3440	COMPOSITION I	
MUS 4440	MUSIC SINCE 1945	
MUS 4530	HISTORY OF WESTERN OPERA	
MUS 4540	RENAISSANCE MUSIC LITERATURE	
MUS 4550	BAROQUE MUSIC LITERATURE	
MUS 4560	CLASSICAL MUSIC LITERATURE	
MUS 4570	ROMANTIC MUSIC LITERATURE	
MUS 4580	MUSIC FROM 1900 - 1945	

Note: Other courses may be eligible upon approval from the Director

**Entrepreneurship/Technology Elective**

Select two of the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
ITIN 1110	INTRODUCTION TO IT INNOVATION	
MUS 2800	SOUND REINFORCEMENT	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4300	BUSINESS OF MUSIC	

<b>Total Credits</b>	<b>46</b>
----------------------	-----------

**Music Performance- Brass****Freshman**

Fall		Credits
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
ENGL 1150	ENGLISH COMPOSITION I	3

Natural/Physical Science with Lab	4
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 115	2
Ensemble	1
MUS 1410 MUSIC CORE CURRICULUM I	4
MUS 167B APPLIED CLASS - PIANO	1
ENGL 1160 ENGLISH COMPOSITION II	3
Instrumental Pedagogy or Literature	3
<b>Credits</b>	<b>14</b>
<b>Sophomore</b>	
<b>Fall</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 1420 MUSIC CORE CURRICULUM II	4
MUS 2550 MUSIC HISTORY I	3
MUS 1690 KEYBOARD SKILLS I	1
CMST 1110 PUBLIC SPEAKING FUNDS	3
<b>Credits</b>	<b>14</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 2410 MUSIC CORE CURRICULUM III	4
MUS 2560 MUSIC HISTORY II	3
MUS 2690 KEYBOARD SKILLS II	1
Instrumental Pedagogy or Literature	3
<b>Credits</b>	<b>14</b>
<b>Junior</b>	
<b>Fall</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 2420 MUSIC CORE CURRICULUM IV	4
WRWS 3500 CREATIVE WRITING FOR THE ARTS	3
Entrepreneurship/Technology Elective	3
History/Theory Elective	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 3190 JUNIOR/NON DEGREE RECITAL	1
Form and Analysis	2
Entrepreneurship/Technology Elective	3
Humanities and Fine Arts	3
College Algebra or equivalent	3
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
MUS 4450 ORCHESTRATION	2

MUS 2600 FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts	3
Social Science	3
Social Science	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
Humanities and Fine Arts	3
MUS 3660 ADVANCED CONDUCTING	2
MUS 4190 RECITAL	1
Social Science	3
Natural Physical Science	3
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>119</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Music Performance - Keyboard

#### Freshman

<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
MUS 1400	MUSIC FUNDAMENTALS	3
Ensemble		1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Laboratory		4
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 115)		1
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 3170	EXPLORING MUSIC TECHNOLOGY	3
ENGL 1160	ENGLISH COMPOSITION II	3
Elective		3
<b>Credits</b>		<b>15</b>

**Sophomore****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
Social Science		3
College Algebra or Equivalent		3

**Credits** **15**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 215)		1
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2560	MUSIC HISTORY II	3
Social Science		3
Elective		3

**Credits** **15**

**Junior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts		3
Elective		3

**Credits** **14**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 315)		1
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2
History/Theory Elective Course		3
Elective		3
Elective		3
Humanities and Fine Arts		3

**Credits** **16**

**Senior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
Natural/Physical Science		3
Humanities and Fine Arts		3
Elective		3
Elective		3

**Credits** **14**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
Applied Lessons (MUS 415)		1
Ensemble		1
MUS 4190	RECITAL	1
Elective		3
Elective		3

Social Science		3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>119</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Performance - Percussion****Freshman**

		<b>Credits</b>
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>15</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 167B	APPLIED CLASS - PIANO	1
ENGL 1160	ENGLISH COMPOSITION II	3
Instrumental Pedagogy or Literature		3
<b>Credits</b>		<b>14</b>

**Sophomore****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
MUS 1690	KEYBOARD SKILLS I	1
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>14</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
----------	----------------------------------	---

MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULM III	4
MUS 2560	MUSIC HISTORY II	3
MUS 2690	KEYBOARD SKILLS II	1
Instrumental Pedagogy or Literature		3
<b>Credits</b>		<b>14</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULM IV	4
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
Entrepreneurship/Technology Elective		3
History/Theory Elective		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 3190	JUNIOR/NON DEGREE RECITAL	1
Form and Analysis		2
Entrepreneurship/Technology Elective		3
Humanities and Fine Arts		3
College Algebra or equivalent		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
MUS 4450	ORCHESTRATION	2
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts		3
Social Science		3
Social Science		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
Humanities and Fine Arts		3
MUS 3660	ADVANCED CONDUCTING	2
MUS 4190	RECITAL	1
Social Science		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>119</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### Music Performance - String

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
ENGL 1150	ENGLISH COMPOSITION I	3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULM I	4
MUS 167B	APPLIED CLASS - PIANO	1
ENGL 1160	ENGLISH COMPOSITION II	3
Instrumental Pedagogy or Literature		3
<b>Credits</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULM II	4
MUS 2550	MUSIC HISTORY I	3
MUS 1690	KEYBOARD SKILLS I	1
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULM III	4
MUS 2560	MUSIC HISTORY II	3
MUS 2690	KEYBOARD SKILLS II	1
Instrumental Pedagogy or Literature		3
<b>Credits</b>		<b>14</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2

Ensemble	1
MUS 2420 MUSIC CORE CURRICULUM IV	4
Entrepreneurship/Technology Elective	3
History/Theory Elective	3
WRWS 3500 CREATIVE WRITING FOR THE ARTS	3

**Credits 16**

#### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 3190 JUNIOR/NON DEGREE RECITAL	1
Form and Analysis	2
Entrepreneurship/Technology Elective	3
Humanities and Fine Arts	3
College Algebra or equivalent	3

**Credits 15**

#### Senior

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
MUS 4450 ORCHESTRATION	2
MUS 2600 FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts	3
Social Science	3
Social Science	3

**Credits 16**

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
MUS 3660 ADVANCED CONDUCTING	2
MUS 4190 RECITAL	1
Humanities and Fine Arts	3
Social Science	3
Natural/Physical Science	3

**Credits 15**

**Total Credits 119**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Music Performance - Voice

#### Freshman

Fall	Credits
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 115	2
Ensemble	1
MUS 1400 MUSIC FUNDAMENTALS	3
MUS 167B APPLIED CLASS - PIANO	1
MUS 1640 DICTION FOR SINGERS I	1
ENGL 1150 ENGLISH COMPOSITION I	3
Natural/Physical Science with Lab	4
<b>Credits</b>	<b>15</b>

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 115	2
Ensemble	1
MUS 1410 MUSIC CORE CURRICULUM I	4
MUS 167B APPLIED CLASS - PIANO	1
ENGL 1160 ENGLISH COMPOSITION II	3
MUS 1660 DICTION FOR SINGERS II	1
Vocal Pedagogy or Literature	3

**Credits 15**

#### Sophomore

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 1420 MUSIC CORE CURRICULUM II	4
MUS 2550 MUSIC HISTORY I	3
MUS 1690 KEYBOARD SKILLS I	1
CMST 1110 PUBLIC SPEAKING FUNDS	3

**Credits 14**

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 2410 MUSIC CORE CURRICULUM III	4
MUS 2560 MUSIC HISTORY II	3
MUS 2690 KEYBOARD SKILLS II	1
Vocal Pedagogy or Literature	3
College Algebra or equivalent	3

**Credits 17**

#### Junior

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 2420 MUSIC CORE CURRICULUM IV	4
MUS 2600 FUNDAMENTALS OF CONDUCTING	2
Entrepreneurship/Technology Elective	3
History/Theory Elective	3

**Credits 15**

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
---	---

MUS 315	2
Ensemble	1
MUS 3190 JUNIOR/NON DEGREE RECITAL	1
Form and Analysis	2
Humanities and Fine Arts	3
Humanities and Fine Arts	3
Natural/Physical Science	3
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
MUS 4450 ORCHESTRATION	2
MUS 3660 ADVANCED CONDUCTING	2
Humanities and Fine Arts	3
Social Science	3
Social Science	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
WRWS 3500 CREATIVE WRITING FOR THE ARTS	3
MUS 4190 RECITAL	1
Entrepreneurship/Technology Elective	3
Social Science	3
<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Music Performance - Woodwind

#### Freshman

<b>Fall</b>	<b>Credits</b>
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 115	2
Ensemble	1
MUS 1400 MUSIC FUNDAMENTALS	3
MUS 167B APPLIED CLASS - PIANO	1

MUS 167C APPLIED CLASS - VOICE I	1
ENGL 1150 ENGLISH COMPOSITION I	3
Natural/Physical Science with Lab	4
<b>Credits</b>	<b>15</b>

#### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 115	2
Ensemble	1
MUS 1410 MUSIC CORE CURRICULUM I	4
MUS 167B APPLIED CLASS - PIANO	1
ENGL 1160 ENGLISH COMPOSITION II	3
Instrumental Pedagogy or Literature	3

**Credits 14**

#### Sophomore

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 1420 MUSIC CORE CURRICULUM II	4
MUS 2550 MUSIC HISTORY I	3
MUS 1690 KEYBOARD SKILLS I	1
CMST 1110 PUBLIC SPEAKING FUNDS	3

**Credits 14**

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 215	2
Ensemble	1
MUS 2410 MUSIC CORE CURRICULUM III	4
MUS 2560 MUSIC HISTORY II	3
MUS 2690 KEYBOARD SKILLS II	1
Instrumental Pedagogy or Literature	3

**Credits 14**

#### Junior

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 2420 MUSIC CORE CURRICULUM IV	4
WRWS 3500 CREATIVE WRITING FOR THE ARTS	3
Entrepreneurship/Technology Elective	3
History/Theory Elective	3

**Credits 16**

##### Spring

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 315	2
Ensemble	1
MUS 3190 JUNIOR/NON DEGREE RECITAL	1
Form and Analysis	2
Entrepreneurship/Technology Elective	3
Humanities and Fine Arts	3
College Algebra or equivalent	3

**Credits 15**

#### Senior

##### Fall

MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2

Ensemble	1
MUS 4450 ORCHESTRATION	2
MUS 2600 FUNDAMENTALS OF CONDUCTING	2
Humanities and Fine Arts	3
Social Science	3
Social Science	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
MUS 1000 APPLIED MUSIC LABORATORY RECITAL	0
MUS 415	2
Ensemble	1
MUS 3660 ADVANCED CONDUCTING	2
MUS 4190 RECITAL	1
Humanities and Fine Arts	3
Social Science	3
Natural/Physical Science	3
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>119</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Music Education, Bachelor of Music, K-12 Certification

Code	Title	Credits
<b>Core Requirements</b>		
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 1410	MUSIC CORE CURRICULM I	4
MUS 1420	MUSIC CORE CURRICULM II	4
MUS 2410	MUSIC CORE CURRICULM III	4
MUS 2550	MUSIC HISTORY I	3
MUS 2560	MUSIC HISTORY II	3
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
MUS 3660	ADVANCED CONDUCTING	2
MUS 167B	APPLIED CLASS - PIANO (two semesters 2 1 cr)	2
MUS 1690	KEYBOARD SKILLS I	1
MUS 2690	KEYBOARD SKILLS II	1
MUS 4190	RECITAL	1
Applied Music 115		4

Applied Music 215	4
Applied Music 315	4
Ensembles <sup>must perform in major area</sup>	4
Select a Concentration	
<b>Professional Education Requirements</b>	
MUS 1600 INTRODUCTION TO MUSIC EDUCATION	1
MUS 3600 MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 3610 MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
MUS 3630 MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 3640 MUSIC EDUCATION FINAL PRACTICUM	2
TED 2300 HUMAN GROWTH AND LEARNING	3
TED 2100 EDUCATIONAL FOUNDATIONS	3
TED 2200 HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
SPED 3800 DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 2400 PLANNING FOR EFFECTIVE TEACHING	6
TED 4640 K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Fundamental Academic Skills</b>	
ENGL 1150 ENGLISH COMPOSITION I	1
ENGL 1160 ENGLISH COMPOSITION II	1
TED 2100 EDUCATIONAL FOUNDATIONS	1
CMST 1110 PUBLIC SPEAKING FUNDS	1
MATH 1220 COLLEGE ALGEBRA	1
<b>Distribution Requirements</b>	
<b>25</b>	
Natural/Physical Science Electives	
Social Science Electives	
Humanities Electives	
Cultural Diversity <sup>1</sup>	

<sup>1</sup> Note: Cultural Diversity Courses also satisfy courses that double-count toward social sciences, humanities, or natural/physical sciences. For Music Education majors, MUS 1080 counts toward Global Diversity and TED 2200 counts toward US Diversity, TED 2100 can count for academic writing skills in lieu of Fundamental Writing Skills requirement.

## Music Education K-12 Brass

Code	Title	Credits
<b>Concentration Requirements</b>		
<b>Ensembles</b>		
The required 4 semesters of an ensemble must be on their major instrument		
2 semesters of marching band are required in addition to the 4 required ensembles		
Select from the following:		
MUS 2730	CHAMBER ORCHESTRA	
MUS 2740	CHAMBER MUSIC	
MUS 2750	MARCHING BAND	
MUS 2760	UNIVERSITY CONCERT BAND	
MUS 2770	JAZZ ENSEMBLE	
MUS 4130	UNIVERSITY ORCHESTRA	
MUS 4160	SYMPHONIC WIND ENSEMBLE	

**Music Education K-12 Keyboard**  
**Keyboard-Instrumental**

Code	Title	Credits
<b>Concentration Requirements</b>		
MUS 2790	COLLABORATIVE PIANO (2 semesters at 1 credit)	2
<b>Ensembles</b>		
in addition to the 4 required ensembles Keyboard-Instrumental majors must also complete 1 semester of marching band		
Select from the following:		
MUS 2700	UNIVERSITY CHORUS	
MUS 2730	CHAMBER ORCHESTRA	
MUS 2740	CHAMBER MUSIC	
MUS 2750	MARCHING BAND (2 semesters required)	
MUS 2760	UNIVERSITY CONCERT BAND	
MUS 2770	JAZZ ENSEMBLE	
MUS 4100	CONCERT CHOIR	
MUS 4130	UNIVERSITY ORCHESTRA	
MUS 4160	SYMPHONIC WIND ENSEMBLE	

**Keyboard-Vocal**

Code	Title	Credits
<b>Concentration Requirements</b>		
MUS 2790	COLLABORATIVE PIANO (2 semesters at 1 credit)	2
MUS 1640	DICTION FOR SINGERS I	1
MUS 1660	DICTION FOR SINGERS II	1
<b>Ensembles</b>		
Keyboard Vocal majors are required to complete 1 semester of marching band in addition to the 4 required ensembles		
Select from the following:		
MUS 2700	UNIVERSITY CHORUS	
MUS 2740	CHAMBER MUSIC	
MUS 2750	MARCHING BAND	
MUS 4100	CONCERT CHOIR	

**Music Education K-12 Percussion**

Code	Title	Credits
<b>Concentration Requirements</b>		
<b>Ensembles</b>		
In addition to the 4 required semesters of ensemble percussion majors must take 2 semesters of marching band		
Select from the following:		
MUS 2730	CHAMBER ORCHESTRA	
MUS 2740	CHAMBER MUSIC	
MUS 2750	MARCHING BAND	
MUS 2760	UNIVERSITY CONCERT BAND	
MUS 2770	JAZZ ENSEMBLE	
MUS 4130	UNIVERSITY ORCHESTRA	
MUS 4160	SYMPHONIC WIND ENSEMBLE	

**Music Education K-12 String**

Code	Title	Credits
<b>Concentration Requirements</b>		
<b>Ensembles</b>		
In addition to the 4 required ensembles String majors are required to complete 1 semester of marching band		

Select from the following:	
MUS 2730	CHAMBER ORCHESTRA
MUS 2740	CHAMBER MUSIC
MUS 4130	UNIVERSITY ORCHESTRA

**Music Education K-12 Voice**

Code	Title	Credits
<b>Concentration Requirements</b>		
MUS 1640	DICTION FOR SINGERS I	1
MUS 1660	DICTION FOR SINGERS II	1
MUS 2790	COLLABORATIVE PIANO	1
<b>Ensembles</b>		
The 4 required ensembles can be selected from the following		
MUS 2700	UNIVERSITY CHORUS	
MUS 2740	CHAMBER MUSIC	
MUS 4100	CONCERT CHOIR	
MUS 4160	SYMPHONIC WIND ENSEMBLE	

**Music Education K-12 Woodwind**

Code	Title	Credits
<b>Concentration Requirements</b>		
<b>Ensembles</b>		
In addition to the 4 required ensembles Woodwind majors must also take 2 semesters of marching band		
Select from the following:		
MUS 2730	CHAMBER ORCHESTRA	
MUS 2740	CHAMBER MUSIC	
MUS 2750	MARCHING BAND	
MUS 2760	UNIVERSITY CONCERT BAND	
MUS 2770	JAZZ ENSEMBLE	
MUS 4130	UNIVERSITY ORCHESTRA	
MUS 4160	SYMPHONIC WIND ENSEMBLE	

**Music Education K-12 Brass**

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>17</b>

<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
TED 2100	EDUCATIONAL FOUNDATIONS	3

ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Sophomore</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 1690	KEYBOARD SKILLS I	1
MUS 2550	MUSIC HISTORY I	3
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2690	KEYBOARD SKILLS II	1
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
TED 2300	HUMAN GROWTH AND LEARNING	3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Credits</b>		<b>18</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		
Ensemble		1
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 3660	ADVANCED CONDUCTING	2
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Credits</b>		<b>14</b>
<b>Summer</b>		
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>4</b>

**Senior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
Natural/Physical Science		3
Humanities and Fine Arts		3
Social Science		3
<b>Credits</b>		<b>15</b>

**Spring**

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>139</b>

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Education K-12 Keyboard****Music Education - Keyboard Instrumental****Freshman**

<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 2750	MARCHING BAND	0
MUS 1690	KEYBOARD SKILLS I	1
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>16</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
----------	----------------------------------	---

MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
MUS 2690	KEYBOARD SKILLS II	1
TED 2100	EDUCATIONAL FOUNDATIONS	3
Humanities and Fine Arts		3
ENGL 1160	ENGLISH COMPOSITION II	3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Sophomore</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
MUS 2790	COLLABORATIVE PIANO	1
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 2790	COLLABORATIVE PIANO	1
TED 2300	HUMAN GROWTH AND LEARNING	3
<b>Credits</b>		<b>16</b>
<b>Summer</b>		
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
Humanities and Fine Arts or Social Science		3
<b>Credits</b>		<b>6</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Credits</b>		<b>18</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	2
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 2560	MUSIC HISTORY II	3

SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Credits</b>		<b>16</b>
<b>Summer</b>		
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>4</b>
<b>Senior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415T	APPLIED VOICE	2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
Humanities and Fine Arts		3
Natural/Physical Science		3
Social Science		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>140</b>

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

### Music Education Keyboard Vocal

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167C	APPLIED CLASS - VOICE I	1
MUS 1690	KEYBOARD SKILLS I	1
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
or MATH 1220	or COLLEGE ALGEBRA	
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
MUS 2690	KEYBOARD SKILLS II	1
TED 2100	EDUCATIONAL FOUNDATIONS	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>

**Sophomore****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
MUS 1640	DICTION FOR SINGERS I	1
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3

**Credits** **17**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 1660	DICTION FOR SINGERS II	1
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
TED 2300	HUMAN GROWTH AND LEARNING	3

**Credits** **18**

**Summer**

Natural/Physical Science with Lab		4
-----------------------------------	--	---

**Credits** **4**

**Junior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

**Credits** **18**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	2
Ensemble		1
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 2790	COLLABORATIVE PIANO	1
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Social Science		3

**Credits** **18**

**Summer**

Natural/Physical Science		3
--------------------------	--	---

**Credits** **3**

**Senior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415T	APPLIED VOICE	2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2

MUS 4190	RECITAL	1
MUS 3660	ADVANCED CONDUCTING	2
MUS 2790	COLLABORATIVE PIANO	1
Humanities and Fine Arts		3
Social Science		3

**Credits** **15**

**Spring**

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
----------	---	----

**Credits** **12**

**Total Credits** **143**

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Education K-12 Percussion****Freshman****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3

**Credits** **17**

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1

TED 2100	EDUCATIONAL FOUNDATIONS	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		

**Credits** **15**

#### Summer

Social Science		3
----------------	--	---

**Credits** **3**

#### Sophomore

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 1690	KEYBOARD SKILLS I	1
MUS 2550	MUSIC HISTORY I	3
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3

**Credits** **17**

##### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2690	KEYBOARD SKILLS II	1
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
TED 2300	HUMAN GROWTH AND LEARNING	3

**Credits** **18**

#### Summer

Social Science		3
----------------	--	---

**Credits** **3**

#### Junior

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

**Credits** **18**

##### Spring

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 3660	ADVANCED CONDUCTING	2
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3

**Credits** **16**

#### Summer

Natural/Physical Science with Lab		4
-----------------------------------	--	---

**Credits** **4**

#### Senior

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
Natural/Physical Science		3
Humanities and Fine Arts		3
Social Science		3

**Credits** **15**

##### Spring

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
----------	---	----

**Credits** **12**

**Total Credits** **138**

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### Music Education K-12 String

##### Freshman

##### Fall

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3

ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
TED 2100	EDUCATIONAL FOUNDATIONS	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Sophomore</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 1690	KEYBOARD SKILLS I	1
MUS 2550	MUSIC HISTORY I	3
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2690	KEYBOARD SKILLS II	1
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
TED 2300	HUMAN GROWTH AND LEARNING	3
<b>Credits</b>		<b>18</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Credits</b>		<b>18</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 3660	ADVANCED CONDUCTING	2

MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Credits</b>		<b>16</b>
<b>Summer</b>		
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>4</b>
<b>Senior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
Natural/Physical Science		3
Humanities and Fine Arts		3
Social Science		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>141</b>

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### Music Education K-12 Voice

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1

MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115T	APPLIED VOICE	2
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
MUS 167B	APPLIED CLASS - PIANO	1
TED 2100	EDUCATIONAL FOUNDATIONS	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		
<b>Credits</b>		<b>15</b>
<b>Summer</b>		
Social Science		3
<b>Credits</b>		<b>3</b>
<b>Sophomore</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 2550	MUSIC HISTORY I	3
MUS 1640	DICTION FOR SINGERS I	1
MUS 1690	KEYBOARD SKILLS I	1
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3
<b>Credits</b>		<b>18</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215T	APPLIED VOICE	2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 1660	DICTION FOR SINGERS II	1
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
MUS 2690	KEYBOARD SKILLS II	1
TED 2300	HUMAN GROWTH AND LEARNING	3
<b>Credits</b>		<b>19</b>
<b>Summer</b>		
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>4</b>
<b>Junior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	1-2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Credits</b>		<b>17-18</b>
<b>Spring</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315T	APPLIED VOICE	2
Ensemble		1
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 2790	COLLABORATIVE PIANO	1
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Social Science		
<b>Credits</b>		<b>15</b>
<b>Summer</b>		
Natural/Physical Science		3
<b>Credits</b>		<b>3</b>
<b>Senior</b>		
<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415T	APPLIED VOICE	2
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
MUS 3660	ADVANCED CONDUCTING	2
MUS 2790	COLLABORATIVE PIANO	1
Humanities and Fine Arts		3
Social Science		3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>136-137</b>

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Music Education K-12 Woodwind****Freshman**

<b>Fall</b>		<b>Credits</b>
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1400	MUSIC FUNDAMENTALS	3
MUS 167B	APPLIED CLASS - PIANO	1
MUS 167C	APPLIED CLASS - VOICE I	1
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Credits</b>		<b>15</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 115		
Ensemble		1
MUS 1410	MUSIC CORE CURRICULUM I	4
MUS 167B	APPLIED CLASS - PIANO	1
MUS 1600	INTRODUCTION TO MUSIC EDUCATION	1
TED 2100	EDUCATIONAL FOUNDATIONS	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>16</b>

**Summer**

Social Science		3
<b>Credits</b>		<b>3</b>

**Sophomore**

<b>Fall</b>		
MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2750	MARCHING BAND	0
MUS 1420	MUSIC CORE CURRICULUM II	4
MUS 1690	KEYBOARD SKILLS I	1
MUS 2550	MUSIC HISTORY I	3
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (Apply to COE)	3
<b>Credits</b>		<b>17</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 215		2
Ensemble		1
MUS 2410	MUSIC CORE CURRICULUM III	4
MUS 2690	KEYBOARD SKILLS II	1
MUS 3600	MUSIC EDUCATION CORE I - ELEMENTARY	5
MUS 2600	FUNDAMENTALS OF CONDUCTING	2
TED 2300	HUMAN GROWTH AND LEARNING	3
<b>Credits</b>		<b>18</b>

**Summer**

Social Science		3
<b>Credits</b>		<b>3</b>

**Junior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 2420	MUSIC CORE CURRICULUM IV	4
MUS 3610	MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL	5
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Credits</b>		<b>18</b>

**Spring**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 315		2
Ensemble		1
MUS 3630	MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS	5
MUS 3660	ADVANCED CONDUCTING	2
MUS 2560	MUSIC HISTORY II	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Credits</b>		<b>16</b>

**Summer**

Natural/Physical Science with Lab		4
<b>Credits</b>		<b>4</b>

**Senior****Fall**

MUS 1000	APPLIED MUSIC LABORATORY RECITAL	0
MUS 415		2
Ensemble		1
MUS 3640	MUSIC EDUCATION FINAL PRACTICUM	2
MUS 4190	RECITAL	1
Natural/Physical Science		3
Humanities and Fine Arts		3
Social Science		3
<b>Credits</b>		<b>15</b>

**Spring**

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>137</b>

\*Students are ultimately responsible for completing all coursework

<sup>1</sup> MUS 1080 – offered online every semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## School of the Arts

Founded in 2015, the School of the Arts is one of three within the College of Communication, Fine Arts and Media. Comprised of Art & Art History (p. 470), Theatre (p. 499), and the Writer's Workshop (p. 506), the school fosters probing inquiry of the world and develops in the scholar-artist powers of observation, creativity, reflection, and critical analysis.

Located in the award-winning Weber Fine Arts Building, completed in 1992 and designed to be an "inhabited sculpture on campus," the school's facilities include the UNO Art Gallery, dedicated studio spaces for art-making, acting, directing, theatrical design and construction, a Black Box Theatre, computer labs, traditional lecture and seminar rooms, and informal gathering spaces.

Enriched by the cultural diversity of our metropolitan home, the School of the Arts' 44 faculty members are dedicated to helping students understand the relationship between the arts and our communities' well-being, seeing expression as a means to connect diverse ideas and people.

## Art and Art History

Art & Art History educates artists, scholars and teachers by fostering creative expression, visual literacy, and critical thinking through practice and research. By developing mastery of various disciplines in art, students are prepared to become leaders in their chosen careers and make positive contributions to the world. Art & Art History is fully accredited by the National Association of Schools of Art and Design (NASAD).

### Contact Information

For more information, contact Art & Art History at 402.554.2420.

Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/art-and-art-history/>)

### Admissions

Any student enrolled in the College of Communication, Fine Arts and Media may declare a major in Art & Art History. To advance to upper level courses, students working on their BASA must pass a portfolio review (ART 2000), which is normally conducted after a student has completed the Studio Core I courses, or the equivalents.

### Degrees Offered

- Art History, Bachelor of Arts (p. 476)
- Studio Art, Bachelor of Arts (p. 480)
- Studio Art, Bachelor of Fine Arts (p. 488)

### Writing in the Discipline

Writing in the discipline course: All students are required to take a writing in the discipline course within their major. For Art & Art History this is WRWS 3500 or another approved course.

### Minors Offered

- Art History Minor (p. 479)
- Studio Art Minor (p. 496)

## Art History

Art History is an interdisciplinary field that studies the most significant artists and artworks in human history and emphasizes the role of visual culture from the past to the present. Students majoring in Art History at UNO can prepare for advanced graduate study in art history as well as careers in museum studies or art administration.

- Art law/anti-forgery specialist
- Interior designer
- Art conservationist/restorer
- Museum curator
- Gallerist
- Art/estate appraiser
- Exhibit installation technician

## Studio Art

The programs in studio art provide a comprehensive art education that prepares students with the technical skills, historical context, and theoretical knowledge to create meaningful artistic contributions. Visual imagery created through painting, drawing, printmaking, book arts, ceramics, sculpture, graphic design, media arts, or game design are emphasized in this program. Additionally, students can also pursue teacher certification to apply their artistic skills in the K-12 classroom.

### 2D

- Artist
- Fashion illustrator
- Comic illustrator
- Storyboarder
- Medical illustrator
- Art therapist
- Concept artist
- Art educator

### 3D

- Sculptor
- Art educator
- Special effects artist
- 3D animator

### Graphic Design

- Corporate graphic designer
- Web designer
- Marketing/advertising artist
- UX/UI designer

### Media Arts (Intermedia and Digital Art/Game Design)

- Concept/character artist
- Photographer
- 3D Animator
- UX/UI designer
- Game art director
- Environmental design artist

### Art, K-12 Education

- Elementary art educator
- Secondary art educator
- Tutor

**ART 1010 ART APPRECIATION (3 credits)**

This course is designed as an introductory-level art history for the non-art major. It surveys the aesthetic principles of the visual arts and their interpretation in a socio-historical context. (May not be taken for major credit.) Lab fee required.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ART 1040 CROSS-CULTURAL SURVEY OF ART (3 credits)**

This is an introductory course that explores the painting, sculpture and decorative arts of five cultures: Mesoamerican, Native American, Asian, European and African. Typical of art history introductory courses, it surveys several cultures and time periods. Students explore reasons for making art and its relationship to the religion, politics and everyday life of the cultures. This course also explores the influence of these various cultures on contemporary American art. Lab fee required.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 1100 FOUNDATION: DRAWING (3 credits)**

This course is an introduction to the essential tools of art making through an active exploration of drawing mediums and design concepts. The focus is on the development of conceptual and technical skills used in contemporary studio practice. The course will have a strong emphasis on learning to see in the context of an observational studio practice.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1110 FOUNDATION: 3D DESIGN (3 credits)**

This course is an introduction to the technical and conceptual aspects of three dimensional design, focusing on drawing and sculpture problems. Students will develop an understanding of 3-D design components and principles, learn handmade and shop oriented technologies, and explore analytical and conceptual drawing. They will also address critical skills and the cultural analysis of art practice.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1210 FOUNDATION: 2-D DESIGN (3 credits)**

This course is an introduction to the elements and principles of design utilizing a variety of 2-D media and formats. These will be investigated through compositional strategies, studio techniques, gestalt understanding, critical thinking and concepts of contemporary methodologies in art making. Lab fee required.

**ART 1220 FOUNDATION: DIGITAL MEDIA (3 credits)**

An introduction to digital art and design skills, nomenclature, and practice while learning aesthetics and art and design history. Students learn to balance practical knowledge with visual, theoretical, and historical frameworks, and they complete digital skills exercises that incorporate art and design history. These digital skills are then practiced and reinforced with more in-depth art and design projects.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1810 WATERCOLOR I (3 credits)**

This course cover beginning watercolor techniques with basic water media skills taught in the class. No experience is necessary for students enrolled in 1810.

**ART 1820 WATERCOLOR II (3 credits)**

This course will review fundamental methods and techniques associated with watercolor painting and will introduce more advanced techniques. Advanced watercolor students submit a written contract for their semester plan which includes the concept or content and approximate number of paintings. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 credit hours.)

**Prerequisite(s)/Corequisite(s):** ART 1810

**ART 2000 CORE ONE PORTFOLIO REVIEW (0 credits)**

ART 2000 Core One Portfolio Review is a zero credit hour course offered every Fall and Spring semester. All BASA majors on the 2013-14 catalog year and after must complete the ART 2000 Core I Portfolio review to graduate with the BASA or BFA major. ART 2000 will usually be completed during the sophomore year; i.e. between 27 and 57 credit hours, but may be completed later.

**Prerequisite(s)/Corequisite(s):** Students must complete ART 1100; ART 1110; ART 1210; ART 1220. Not open to non-degree graduate students.

**ART 2050 SURVEY OF WESTERN ART HISTORY I (3 credits)**

A survey of the major developments in painting, sculpture and architecture from Paleolithic cave paintings through the Middle Ages.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 2060 SURVEY OF WESTERN ART HISTORY II (3 credits)**

This course is a survey of the major developments in painting, sculpture and architecture from the Renaissance to the 20th century. Lab fee required.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 2070 ART OF INDIA AND SOUTHEAST ASIA (3 credits)**

A study of the arts of India and cultures under its influence, with attention to religious and philosophical background. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore standing. Not open to non-degree graduate students.

**ART 2080 ART OF CHINA AND JAPAN (3 credits)**

This course is a study of the arts of China and Japan, with attention to religious and philosophical backgrounds. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore standing . Not open to non-degree graduate students.

**ART 2100 LIFE DRAWING I (3 credits)**

Life Drawing I is an introduction to drawing the human form. The goal of the course is to introduce drawing media and relate them to the problems of drawing the figure. Both perceptual and conceptual skill building are emphasized. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210.

**ART 2110 LIFE DRAWING II (3 credits)**

Life Drawing II is an expansion of the instruction and skill set obtained during Life Drawing I. This course continues to assist the student become aware of unfamiliar forms in the figure. Perceptual and conceptual skill building is again emphasized. Lab Fee required.

**Prerequisite(s)/Corequisite(s):** ART 2100

**ART 2200 TYPEFACE DESIGN AND TYPOGRAPHY (3 credits)**

Typeface Design and Typography is foundational to the practice of graphic design and the Graphic Design Concentration sequence. This intensive studio course focuses on the skills, theory, history and practice of typeface design as well as the theory and practice of typography and layout.

**Prerequisite(s)/Corequisite(s):** ART 1220 ART 3130

**ART 2300 WEB DESIGN (3 credits)**

This course is an introduction to basic web design skills and topics, with an emphasis on design and visual communication.

**Prerequisite(s)/Corequisite(s):** ART 1220. Not open to non-degree graduate students.

**ART 2600 SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS (3 credits)**

This course is a survey of the history of the Western comic from its earliest days to the modern era.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ART 2610 EXPLORATION OF GLOBAL COMICS (3 credits)**

This course is a survey of the history, influences and evolution of comics from countries around the world such as France, Italy, the Middle East, Japan, South America and Africa. Students will come to understand how comics grew and evolved under different social, political and cultural climates around the world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ART 3000 MEDIA ARTS 1 (3 credits)**

This course is an introduction and overview to the concentration of Media Arts. The curriculum is designed to provide a basic knowledge of electronic imaging and production techniques for students wishing to continue in digital media or those working with media production artists. Areas introduced will be Digital Image Production, Digital Video Production, and Animation.

**Prerequisite(s)/Corequisite(s):** ART 1220 or permission of instructor

**ART 3100 ADVANCED DRAWING I (3 credits)**

Instruction in drawing at an advanced level to develop practical skills and techniques through directed classroom projects.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3110 ADVANCED DRAWING II (3 credits)**

Instruction in drawing at an advanced level to develop practical skills and techniques through directed classroom projects. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 2110 and ART 3100

**ART 3120 MEDIA ARTS 2 (3 credits)**

Advanced overview of Intermedia and digital production as well as critical theory for artists. The course includes both fine art and applied uses of Intermedia and digital art through the development of individual and group projects using digital and electronic media means.

**Prerequisite(s)/Corequisite(s):** ART 3000 or permission of instructor.

**ART 3130 GRAPHIC DESIGN 1 (3 credits)**

The first course in the Graphic Design sequence, Graphic Design I is an upper division course focusing on the essential elements of Graphic Design as a discipline and practice. Working individually, students learn the tools, terminology, theory, and history of Graphic Design as a professional and artistic practice. Focused attention and time is spent learning conceptualization skills, digital skills, design practice and the relationship between the designer and their social and historical context.

**Prerequisite(s)/Corequisite(s):** ART 1220, or permission of instructor

**ART 3140 COMPUTER GENERATED IMAGERY (3 credits)**

The goal of this course is to introduce students to basic principles and aesthetic considerations of computer generated imagery and interactive virtual spaces (such as game mods and second life). The course will focus on the use of computers as a tool to generate three dimensional forms and create spaces and navigable worlds. The course exposes students to a variety of theoretical and aesthetic positions and encourages them to think of CGI and virtual space building as an art making process. Students will produce art works through the acquisition of technical skills and the exploration of creative uses within the medium.

**Prerequisite(s)/Corequisite(s):** ART 1220 or permission of the instructor

**ART 3150 VIDEO ART (3 credits)**

An introduction to video art production and critical theory for artists. The course exposes students to a variety of theoretical and aesthetic positions and encourages them to think of video as an art making process rather than mass media product. Students are required to produce a number of video art works. Production rather than consumption is stressed as a pedagogical mode.

**Prerequisite(s)/Corequisite(s):** ART 3000 or permission of instructor

**ART 3160 GAME DESIGN AS ART (3 credits)**

This course will encompass theory and practice of game development, game creation as an art process, and an exploration of the work of artists who have created game based work. Areas of study during the course will include game design and mechanics, explorations of theory, narrative and storytelling with game paradigms, social and ethical concerns of gaming and gaming as cultural resistance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**ART 3170 DIGITAL GAME DESIGN (3 credits)**

This course provides an introduction to digital game development. It will explore all aspects of creating 2d games. Students will work on individual and team projects. Students will learn to do concept art, pre-production planning, prototyping and testing, all working towards creating completed games.

**Prerequisite(s)/Corequisite(s):** Non-degree graduate students not allowed.

**ART 3200 THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN (3 credits)**

This course is an introduction to the typographic principles and fundamental letterpress techniques as applied to printed books. Each student learns hand typesetting and letterpress procedures, then designs and prints a small edition of their selected text. Lab fee required.

**ART 3210 COLOR THEORY (3 credits)**

Instruction in the study of color through directed classroom assignments.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3220 HAND PRODUCED BOOK II: LETTERPRESS PRINTING (3 credits)**

Continuing work in typography and book design with an emphasis on book illustration, multi-color printing, and the standardization and control of edition work. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3200

**ART 3230 BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING (3 credits)**

This course investigates basic approaches to bookbinding, introducing students to the history, tools and techniques of the discipline. In addition to the concertina structure and simple presentation wrappers, students execute a variety of non-adhesive bindings, both Western and Japanese, and learn basic case-binding methods. Lab fee required.

**ART 3250 PATTERNED PAPER (3 credits)**

This course examines various techniques employed in the creation of decorative patterned papers traditionally used in bookbinding for both cover material and/or end sheets. The emphasis of the course will be on effective pattern design, the mastery of pattern paper production methods, and fine craft standards. Lab fee required.

**ART 3300 ELEMENTARY ART METHODS (3 credits)**

Study of the theory, methods, curriculum and recent research affecting art education with emphasis on the elementary art program. Lab fee required.

**Prerequisite(s)/Corequisite(s):** TED 2400 & Praxis Core, K-12 ART/ED majors only. Junior standing. Lab fee required.

**ART 3304 ELEMENTARY ART FIELD EXPERIENCE (0 credits)**

ART 3304 is an in-school practicum taken in conjunction with ART 3300.

Candidates must demonstrate competencies related to performance in their assigned classroom. This is the first of two required art practicum experiences prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** EDUC 2520 or TED 2400; Co-requisite ART 3300. Not open to non-degree graduate students.

**ART 3310 ELEMENTARY SCULPTURE (3 credits)**

This course begins the exploration of the 3-dimensional artistic form which can be constructed using a variety of materials including clay, plaster, wood, steel and new media. Lab fee required..

**Prerequisite(s)/Corequisite(s):** ART 1220

**ART 3320 INTERMEDIATE SCULPTURE (3 credits)**

Intermediate Sculpture continues and expands upon the elementary level of sculpture and builds upon methods, technologies, problem solving and professional practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3310

**ART 3330 ART IN PUBLIC PLACES (3 credits)**

The goal of this course is to introduce students to the concepts and practice related to displaying artwork in public places. Following a thorough examination of the history of public art, the course will focus on the various visual languages and iconography appropriate for public venues. The course emphasizes building original artwork using both traditional and digital technologies, displaying work in public spaces, artist responsibilities and related professional practice.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3340 DIGITAL SCULPTURE - DESIGN AND BUILD TECHNOLOGIES (3 credits)**

The goal of this course is to introduce students to the methods of designing objects in a digital environment and realizing them as objects in the physical world. Students will learn to create forms using a variety of 3D modeling software and scanning technologies. The course will introduce students to the Autodesk suite of programs, including 3D Studio Max, Maya Inventor, 123D Catch, as well as Zbrush. Once students have achieved a high level of competency on the computer, the class will begin exploring systems for building their creations. Using Make 123D, Pepakura and Makerware students will fabricate objects in plastic, cardboard and wood. Additionally, the class will address both the artistic and functional applications of these methods.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3360 APPLIED ART & DESIGN (3 credits)**

This course is designed to present an opportunity for education and other undergraduate students to develop basic skills, knowledge and appreciation of the arts and crafts of our culture and other world cultures. The course content will be individualized for the purposes of adapting methods, values, content, and media for students working with special populations or in special settings. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore.

**ART 3370 TECHNOLOGY IN ARTS EDUCATION (3 credits)**

This course is specifically designed for pre-service art teachers to learn how to integrate media arts, visual and instructional technology, and digital visual culture into arts curriculum appropriate for application to K-12 contexts. Students will critically examine digital arts, digital art media and technology, and digital visual culture environments and address pedagogical and implementation issues as they simultaneously create their own digital art and digital visual culture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Prereq: TED 2400 and Praxis Core; K-12 ART/ED majors only. Coreq: ART 3300. Or with permission of the instructor. Junior standing. Lab fee required. Not open to non-degree graduate students.

**ART 3410 ELEMENTARY PAINTING (3 credits)**

Instruction in oil painting permits each student the time and environment to work and develop individually. Perceptual and conceptual skill building emphasized. Knowledge of contemporary painting integral to painting practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3420 INTERMEDIATE PAINTING (3 credits)**

Instruction in oil painting permits each student the time and environment to work and develop individually. Emphasis on developing cohesive body of work in context of experimentation. Knowledge of contemporary painting integral to painting practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3410

**ART 3510 ELEMENTARY PRINTMAKING (3 credits)**

This is an introductory course to the history and studio practices of printmaking. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3520 PHOTOGRAPHIC DIGITAL PRINTMAKING (3 credits)**

Introduction to photographic and digital printmaking technologies including pre-press and printing techniques. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3530 PAPERMAKING (3 credits)**

This course examines the history and techniques of classic papermaking, sheet formation and producing edition sheets. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3610 ELEMENTARY CERAMICS (3 credits)**

This course is an introduction to the medium of ceramics. The focus of this course will be the use of clay as a sculptural medium with the emphasis on various, basic techniques for creating objects in clay. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1220

**ART 3620 INTERMEDIATE CERAMICS (3 credits)**

This course is a continuation of processes covered in the Elementary Ceramics course with basic pottery techniques utilizing the wheel, hand building, object prototyping and advanced mold making. Additional emphasis will be on scale and completion of mid-to large size projects.

**Prerequisite(s)/Corequisite(s):** ART 3610. Lab fee required.

**ART 3700 INTRODUCTION TO ANCIENT ART (3 credits)**

This course provides an introduction into the art and cultures of the ancient Mediterranean areas. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 2050 or permission of instructor. Not open to non-degree graduate students.

**ART 3710 EGYPTIAN ART (3 credits)**

This course will examine ancient Egyptian culture through its art and architecture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of Art 2050 & Art 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3720 GREEK ART (3 credits)**

This course will immerse students in the art and culture of ancient Greece. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3730 ETRUSCAN & ROMAN ART (3 credits)**

This course provides an in-depth investigation of Etruscan and Roman civilizations. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3750 AMERICAN ART (3 credits)**

This course provides a study of art, architecture, and material culture produced in the United States approached through varied contexts (artistic, religious, political, economic, etc.) and methodologies. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3760 ART HISTORY SEMINAR (3 credits)**

This class prepares students for advanced level art history courses as well as a career in art history and/or related fields. Basic skills such as critical thinking, analytical reading, traditional and innovative research methods, writing, and public speaking will be emphasized.

**Prerequisite(s)/Corequisite(s):** ART 2050 and ART 2060

**ART 3770 HISTORY OF ARCHITECTURE TO 1850 (3 credits)**

A survey of the history, aesthetics and technical developments in architecture from ancient times to the middle of the 19th century. Lab fee required.

**Prerequisite(s)/Corequisite(s):** None. Recommended: ART 2050 or ART 2060 (prereq or coreq).

**ART 3780 HISTORY OF ARCHITECTURE SINCE 1850 (3 credits)**

This course is a survey of the history of architecture since the coming of the industrial age, including the major schools and movements in architecture of the 20th century.

**Prerequisite(s)/Corequisite(s):** None. Recommended: ART 2050 or ART 2060. Lab fee required.

**ART 3800 HISTORY OF DESIGN (3 credits)**

The history of modern global design movements, primarily 1851 to present. The movements cover a range of media, from graphic arts and industrial design to furnishing and interior design.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3830 HISTORY OF PHOTOGRAPHY (3 credits)**

This course provides an introduction to the history of photography from its earliest forms to that of contemporary society and culture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3860 WOMEN IN ANCIENT AND MEDIEVAL ART (3 credits)**

The purpose of this course is to provide an introduction of women through the art and culture of the ancient Mediterranean and western Middle Ages.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3870 GENDER & SEXUALITY IN MODERN ART (3 credits)**

This course provides an introduction to topics of gender and sexuality in modern art, from 1860 to the present.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3910 INTERMEDIATE PRINTMAKING (3 credits)**

Intermediate Printmaking expands upon basic printmaking concepts and techniques and includes monotype variations, intaglio techniques, Moku Hanga woodcuts and other woodcut processes. Students will be involved with drawing, creating, problem solving and understanding the printmaking studio and its processes.

**Prerequisite(s)/Corequisite(s):** ART 3510. Not open to non-degree graduate students.

**ART 4000 SPECIAL SEMINARS IN ART EDUCATION (1-3 credits)**

A series of intensive courses in the history and theory of art education designed specifically for elementary and secondary school art teachers. These courses are scheduled as special seminars or workshops according to purpose. (Cross-listed with ART 8006.)

**Prerequisite(s)/Corequisite(s):** Junior and Department Permission

**ART 4010 SPECIAL TOPICS IN STUDIO ART (3 credits)**

This course concerns itself with a variety of limited topics in the field of Studio Art. At times this course is coordinated with an external event such as a visiting artist, exhibition or study trip. It may also be considered a testing ground for acceptance and interest in a relatively new topic in Studio Arts. Exact content will be determined by the offering instructor.

**Prerequisite(s)/Corequisite(s):** Prerequisites of each 4010 course will be determined by the instructor and therefore will require special permission.

**ART 4020 PROFESSIONAL STUDIO PRACTICES (3 credits)**

This is a capstone course for the Studio Arts area that includes book arts, ceramics, drawing, painting, printmaking, sculpture and media (2D, 3D, and Media). During the semester, students will learn the administrative component that is essential for cultivating and maintaining a sustainable studio practice in art. Activities include writing artist statements, an artist curriculum vitae alongside participating in the simulated arts activities of applying for an exhibition and artist grant and understanding the benefits and liabilities of social media.

**Prerequisite(s)/Corequisite(s):** Students must be of Junior standing. Not open to non-degree graduate students.

**ART 4130 MEDIA ART III (3 credits)**

This is a digital studio course for students interested in exploring interactive digital projects using current or emerging technologies. The course includes both fine art and applied uses of digital art through the development of individual and group projects using digital and electronic media means. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 3120 or permission of instructor.

**ART 4140 COMPUTER GENERATED IMAGERY II (3 credits)**

This course is a continuation of principles and practices introduced in ART 3140. The goal of this course is intended for experienced students to create projects that explore advanced principles and aesthetic considerations of computer generated imagery and interactive 3d virtual spaces.

**Prerequisite(s)/Corequisite(s):** ART 3140 or permission of the instructor.

**ART 4150 GRAPHIC DESIGN 2 (3 credits)**

A continuation of the Graphic Design sequence, Graphic Design 2 is an advanced course utilizing the knowledge and skills acquired in Graphic Design 1. In Graphic Design 2 students apply acquired knowledge and skills to solve design problems for more complex systems. Intermediate digital skills are paired with intermediate production and materials problems as students complete product and package design systems. These design systems are then paired with companion web and video components. Additionally, students continue their study of professional practices and presentation skills.

**Prerequisite(s)/Corequisite(s):** ART 3130, or permission of instructor.

**ART 4160 GRAPHIC DESIGN 3 (3 credits)**

A continuation of the Graphic Design sequence, Graphic Design 3 is an advanced, professional simulation course utilizing the knowledge and skills acquired in Graphic Design 1 and 2. Working individually and in teams, students create large-scale design systems over multiple communications channels for consumer product or services. The course culminates in a thesis presentation with accompanying brand book.

**Prerequisite(s)/Corequisite(s):** ART 4150, or permission of instructor.

**ART 4170 GRAPHIC DESIGN STUDIO (3 credits)**

A continuation of the Graphic Design sequence, Design Studio is an advanced, capstone course utilizing the knowledge and skills acquired in Graphic Design 1, 2, and 3. Working individually and in teams, students design thesis research projects, create professional portfolios, present their work to the public, and work on client projects for on and off-campus organizations.

**Prerequisite(s)/Corequisite(s):** ART 4160, or permission of instructor.

**ART 4180 ADVANCED DIGITAL GAME DESIGN (3 credits)**

This course provides an advanced experience to digital game development. It explores all aspects of creating 3d games. Students will work on individual and team projects and will learn concept art, pre-production planning, prototyping and testing while working towards creating completed games using a three dimensional platform.

**Prerequisite(s)/Corequisite(s):** ART 3140, ART 4140, or permission of the instructor. Not open to non-degree graduate students.

**ART 4190 GAME DESIGN STUDIO (3 credits)**

This course provides a capstone study in game development. It explores game design, game prototyping, finalization, distribution and promotion. Students will work in teams to conceptualize, pitch, prototype, and present an audience ready game. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 4180, or permission of instructor. Not open to non-degree graduate students.

**ART 4210 PRINTED BOOKS (3 credits)**

This course covers the invention of moveable type through the refinement in printing styles and technology to the present age.

**Prerequisite(s)/Corequisite(s):** ART 3220 and ART 3230 or permission of instructor.

**ART 4300 SECONDARY ART METHODS (3 credits)**

This course is the study of theory, methods, art curriculum content, and recent research in art education relative to art education in middle and high school settings. Lab fee required

**Prerequisite(s)/Corequisite(s):** TED 2400 & Praxis Core; K-12 ART/ED majors only. Junior standing.

**ART 4310 ADVANCED SCULPTURE (3 credits)**

Advanced work in area of student's choice with facilities for oxyacetylene welding, arc welding and wood working. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8316.)

**Prerequisite(s)/Corequisite(s):** ART 3310

**ART 4320 BACHELOR OF FINE ARTS INDEPENDENT STUDY I (3 credits)**

This course is an advanced individualized study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design.

**Prerequisite(s)/Corequisite(s):** Advanced level courses in area of concentration, and permission of instructor.

**ART 4330 BACHELOR OF FINE ARTS INDEPENDENT STUDY II (3 credits)**

BFA II is the second semester of an advanced individualized study in a studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 (BFA I) in the area of emphasis.

**ART 4340 BACHELOR OF FINE ARTS INDEPENDENT STUDY III (3 credits)**

This course is the continuation of BFA II for the advanced individualized study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. This course is only used if, for some reason the student is unable to proceed to BFA Thesis after completing BFA II. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 and 4330 and permission of instructor as this course is only used when the student is unable to proceed to the BFA Thesis.

**ART 4350 TRENDING TOPICS IN ART EDUCATION (3 credits)**

This is a series of intensive courses dealing with the theory and practice of current trends in art education designed specifically for pre-service art teachers. These courses are scheduled as special seminars or workshops according to purpose. Lab fee may be required.

**Prerequisite(s)/Corequisite(s):** Prereq: TED 2400 and Praxis Core; K-12 ART/ED majors only. Junior standing or to be determined by the instructor based upon the preparation required for an adequate understanding of the material of the course.

**ART 4410 ADVANCED PAINTING (3 credits)**

Advanced instruction in oil painting permits students the time and environment to work and develop individually. Emphasis on developing cohesive body of work as continuation from work done in Intermediate painting. Knowledge of contemporary painting integral to painting practice. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8416.)

**Prerequisite(s)/Corequisite(s):** ART 3420

**ART 4420 BACHELOR OF FINE ARTS THESIS (3 credits)**

This course is the culmination of the BFA process with an individually designed study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. A faculty committee and thesis exhibition are required for completion of this course. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 and ART 4330 and permission of instructor.

**ART 4440 INDEPENDENT STUDY IN STUDIO ART (1-3 credits)**

This course is an independent study with variable credit for studio art students who have already taken the most advanced level course in their chosen degree program.

**Prerequisite(s)/Corequisite(s):** This course requires permission from instructor.

**ART 4510 ADVANCED TECHNIQUES IN PRINTMAKING (3 credits)**

This course allows students to develop their skills in both lithography and intaglio and the color processes for each printmaking technique. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8516.)

**Prerequisite(s)/Corequisite(s):** ART 3510

**ART 4530 ART INTERNSHIP (1-3 credits)**

A tutored internship at a local arts institution that will introduce students to following areas of concentration: Curatorial Collections Research, Education Outreach, and Preparation/Installation. Working as an Artist's Studio Assistant or in the areas of Web page design or graphic design are also appropriate internship projects. Ideally, the internship should provide the student with an opportunity to gain pre-professional experiences and skills. It should also increase his or her awareness of current issues and practices within the field of art.

**Prerequisite(s)/Corequisite(s):** Reserved for studio art (BASA & BFA), Art Education, or Art History majors; junior standing & min GPA of 3.0. Permission of Faculty Advisor & Intern Sponsor required. Advanced art history, art education, or studio courses may be required.

**ART 4610 ADVANCED CERAMICS (3 credits)**

This course will consist of advanced work on the potter's wheel, casting and preparations in glaze composition, as well as loading and firing of a high-fire kiln. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8616.)

**Prerequisite(s)/Corequisite(s):** ART 3610

**ART 4730 CLASSICAL ART HISTORY (3 credits)**

This course is a study of painting, sculpture, architecture and minor arts of the classical world beginning with Cycladic art and including Minoan, Mycenaean, Greek, Etruscan and Roman art through 300 A.D. Lab fee required. (Cross-listed with ART 8736.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4750 LATE ROMAN AND BYZANTINE ART HISTORY (3 credits)**

A study of painting, sculpture and architecture of the Eastern Roman Empire from the founding of Constantinople, and of Western Europe from the time of Constantine to the dissolution of the Western Roman Empire. Lab fee required. (Cross-listed with ART 8756.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4770 EARLY MEDIEVAL ART (3 credits)**

This course provides a study of painting, sculpture and architecture of Western Medieval Art. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4780 LATE MEDIEVAL ART HISTORY (3 credits)**

This course is a study of painting, sculpture and architecture of the European Middle Age periods of Romanesque and Gothic Art. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 4810 NORTHERN EUROPEAN RENAISSANCE ART HISTORY (3 credits)**

This course is a study of the paintings, sculpture and architecture during the 14th, 15th and 16th centuries in France, the Low Countries, Germany, Spain and England. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 4830 ITALIAN RENAISSANCE ART HISTORY (3 credits)**

Study of painting, sculpture and architecture in Italy during the 14th, 15th and 16th centuries. Lab fee required. (Cross-listed with ART 8836.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4850 BAROQUE AND ROCOCO ART HISTORY (3 credits)**

This course is a study of painting, sculpture and architecture in Europe during the 17th and 18th centuries. Lab fee required. (Cross-listed with ART 8856.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4880 MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920) (3 credits)**

A study of the most significant developments in European art and architecture dating from the early Modern period and examined in varied contexts (artistic, religious, political, economic, etc.). (Cross-listed with ART 8886.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4890 MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968) (3 credits)**

This course explores the major artistic movements and artists active in Europe and the Americas between the end of WWI and the Vietnam Era circa 1968. (Cross-listed with ART 8896.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4900 CONTEMPORARY ART HISTORY SINCE 1968 (3 credits)**

This course introduces contemporary visual arts in a global context from 1968 to the present with topics of discussion including art, aesthetics, politics, gender and sexuality, race and economics. (Cross-listed with ART 8906.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4910 INDEPENDENT STUDY IN ART HISTORY (1-3 credits)**

This course is an independent research project under the direct supervision of the sponsoring faculty member, generally involving the writing of a paper. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Art History major in upper division and permission of instructor.

**ART 4920 ART IN THEORY AND IN PRACTICE SINCE 1900 (3 credits)**

This course introduces BFA students to the essential theories and critical positions that have shaped the practice of contemporary art in the West since 1900. It also addresses the purpose and nature of the artist's statement, the studio critique, the exhibition, and professionally written art criticism.

**Prerequisite(s)/Corequisite(s):** Acceptance in BFA program, ART 2050 & ART 2060, & ART 4890 or ART 4900. Other students will need instructor's permission. Students not meeting the min qualifications or instructor's permission will be dropped. Not open to non-degree graduate students.

**ART 4930 SPECIAL TOPICS IN ART HISTORY (3 credits)**

These illustrated lecture courses deal with a limited topic in the field of art history. The course may be coordinated with an external event such as an exhibition, publication or study trip. Lab fee required. (Cross-listed with ART 8936)

**Prerequisite(s)/Corequisite(s):** ART 2060 or instructor permission.

**ART 4940 ART HISTORY METHODS (3 credits)**

This is a seminar course surveying major developments in aesthetics and selected problems in the discipline of Art History. Required for art history majors. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), and preferably, one other art history course.

**ART 4950 ART CRITICISM (3 credits)**

A study of art criticism from antiquity to the present. Students will both engage art critical writing as a creative and analytical tool.

**Prerequisite(s)/Corequisite(s):** Senior standing in Art History and completion of or concurrent enrollment in ART 3760 or ART 4940) plus the approval of the Art History faculty.

**ART 4990 ART HISTORY THESIS (1 credit)**

Art History majors will revise a scholarly paper from an upper-level Art History course in order to obtain a well-written and thoroughly researched paper (20 pages) to submit as part of a graduate school application. Students will also give a required 20-minute oral presentation.

**Prerequisite(s)/Corequisite(s):** Senior standing in Art History and completion of or concurrent enrollment in ART 3760 (Art History Seminar) or ART 4940 (Art History Methods) plus the approval of the Art History faculty.

## Art History, Bachelor of Arts

The Bachelor of Arts in Art History offers an interdisciplinary approach to the history, technique, and theory of art, architecture, and material and visual culture. The program provides two paths of study in art history. Option A prepares students for graduate study in art history while Option B prepares students for careers in the fields of Museum Studies and Arts Administration. The Bachelor of Arts in Art History requires a minimum of 120 credit hours of course work.

## Requirements

In addition to the University General Education requirements, art history majors are required to complete courses listed below. Courses used to fulfill University General Education requirements, if they are applicable, may be used to satisfy art history specific requirements.

Code	Title	Credits
<b>Art/History/Studio Core</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ART 3760	ART HISTORY SEMINAR	3
ART 4940	ART HISTORY METHODS	3
<b>Art History Options</b>		
Select no more than one (1) course from six (6) of the following categories:		18
Ancient/Classical:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
ART 4730	CLASSICAL ART HISTORY	
Medieval:		
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
ART 4750	LATE ROMAN AND BYZANTINE ART HISTORY	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	
Renaissance/Baroque:		
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	
ART 4830	ITALIAN RENAISSANCE ART HISTORY	
ART 4850	BAROQUE AND ROCOCO ART HISTORY	
19th Century/American:		
ART 3750	AMERICAN ART	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
Modern/Contemporary:		
ART 3800	HISTORY OF DESIGN	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 3870	GENDER & SEXUALITY IN MODERN ART	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
Architecture:		
ART 3770	HISTORY OF ARCHITECTURE TO 1850	
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
Non-Western Art:		
ART 1040	CROSS-CULTURAL SURVEY OF ART	
ART 2070	ART OF INDIA AND SOUTHEAST ASIA	
ART 2080	ART OF CHINA AND JAPAN	

Theory/Criticism:	
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900
ART 4950	ART CRITICISM
<b>Art History Focus Items</b>	
Art History majors follow one of two options below:	
Option A - Graduate Study Path:	
In addition to the Art and Art History Core and Art History Options students complete:	
Studio Art or Art History Electives <sup>1</sup>	
Art History Thesis	
Option B - Museum Studies/Art Administration Path:	
In addition to the Art and Art History Core and Art History Options, students complete course work offered through the American Humanics Certificate Program (School of Public Administration) and a directed internship at a regional arts institution or museum. Students must complete:	
ART 4530	ART INTERNSHIP
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT
PA 4500	NONPROFIT FUNDRAISING
Select one of the following courses:	
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS
PA 4590	TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT
MKT 3200	BUSINESS COMMUNICATIONS
MGMT 3490	MANAGEMENT
<b>Foreign Languages</b>	
Minimum of two academic years of the same college level foreign language (or the high school equivalent as determined by the Department of Foreign Languages). Students interested in graduate study in art history must take college-level language courses, and additional course work is advised	
<b>Total Credits</b>	
<b>62-67</b>	
<sup>1</sup> Electives may include: ART 4910, ART 4930, or ART 4530	
<b>Art History Option A</b>	
<b>Freshman</b>	
<b>Fall</b>	
ART 2050	SURVEY OF WESTERN ART HISTORY I
ART 1100	FOUNDATION: DRAWING
ENGL 1150	ENGLISH COMPOSITION I
One (1) approved Math & Quantitative Literacy course	
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING
MATH 1130	QUANTITATIVE LITERACY
MATH 1220	COLLEGE ALGEBRA
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS
STAT 1530	ELEMENTARY STATISTICS
STAT 1100	DATA LITERACY AND VISUALIZATION
CMST 1110	PUBLIC SPEAKING FUNDS
Make an initial academic advising appointment on MavTrack in August/September	
Suggestion: take one course online if possible	
<b>Credits</b>	
<b>15</b>	

**Spring**

ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ART 1110	FOUNDATION: 3D DESIGN	3
ENGL 1160	ENGLISH COMPOSITION II	3
One (1) approved Social Science Class		3
Select a class that also counts for the US Diversity Requirement		
One (1) approved Natural/Physical Science Class		3

**Credits** **15**

**Sophomore****Fall**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Foreign Language	5
See advisor for approved options; see advisor if already completed 2+ years in high school	
One (1) approved Humanities/Fine Arts class	3
One (1) approved Social Science class	3
Art History areas: Ancient/Classical; Medieval; Renaissance/Baroque; 19th Century/American; Modern/Contemporary; Architecture; Non-Western; and Theory/Criticism	
Meet with advisor to discuss foreign language requirements and options	
Meet with advisor before mid-November to select spring classes	

**Credits** **14**

**Spring**

ART 3760	ART HISTORY SEMINAR	3
One (1) approved Art History option (3000 or 4000 level)		3
One (1) approved Foreign Language		5
One (1) approved Social Science class		3
One (1) elective class of choice		3
Meet with advisor before spring break to select fall classes		
Get acquainted with designated Art History faculty advisor		

**Credits** **17**

**Junior****Fall**

ART 4940	ART HISTORY METHODS	3
One (1) approved Art History option (3000 or 4000 level)		
One (1) approved Foreign Language		5
One (1) course for Option A degree track		3
Select either from studio art courses or additional art history courses		
One (1) elective class of choice		3
Meet with advisor before mid-November to select spring classes		

**Credits** **17**

**Spring**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Foreign Language	5
One (1) course for Option A	3
Select either from studio art courses or additional art history courses	
Two (2) approved Natural/Physical Science classes	4
Meet with academic advisor before spring break to select fall classes	
Choose one lecture and one lab; some may require separate class enrollment	

**Credits** **15**

**Senior****Fall**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Art History option (3000 or 4000 level)	3
One (1) course for Option A	3
Select either from studio art courses or additional art history courses	
One (1) approved option from History Department	3
One (1) elective class of choice	3

Meet with academic advisor to verify you will meet graduation requirements in spring

Meet with faculty advisor for career counseling, graduate school research, etc.

**Credits** **15**

**Spring**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved option from History Department	3
One (1) elective class of choice	3
ART 4990                      ART HISTORY THESIS	1
Apply for graduation by March 1st (available through Mavlink)	

**Credits** **13**

**Total Credits** **121**

**Art History Option B****Freshman****Fall**

ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 1100	FOUNDATION: DRAWING	3
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
One (1) approved Math & Quantitative Literacy course		3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
MATH 1130	QUANTITATIVE LITERACY	
MATH 1220	COLLEGE ALGEBRA	
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	
STAT 1530	ELEMENTARY STATISTICS	
STAT 1100	DATA LITERACY AND VISUALIZATION	

Make an initial academic advising appointment on MavTrack in August/September

Suggestion: take one course online if possible

**Credits** **15**

**Spring**

ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ART 1110	FOUNDATION: 3D DESIGN	3
ENGL 1160	ENGLISH COMPOSITION II	3
One (1) approved Social Science class		3
Select a class that also counts for the US Diversity Requirement		
One (1) approved Natural/Physical Science class (lecture)		3

Meet with advisor at least once before spring break to select fall classes

Suggestion: take one course online if possible

**Credits** **15**

**Sophomore****Fall**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Foreign Language	5

See advisor for approved options; see advisor if 2+ years already completed in high school

One (1) approved Humanities/Fine Arts class	3
One (1) approved Social Science class	3

Art History areas: Ancient/Classical; Medieval; Renaissance/Baroque; 19th Century/American; Modern/Contemporary; Architecture; Non-Western; and Theory/Criticism

Meet with advisor to discuss foreign language requirements and options

Meet with advisor before mid-November to select spring classes

**Credits** **14**

**Spring**

ART 3760	ART HISTORY SEMINAR	3
One (1) approved Art History option (3000 or 4000 level)		3
One (1) approved Foreign Language		5
One (1) approved Social Science class		3
One (1) elective class of choice		3

Meet with advisor before spring break to select fall classes

Get acquainted with designated Art History faculty advisor

**Credits** **17**

**Junior****Fall**

ART 4940	ART HISTORY METHODS	3
One (1) approved Art History option (3000 or 4000 level)		3
One (1) approved Foreign Language		5

PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3
---------	--	---

This course satisfies one requirement for Option B degree track

One (1) elective class of choice	3
----------------------------------	---

Meet with advisor before mid-November to select spring classes

**Credits** **17**

**Spring**

One (1) approved Art History option (3000 or 4000 level)	3	
One (1) approved Foreign Language	5	
PA 4500	NONPROFIT FUNDRAISING	3

This course satisfies one requirement for Option B degree track

Two (2) approved Natural/Physical Science classes	4
---	---

Choose one lecture and one lab; some may require separate class enrollment

Meet with academic advisor before spring break to select fall classes

**Credits** **15**

**Senior****Fall**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved option from History Department	3
One (1) approved American Humanities Elective	3

These options satisfy one requirement for Option B degree track: PA 4100; PA 4590; MKT 3200; MGMT 3490

One (1) elective class of choice	3
----------------------------------	---

Meet with academic advisor to verify you will meet graduation requirements in spring

Meet with faculty advisor for career counseling, graduate school research, etc.

**Credits** **15**

**Spring**

One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved Art History option (3000 or 4000 level)	3
One (1) approved option from History Department	3
One (1) elective class of choice	3

ART 4530	ART INTERNSHIP	1-3
----------	----------------	-----

This course satisfies one requirement for Option B degree track

Apply for graduation by March 1st (available through Mavlink)

**Credits** **13-15**

**Total Credits** **121-123**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Art History Minor

### Requirements

Code	Title	Credits
<b>Art History Core</b>		
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
<b>Art History Options</b>		
Select no more than one course from four of the following categories: <sup>1</sup>		12
Ancient/Classical:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
Medieval:		
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	

Renaissance/Baroque:	
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY
ART 4830	ITALIAN RENAISSANCE ART HISTORY
ART 4850	BAROQUE AND ROCOCO ART HISTORY
19th Century/American:	
ART 3750	AMERICAN ART
ART 3830	HISTORY OF PHOTOGRAPHY
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)
Modern/Contemporary:	
ART 3800	HISTORY OF DESIGN
ART 3830	HISTORY OF PHOTOGRAPHY
ART 3870	GENDER & SEXUALITY IN MODERN ART
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968
Architecture:	
ART 3770	HISTORY OF ARCHITECTURE TO 1850
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850
Non-Western Art:	
ART 1040	CROSS-CULTURAL SURVEY OF ART
ART 2070	ART OF INDIA AND SOUTHEAST ASIA
ART 2080	ART OF CHINA AND JAPAN
Theory/Criticism:	
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900
ART 4950	ART CRITICISM
Total Credits	
18	

<sup>1</sup> Note: ART 4930 for 3 credits may be applied to applicable category.

# Studio Art, Bachelor of Arts

The Bachelor of Arts in studio art (BASA) requires a minimum of 120 credit hours of course work.

The BASA provides a general liberal arts degree program with specialization in studio art. For the BASA, 54 of the required 120 credit hours are in ART courses.

## Requirements

In addition to the university General Education requirements, Studio art majors are required to complete courses listed below. Courses used to fulfill university General Education requirements, if they are applicable, may be used to satisfy studio art specific requirements.

## General Electives

As needed to meet 120 credit hour minimum requirement.

## Concentration in Studio Arts

There are four studio concentrations available in the studio art BASA degree program: 1) two dimensional arts, 2) three dimensional arts, 3) graphic design, and 4) media arts.

Code	Title	Credits
All BASA degrees will require Core I required studio courses and Art History Core required courses.		
Studio Core I		

ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2000	CORE ONE PORTFOLIO REVIEW	0
Art History Core		
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
Select one course from each of the following two groups:		6
Group A - Modern History:		
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 3870	GENDER & SEXUALITY IN MODERN ART	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	
Group B - Pre-Modern History:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	
ART 4830	ITALIAN RENAISSANCE ART HISTORY	
ART 4850	BAROQUE AND ROCOCO ART HISTORY	
Additional Art History Elective approved by advisor		3
Studio Art Concentration		
Select a studio art concentration		36
Total Credits		63

## Concentration in Two Dimensional Arts

additional requirements

Code	Title	Credits
Studio Core II		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
or ART 3330	ART IN PUBLIC PLACES	
ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
Two Dimensional Concentration		
Select 12 hours from the following list of courses, which must include intermediate and advanced, plus two electives within the concentration:		12
ART 1810	WATERCOLOR I	
ART 1820	WATERCOLOR II	
ART 2110	LIFE DRAWING II	

ART 3100	ADVANCED DRAWING I	
ART 3110	ADVANCED DRAWING II	
ART 3210	COLOR THEORY	
ART 3420	INTERMEDIATE PAINTING	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3530	PAPERMAKING	
ART 4410	ADVANCED PAINTING	
ART 4510	ADVANCED TECHNIQUES IN PRINTMAKING	

#### **BASA Electives Outside Concentration**

Students must take two studio elective OUTSIDE their designated concentration which may include 3 Dimensional, Media Arts or Graphic Design

#### **BASA Capstone**

ART 4020	PROFESSIONAL STUDIO PRACTICES	3
----------	-------------------------------	---

**Total Credits** **36**

### **Concentration in Three Dimensional Arts**

additional requirements

Code	Title	Credits
<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
or ART 3330	ART IN PUBLIC PLACES	
ART 3410	ELEMENTARY PAINTING	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3610	ELEMENTARY CERAMICS	3

#### **BASA 3D Arts Concentration**

Select 12 hours from the following list of courses, which include intermediate and advance (6); plus two (2) electives WITHIN the concentration:

ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3210	COLOR THEORY	
ART 3220	HAND PRODUCED BOOK II: LETTERPRESS PRINTING	
ART 3230	BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING	
ART 3250	PATTERNED PAPER	
ART 3320	INTERMEDIATE SCULPTURE	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3620	INTERMEDIATE CERAMICS	
ART 4210	PRINTED BOOKS	
ART 4310	ADVANCED SCULPTURE	
ART 4610	ADVANCED CERAMICS	

#### **BASA Electives OUTSIDE Concentration**

Students must take two (2) studio electives outside their designated concentration which may include courses in 2 Dimensional, Media Arts or Graphic Design.

#### **BSBA Capstone**

ART 4020	PROFESSIONAL STUDIO PRACTICES	3
----------	-------------------------------	---

**Total Credits** **36**

### **Concentration in Graphic Design**

additional requirements

Code	Title	Credits
<b>Studio Core II</b>		

ART 3000	MEDIA ARTS 1	3
----------	--------------	---

ART 3150	VIDEO ART	3
----------	-----------	---

or ART 3160 GAME DESIGN AS ART

or ART 3120 MEDIA ARTS 2

ART 3140	COMPUTER GENERATED IMAGERY	3
----------	----------------------------	---

or ART 3520 PHOTOGRAPHIC DIGITAL PRINTMAKING

Select one course from each Studio Art Electives group: 9

Group A:

ART 1810 WATERCOLOR I

ART 2100 LIFE DRAWING I

ART 3410 ELEMENTARY PAINTING

ART 3510 ELEMENTARY PRINTMAKING

Group B:

ART 3200 THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN

ART 3210 COLOR THEORY

ART 3310 ELEMENTARY SCULPTURE

ART 3330 ART IN PUBLIC PLACES

ART 3530 PAPERMAKING

ART 3610 ELEMENTARY CERAMICS

Group C:

ART 2300 WEB DESIGN

ART 4010 SPECIAL TOPICS IN STUDIO ART

ART 4130 MEDIA ART III

ART 4530 ART INTERNSHIP

ART 4920 ART IN THEORY AND IN PRACTICE SINCE 1900

#### **Graphic Design Concentration**

ART 2200	TYPEFACE DESIGN AND TYPOGRAPHY	3
----------	--------------------------------	---

ART 3130	GRAPHIC DESIGN 1	3
----------	------------------	---

ART 4150	GRAPHIC DESIGN 2	3
----------	------------------	---

ART 4160	GRAPHIC DESIGN 3	3
----------	------------------	---

ART 4170	GRAPHIC DESIGN STUDIO	3
----------	-----------------------	---

#### **BASA Capstone**

ART 4170	GRAPHIC DESIGN STUDIO	3
----------	-----------------------	---

or ART 4020 PROFESSIONAL STUDIO PRACTICES

In addition to Art History Core & Electives stated earlier, Graphic Design majors are required to take in place of one elective:

ART 3800 HISTORY OF DESIGN

**Total Credits** **36**

### **Concentration in Media Arts**

additional requirements

Note: Art History Core & Electives for Media Arts total 12 credit hours instead of 15.

Code	Title	Credits
<b>Studio Core II</b>		

ART 2100	LIFE DRAWING I	3
----------	----------------	---

Select one course from each group: 6

Group A:

ART 1810 WATERCOLOR I

ART 2110 LIFE DRAWING II

ART 3100 ADVANCED DRAWING I

ART 3410	ELEMENTARY PAINTING	
ART 3510	ELEMENTARY PRINTMAKING	
Group B:		
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3250	PATTERNED PAPER	
ART 3310	ELEMENTARY SCULPTURE	
or ART 3330	ART IN PUBLIC PLACES	
ART 3530	PAPERMAKING	
ART 3610	ELEMENTARY CERAMICS	
Studio Core II Elective to be taken in either Two Dimensional or Three Dimensional concentration.		
Art Elective		3
<b>Media Art Concentration</b>		
Students will choose from two Media Arts Concentrations: Option A (Game Design) or Option B (Intermedia and Digital Art), Both with 21 credit hrs.		21
Option A: Game Design		
ART 3140	COMPUTER GENERATED IMAGERY	
ART 3160	GAME DESIGN AS ART	
ART 3170	DIGITAL GAME DESIGN	
ART 4140	COMPUTER GENERATED IMAGERY II	
ART 4180	ADVANCED DIGITAL GAME DESIGN	
ART 4190	GAME DESIGN STUDIO	
Art Elective		
Option B:		
ART 3000	MEDIA ARTS 1	
ART 3120	MEDIA ARTS 2	
ART 3150	VIDEO ART	
ART 4130	MEDIA ART III	
Art Elective		
Art Elective		
Art Elective		
<b>BASA Capstone</b>		
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
<b>Total Credits</b>		<b>36</b>

## Studio Art with K-12 Certification Requirements

Studio Core I (12 hrs.), Studio Core II (18 hrs.), Art History Core (9 hrs.) and Art History Elective (3 hrs.) courses are the same as in the BASA with a concentration in Two Dimensional or Three Dimensional Arts.

The following courses are required:

Code	Title	Credits
<b>Studio Core I</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2000	CORE ONE PORTFOLIO REVIEW	0
<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
ART 3410	ELEMENTARY PAINTING	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	

ART 3610	ELEMENTARY CERAMICS	3
<b>Art History Core</b>		
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
Select one course from each of the following two groups:		6
Group A - Modern History:		
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
Group B - Pre-Modern History:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	
ART 4830	ITALIAN RENAISSANCE ART HISTORY	
ART 4850	BAROQUE AND ROCOCO ART HISTORY	
Plus one Art History Elective approved by advisor		3
<b>K-12 Art Concentration</b>		
ART 3300	ELEMENTARY ART METHODS <sup>1</sup>	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 4300	SECONDARY ART METHODS <sup>1</sup>	3
ART 4350	TRENDING TOPICS IN ART EDUCATION	3
<b>Studio Emphasis</b>		
A student must work with a faculty advisor to select coursework for an emphasis which must include an intermediate and advanced level class from the following:		6
ART 1820	WATERCOLOR II	
ART 2110	LIFE DRAWING II	
ART 3000	MEDIA ARTS 1	
ART 3100	ADVANCED DRAWING I	
ART 3110	ADVANCED DRAWING II	
ART 3120	MEDIA ARTS 2	
ART 3130	GRAPHIC DESIGN 1	
ART 3140	COMPUTER GENERATED IMAGERY	
ART 3170	DIGITAL GAME DESIGN	
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3210	COLOR THEORY	
ART 3220	HAND PRODUCED BOOK II: LETTERPRESS PRINTING	
ART 3230	BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING	
ART 3320	INTERMEDIATE SCULPTURE	
ART 3360	APPLIED ART & DESIGN	
ART 3420	INTERMEDIATE PAINTING	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3530	PAPERMAKING	
ART 3620	INTERMEDIATE CERAMICS	
ART 4140	COMPUTER GENERATED IMAGERY II	

ART 4150	GRAPHIC DESIGN 2	
ART 4180	ADVANCED DIGITAL GAME DESIGN	
ART 4310	ADVANCED SCULPTURE	
ART 4410	ADVANCED PAINTING	
ART 4510	ADVANCED TECHNIQUES IN PRINTMAKING	
ART 4610	ADVANCED CERAMICS	
<b>BASA Capstone Course</b>		
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
<b>College of Education Art Education Requirements <sup>2</sup></b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2300	HUMAN GROWTH AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Total Credits</b>		<b>93</b>

<sup>1</sup> It is highly recommended that ART 3300 and ART 4300 be taken in the year just prior to student teaching.

<sup>2</sup> Pursuit of the K-12 certification requires admission to the Teacher Preparatory Program through the College of Education and a successfully completed PPST.

Students who complete a degree or certificate program from Metropolitan Community College in \*Design, Interactivity & Media Arts (DIMA), or \*Photography, Video/Audio Communications Arts upon successfully completing the ART 2000 CORE I Portfolio Review, can transfer up to 18 semester hours of their specific MCC concentration coursework to be applied in the Media Arts Concentration area. If transfer hours are accepted for the Media Arts Concentration, additional hours to complete the requirement will be advanced UNO coursework selected in consultation with a UNO CFAM advisor.

## Concentration in Two Dimensional Arts

### Freshman

Fall		Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>
Spring		
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

### Sophomore

Fall		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3

WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3

**Credits 15**

### Spring

ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits 16**

### Junior

#### Fall

ART 3310	ELEMENTARY SCULPTURE	3
ART 3420	INTERMEDIATE PAINTING	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
THEA 1050	FILM HISTORY AND APPRECIATION	3

**Credits 15**

### Spring

ART 3100	ADVANCED DRAWING I	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ENGL 1200	AUTOBIOGRAPHICAL READING AND WRITING	3
JMC 3110	PHOTOGRAPHY	3

**Credits 15**

### Senior

#### Fall

ART 4410	ADVANCED PAINTING <sup>1</sup>	3
ART 3000	MEDIA ARTS 1	3
ART 4850	BAROQUE AND ROCOCO ART HISTORY	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
ART 2110	LIFE DRAWING II	3

**Credits 15**

### Spring

ART 4410	ADVANCED PAINTING <sup>1</sup>	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 4530	ART INTERNSHIP	3
ART 3110	ADVANCED DRAWING II	3
WRWS 1500	INTRODUCTION TO CREATIVE WRITING	3

**Credits 15**

**Total Credits 121**

<sup>1</sup> \*This course is repeatable

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Concentration in Three Dimensional Arts

#### Freshman

Fall		Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		Credits
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 3610	ELEMENTARY CERAMICS	3
ART 3510	ELEMENTARY PRINTMAKING	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>

#### Junior

Fall		Credits
ART 3410	ELEMENTARY PAINTING	3
ART 3320	INTERMEDIATE SCULPTURE	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
THEA 1050	FILM HISTORY AND APPRECIATION	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 3620	INTERMEDIATE CERAMICS	3
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3
JMC 3110	PHOTOGRAPHY	3
<b>Credits</b>		<b>15</b>

#### Senior

##### Fall

ART 4310	ADVANCED SCULPTURE <sup>1</sup>	3
ART 3150	VIDEO ART	3
ART 4850	BAROQUE AND ROCOCO ART HISTORY	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
WRWS 1500	INTRODUCTION TO CREATIVE WRITING	3
<b>Credits</b>		<b>15</b>

##### Spring

ART 4310	ADVANCED SCULPTURE <sup>1</sup>	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 4530	ART INTERNSHIP	3
ART 3100	ADVANCED DRAWING I	3
THEA 1630	STAGECRAFT	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> \*This course is repeatable

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Concentration in Graphic Design

#### Freshman

Fall		Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

##### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3

ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

**Credits 15**

### Sophomore

#### Fall

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 3000	MEDIA ARTS 1	3
ART 3130	GRAPHIC DESIGN 1	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3

**Credits 15**

#### Spring

ART 2200	TYPEFACE DESIGN AND TYPOGRAPHY	3
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits 16**

### Junior

#### Fall

ART 4150	GRAPHIC DESIGN 2	3
ART 3120	MEDIA ARTS 2	3
ART 3800	HISTORY OF DESIGN	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
JMC 3110	PHOTOGRAPHY	3

**Credits 15**

#### Spring

ART 4160	GRAPHIC DESIGN 3	3
ART 3410	ELEMENTARY PAINTING	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ART 2300	WEB DESIGN	3
ITIN 1110	INTRODUCTION TO IT INNOVATION	3

**Credits 15**

### Senior

#### Fall

ART 4170	GRAPHIC DESIGN STUDIO <sup>1</sup>	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3

**Credits 15**

#### Summer

ART 4170	GRAPHIC DESIGN STUDIO <sup>1</sup>	3
ART 4530	ART INTERNSHIP	3
ART 3230	BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING	3
JMC 3410	MAGAZINE EDITING, DESIGN AND PRODUCTION	3

ART 4130	MEDIA ART III	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> \*This course is repeatable

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Concentration in Media Arts

#### Media Arts: Intermedia and Digital Art

#### Freshman

		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

**Credits 15**

#### Sophomore

#### Fall

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3

**Credits 15**

#### Spring

ART 3000	MEDIA ARTS 1	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3700	INTRODUCTION TO ANCIENT ART	3

CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
ART 3120	MEDIA ARTS 2	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
THEA 1050	FILM HISTORY AND APPRECIATION	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 4130	MEDIA ART III <sup>1</sup>	3
ART 3160	GAME DESIGN AS ART	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
JMC 2320	VIDEO FIELD PRODUCTION	3
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ART 3150	VIDEO ART	3
ART 3140	COMPUTER GENERATED IMAGERY	3
ART 3800	HISTORY OF DESIGN	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
JMC 3110	PHOTOGRAPHY	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 4130	MEDIA ART III <sup>1</sup>	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 3130	GRAPHIC DESIGN 1	3
ART 4530	ART INTERNSHIP	3
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	4
<b>Credits</b>		<b>16</b>
<b>Total Credits</b>		<b>122</b>

<sup>1</sup> \*This course is repeatable

### Media Arts: Game Design

<b>Freshman</b>		
<b>Fall</b>		
		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3

MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3140	COMPUTER GENERATED IMAGERY	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 3160	GAME DESIGN AS ART	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
ART 3000	MEDIA ARTS 1	3
ART 3410	ELEMENTARY PAINTING	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
CIST 1510	CULTURE AND HISTORY OF VIDEO GAMES	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 3170	DIGITAL GAME DESIGN	3
ART 4140	COMPUTER GENERATED IMAGERY II	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
WRWS 2000	SPECIAL STUDIES IN WRITING	3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ART 4180	ADVANCED DIGITAL GAME DESIGN	3
ART 3140	COMPUTER GENERATED IMAGERY	3
ART 3800	HISTORY OF DESIGN	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
JMC 3110	PHOTOGRAPHY	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 4190	GAME DESIGN STUDIO <sup>1</sup>	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 3130	GRAPHIC DESIGN 1	3
ART 4530	ART INTERNSHIP	3
ART 2110	LIFE DRAWING II	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> \*This course is repeatable

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Studio Art with K-12 Certification

#### PK-12 Art Certification - V1

##### Freshman

		Credits
<b>Fall</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

##### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

##### Sophomore

<b>Fall</b>		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>

##### Spring

ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>

##### Junior

###### Fall

ART 1810	WATERCOLOR I	3
ART 3310	ELEMENTARY SCULPTURE	3
TED 2380 or TED 2300	DEVELOPMENT AND LEARNING IN ADOLESCENCE or HUMAN GROWTH AND LEARNING	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
PHYS 1350	PRINCIPLES OF ASTRONOMY	3
<b>Credits</b>		<b>18</b>

###### Spring

ART 4300	SECONDARY ART METHODS	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	3
HIST 2040	AFRICAN AMERICAN HISTORY I: TO 1865	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Credits</b>		<b>15</b>

###### Summer

ART 4350	TRENDING TOPICS IN ART EDUCATION	3
<b>Credits</b>		<b>3</b>

##### Senior

###### Fall

ART 3300	ELEMENTARY ART METHODS	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 3130	GRAPHIC DESIGN 1	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
<b>Credits</b>		<b>15</b>

###### Spring

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>124</b>

#### PK-12 Certification - V2

##### Freshman

###### Fall

		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

###### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

**Sophomore****Fall**

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
CMST 1110	PUBLIC SPEAKING FUNDS	3

**Credits** **12**

**Spring**

ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits** **13**

**Junior****Fall**

ART 1810	WATERCOLOR I	3
ART 3310	ELEMENTARY SCULPTURE	3
TED 2300	HUMAN GROWTH AND LEARNING	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3

**Credits** **12**

**Spring**

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	3
HIST 2040	AFRICAN AMERICAN HISTORY I: TO 1865	3

**Credits** **15**

**Summer**

ART 4350	TRENDING TOPICS IN ART EDUCATION	3
----------	----------------------------------	---

**Credits** **3**

**Senior****Fall**

ART 3300	ELEMENTARY ART METHODS	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 3130	GRAPHIC DESIGN 1	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3

**Credits** **12**

**Spring**

ART 4020	PROFESSIONAL STUDIO PRACTICES	3
PHYS 1350	PRINCIPLES OF ASTRONOMY	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
ART 4300	SECONDARY ART METHODS	3

**Senior + 1 Semester**

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
----------	---	----

**Credits** **27**

**Total Credits** **124**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

\* For a comprehensive list of elective courses please consult your advisor.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

Students in the BASA w/ PK-12 Certification program must complete the Praxis Core Academic Skills test by the completion of TED 2400. Prior to the completion of Clinical Practice students must successfully complete the Praxis II Art Content Knowledge exam. More information on both exams can be found at <https://www.unomaha.edu/college-of-education/student-services/academics/required-exams.php>

**GPA Requirements:** BASA w/ PK-12 students must have at least a 2.5 GPA at the time of applying for the Pre-Professional Education Core classes (TED 2100 and TED 2200). By the time students formally apply to the College of Education (TED 2300 and TED 2400) student GPA must be 2.75.

**Graduation Requirements:** Should students unsuccessfully complete their Clinical Practice or choose to not move forward with the PK-12 Art Certification, students may still graduate with a BASA degree.

## Studio Art, Bachelor of Fine Arts

The Bachelor of fine arts (BFA) each requires a minimum of 120 credit hours of course work.

The BFA provides a more extensive, well-rounded, performance-oriented art background which prepares students for a professional life in fine arts and post graduate study. For the BFA, 66 of the required 120 credit hours are ART classes.

To be admitted to the BFA program, a student must have declared an applicable studio art concentration or K-12 certification and meet other eligibility requirements (see the Department website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/art-and-art-history/undergraduate-programs/bfa-studio-art.php>) or a Art & Art History advisor for details).

NOTE: In order for BFA students to graduate in 120 total credit hours, the 6 hours used to fulfill the university diversity requirement must be courses which also fulfill university General Education distribution requirements.

## Requirements

In addition to the university General Education requirements, Studio art majors are required to complete courses listed below. Courses used to fulfill university General Education requirements, if they are applicable, may be used to satisfy Art & Art History specific requirements.

## General Electives

As needed to meet 120 credit hour minimum requirement.

To obtain the BFA, students complete requirements for the Bachelor of Arts in studio art (BASA), with a concentration in either two dimensional arts, three dimensional arts, graphic design and media arts.

### All BFA degrees will require Core I required studio courses and Art History Core required courses.

Code	Title	Credits
<b>Studio Core I</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2000	CORE ONE PORTFOLIO REVIEW	0
<b>Art History Core</b>		
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
Select one course from each of the following two groups:		6
Group A - Modern History:		
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 3870	GENDER & SEXUALITY IN MODERN ART	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	
Group B - Pre-Modern History:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 3860	WOMEN IN ANCIENT AND MEDIEVAL ART	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	
ART 4830	ITALIAN RENAISSANCE ART HISTORY	
ART 4850	BAROQUE AND ROCOCO ART HISTORY	
Plus one Art History Elective approved by advisor		3
<b>Studio Art Concentration</b>		
Select a studio art concentration		45
<b>Total Credits</b>		<b>72</b>

### BFA Concentration in Two Dimensional Arts

Code	Title	Credits
<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
or ART 3330	ART IN PUBLIC PLACES	
ART 3410	ELEMENTARY PAINTING	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	

ART 3610	ELEMENTARY CERAMICS	3
----------	---------------------	---

### Two Dimensional Concentration

BASA Two Dimensional courses plus an additional 12 BFA ART hours

Select 12 hours from the following, at least one of which must be a 4000 level course:

ART 1810	WATERCOLOR I	
ART 1820	WATERCOLOR II	
ART 2110	LIFE DRAWING II	
ART 3100	ADVANCED DRAWING I	
ART 3110	ADVANCED DRAWING II	
ART 3210	COLOR THEORY	
ART 3420	INTERMEDIATE PAINTING	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3530	PAPERMAKING	
ART 4410	ADVANCED PAINTING	
ART 4510	ADVANCED TECHNIQUES IN PRINTMAKING	

### BASA Electives Outside Concentration:

Students must take two studio electives Outside their designated concentration which may include 3 Dimensional; Media Arts or Graphic Design

### BFA Sequence

ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3

**Total Credits** **45**

### BFA Concentration in Three Dimensional Arts

Code	Title	Credits
<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
or ART 3330	ART IN PUBLIC PLACES	
ART 3410	ELEMENTARY PAINTING	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3610	ELEMENTARY CERAMICS	3

### BFA 3D Arts Concentration

Select 12 hours from the following list of courses which must include intermediate and advanced (6) plus two (2) electives Within the concentration:

ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3210	COLOR THEORY	
ART 3220	HAND PRODUCED BOOK II: LETTERPRESS PRINTING	
ART 3230	BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING	
ART 3250	PATTERNED PAPER	
ART 3320	INTERMEDIATE SCULPTURE	
ART 3530	PAPERMAKING	
ART 3620	INTERMEDIATE CERAMICS	
ART 4210	PRINTED BOOKS	
ART 4310	ADVANCED SCULPTURE	

ART 4610	ADVANCED CERAMICS	
<b>BASA Electives OUTSIDE Concentration</b>		
Students must take two (2) studio electives outside their designated concentration which may include courses in 2 Dimensional; Media Arts or Graphic Design		6
<b>BFA Sequence</b>		
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
<b>Total Credits</b>		<b>45</b>

### BFA Concentration in Graphic Design

Code	Title	Credits
<b>Studio Core II</b>		
ART 3000	MEDIA ARTS 1	3
ART 3150	VIDEO ART	3
or ART 3160	GAME DESIGN AS ART	
or ART 3120	MEDIA ARTS 2	
ART 3140	COMPUTER GENERATED IMAGERY	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
Select one course from each Studio Art Electives:		9
Group A:		
ART 1810	WATERCOLOR I	
ART 2100	LIFE DRAWING I	
ART 3410	ELEMENTARY PAINTING	
ART 3510	ELEMENTARY PRINTMAKING	
Group B:		
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3210	COLOR THEORY	
ART 3310	ELEMENTARY SCULPTURE	
ART 3330	ART IN PUBLIC PLACES	
ART 3530	PAPERMAKING	
ART 3610	ELEMENTARY CERAMICS	
Group C:		
ART 2300	WEB DESIGN	
ART 4010	SPECIAL TOPICS IN STUDIO ART	
ART 4130	MEDIA ART III	
ART 4530	ART INTERNSHIP	
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	

### Graphic Design Concentration

ART 2200	TYPEFACE DESIGN AND TYPOGRAPHY	3
ART 3130	GRAPHIC DESIGN 1	3
ART 4150	GRAPHIC DESIGN 2	3
ART 4160	GRAPHIC DESIGN 3	3
ART 4170	GRAPHIC DESIGN STUDIO	3

In addition to Art History Core & Electives stated earlier, Graphic Design majors are required to take in place of one elective

ART 3800	HISTORY OF DESIGN	
<b>BFA Sequence</b>		
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
<b>Total Credits</b>		<b>45</b>

### BFA Concentration in Media Arts

Code	Title	Credits
Students must then achieve candidacy in the BFA program, and complete the following:		

<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
Select one course from each group:		6

Group A:

ART 1810	WATERCOLOR I	
ART 2110	LIFE DRAWING II	
ART 3100	ADVANCED DRAWING I	
ART 3410	ELEMENTARY PAINTING	
ART 3510	ELEMENTARY PRINTMAKING	

Group B:

ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3250	PATTERNED PAPER	
ART 3310	ELEMENTARY SCULPTURE	
or ART 3330	ART IN PUBLIC PLACES	
ART 3530	PAPERMAKING	
ART 3610	ELEMENTARY CERAMICS	

Studio Core II Elective to be taken in either Two Dimensional or Three Dimensionsl concentration.

Art Elective	3
--------------	---

### Media Art Concentraiton

Student will choose from two media arts concnetrations: Option A (Game Design) or Option B (Intermedia and Digital Art), Both with 21 credit hours	21
--	----

Option A: Game Design

ART 3140	COMPUTER GENERATED IMAGERY	
ART 3160	GAME DESIGN AS ART	
ART 3170	DIGITAL GAME DESIGN	
ART 4140	COMPUTER GENERATED IMAGERY II	
ART 4180	ADVANCED DIGITAL GAME DESIGN	
ART 4190	GAME DESIGN STUDIO	

3 credit hours in upper division (3000 level and above) ART history course work under the advisement of their thesis chair in addition to the BASA requirements	3
---	---

Option B:

ART 3000	MEDIA ARTS 1	
ART 3120	MEDIA ARTS 2	
ART 3150	VIDEO ART	
ART 4130	MEDIA ART III	

9 credit hours in upper division (3000 level and above) ART studio course work under the advisement of their thesis chair in addition to the BASA requirements	9
--	---

### BFA Sequence

ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3

ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
----------	--	---

### Studio Art K-12 Certification/Bachelor of Arts in Fine Arts Two or Three Dimensional Dual Degree, BFA Requirements

Students earning the BASA with K-12 certification can earn the dual degree of BFA with Two Dimensional Arts or Three Dimensional Arts concentration. The dual degree requires a minimum of 150 credit hours of course work. In addition to fulfilling the requirements for the BASA with K-12 certification, the dual degree of BFA with Two Dimensional Arts or Three Dimensional Arts concentration requires the student to apply to the BFA program (see the Art and Art History Unit website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/art-and-art-history/undergraduate-programs/bfa-studio-art.php>) or faculty advisor for details). Once accepted into the BFA Program, students must successfully complete the following BFA sequence of courses:

Code	Title	Credits
<b>BFA Sequence</b>		
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
<b>ART Elective</b>		
One elective course from Two Dimensional Arts or Three Dimensional Arts "Advanced work" course list. Course to be determined in consultation with a Department faculty advisor.		3
<b>Total Credits</b>		<b>15</b>

#### Total ART Credit Hours: 75

Once a student enters the BFA program, they are carefully monitored to remain focused on their skillset and artwork. If a student fails a BFA semester, they must retake that semester and may not advance to the next BFA level until they have mastered the previous course.

Occasionally a professor may request a student to take an additional semester of BFA (BFA III or ART 4340) before entering their Thesis semester. This additional semester gives the student an opportunity to enhance their growth and development prior to their Thesis semester. This additional semester would add 3 additional hours to the BFA sequence.

Students who completing complete a degree or certificate program from Metropolitan Community College in \*Design, Interactivity & Media Arts (DIMA), or \*Photography, Video/Audio Communications Arts upon successfully completing the ART 2000 CORE I Portfolio Review, can transfer up to 18 semester hours of their specific MCC concentration coursework to be applied in the Media Arts Concentration area. If transfer hours are accepted for the Media Arts Concentration, additional hours to complete the requirement will be advanced UNO coursework selected in consultation with a UNO CFAM advisor.

### Concentration in Two Dimensional Arts

#### Freshman

Fall		Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3

LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
----------	--	---

#### Credits 15

#### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

#### Credits 15

#### Sophomore

##### Fall

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3410	ELEMENTARY PAINTING	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
THEA 1010	THEATRE APPRECIATION	3

#### Credits 15

##### Spring

ART 3420	INTERMEDIATE PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

#### Credits 16

#### Junior

##### Fall

ART 4410	ADVANCED PAINTING	3
ART 3310	ELEMENTARY SCULPTURE	3
ART 3510	ELEMENTARY PRINTMAKING	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3

#### Credits 15

##### Spring

ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 3100	ADVANCED DRAWING I	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ENGL 1200	AUTOBIOGRAPHICAL READING AND WRITING	3

#### Credits 15

#### Senior

##### Fall

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 3000	MEDIA ARTS 1	3
ART 4850	BAROQUE AND ROCOCO ART HISTORY	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
ART 2110	LIFE DRAWING II	3

#### Credits 15

**Spring**

ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
ART 4530	ART INTERNSHIP	3
ART 3110	ADVANCED DRAWING II	3
WRWS 1500	INTRODUCTION TO CREATIVE WRITING	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**Concentration in Three Dimensional Arts****Freshman**

<b>Fall</b>		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

**Spring**

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
<b>Credits</b>		<b>15</b>

**Spring**

ART 3320	INTERMEDIATE SCULPTURE	3
ART 3410	ELEMENTARY PAINTING	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>

**Junior****Fall**

ART 4310	ADVANCED SCULPTURE	3
ART 3610	ELEMENTARY CERAMICS	3
ART 3510	ELEMENTARY PRINTMAKING	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
<b>Credits</b>		<b>15</b>

**Spring**

ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 3620	INTERMEDIATE CERAMICS	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3
THEA 1010	THEATRE APPRECIATION	3
<b>Credits</b>		<b>15</b>

**Senior****Fall**

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 3150	VIDEO ART	3
ART 2110	LIFE DRAWING II	3
ART 4850	BAROQUE AND ROCOCO ART HISTORY	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
<b>Credits</b>		<b>15</b>

**Spring**

ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
ART 4530	ART INTERNSHIP	3
THEA 1630	STAGECRAFT	3
WRWS 1500	INTRODUCTION TO CREATIVE WRITING	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Concentration in Graphic Design

### Freshman

		Credits
<b>Fall</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

### Sophomore

<b>Fall</b>		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 3000	MEDIA ARTS 1	3
ART 3130	GRAPHIC DESIGN 1	3
ART 3410	ELEMENTARY PAINTING	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ART 2200	TYPEFACE DESIGN AND TYPOGRAPHY	3
ART 4150	GRAPHIC DESIGN 2	3
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>

### Junior

<b>Fall</b>		
ART 4160	GRAPHIC DESIGN 3	3
ART 3120	MEDIA ARTS 2	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 3800	HISTORY OF DESIGN	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4170	GRAPHIC DESIGN STUDIO <sup>1</sup>	3
ART 2300	WEB DESIGN	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3

BLST 1000	INTRODUCTION TO BLACK STUDIES	3
<b>Credits</b>		<b>15</b>

### Senior

#### Fall

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4170	GRAPHIC DESIGN STUDIO <sup>1</sup>	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3

**Credits** **15**

#### Spring

ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
ART 4530	ART INTERNSHIP	3
THEA 1010	THEATRE APPRECIATION	3
JMC 3410	MAGAZINE EDITING, DESIGN AND PRODUCTION	3

**Credits** **15**

**Total Credits** **121**

<sup>1</sup> \*This course is repeatable

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Concentration in Media Arts

### Media Arts: Intermedia and Digital Art

#### Freshman

		Credits
<b>Fall</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3

ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

**Credits** **15**

#### Sophomore Fall

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3000	MEDIA ARTS 1	3
ART 3610	ELEMENTARY CERAMICS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3

**Credits** **15**

#### Spring

ART 3160	GAME DESIGN AS ART	3
ART 3510	ELEMENTARY PRINTMAKING	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits** **16**

#### Junior Fall

ART 3120	MEDIA ARTS 2	3
ART 3150	VIDEO ART	3
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3

**Credits** **15**

#### Spring

ART 4130	MEDIA ART III <sup>1</sup>	3
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
JMC 2320	VIDEO FIELD PRODUCTION	3
THEA 1050	FILM HISTORY AND APPRECIATION <sup>1</sup>	3

**Credits** **15**

#### Senior Fall

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 3140	COMPUTER GENERATED IMAGERY	3
ART 3800	HISTORY OF DESIGN	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	3

**Credits** **15**

#### Spring

ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
ART 4130	MEDIA ART III <sup>1</sup>	3
ART 4530	ART INTERNSHIP	3

WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	4
-----------	---	---

**Credits** **16**

**Total Credits** **122**

<sup>1</sup> This course is repeatable

#### Media Arts: Game Design

##### Freshman

Fall		Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

##### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

**Credits** **15**

##### Sophomore

Fall		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3000	MEDIA ARTS 1	3
ART 3140	COMPUTER GENERATED IMAGERY	3
WRWS 3500	CREATIVE WRITING FOR THE ARTS	3
CMST 1110	PUBLIC SPEAKING FUNDS	3

**Credits** **15**

##### Spring

ART 3160	GAME DESIGN AS ART	3
ART 4180	ADVANCED DIGITAL GAME DESIGN	3
ART 3170	DIGITAL GAME DESIGN	3
ART 3700	INTRODUCTION TO ANCIENT ART	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits** **16**

##### Junior

Fall		
ART 4180	ADVANCED DIGITAL GAME DESIGN	3
ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3

**Credits** **15**

##### Spring

ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4190	GAME DESIGN STUDIO <sup>1</sup>	3

ART 3620	INTERMEDIATE CERAMICS	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
<b>Credits</b>		<b>15</b>

#### Senior Fall

ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 3120	MEDIA ARTS 2	3
ART 3800	HISTORY OF DESIGN	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
CIST 1510	CULTURE AND HISTORY OF VIDEO GAMES	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
ART 4190	GAME DESIGN STUDIO <sup>1</sup>	3
WRWS 2000	SPECIAL STUDIES IN WRITING	3
ART 2110	LIFE DRAWING II	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> This course is repeatable

### Studio Art K-12 Certification/BFA Two or Three Dimensional Dual Degree

#### Freshman

<b>Fall</b>		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

#### Sophomore

<b>Fall</b>		<b>Credits</b>
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>15</b>

#### Spring

ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3

TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>16</b>

#### Junior Fall

ART 1810	WATERCOLOR I	3
ART 3310	ELEMENTARY SCULPTURE	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
PHYS 1350	PRINCIPLES OF ASTRONOMY	3
<b>Credits</b>		<b>18</b>

#### Spring

ART 4300	SECONDARY ART METHODS	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	3
HIST 2040	AFRICAN AMERICAN HISTORY I: TO 1865	3
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
<b>Credits</b>		<b>15</b>

#### Summer

ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
<b>Credits</b>		<b>3</b>

#### Senior Fall

ART 3300	ELEMENTARY ART METHODS	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 3130	GRAPHIC DESIGN 1	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
<b>Credits</b>		<b>15</b>

#### Spring

ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3

#### Senior + 1 Semester

TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>24</b>
<b>Total Credits</b>		<b>136</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

\* For a comprehensive list of elective courses please consult your advisor.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

Students in the BASA w/ PK-12 Certification program must complete the Praxis Core Academic Skills test by the completion of TED 2400. Prior to the completion of Clinical Practice students must successfully complete the Praxis II Art Content Knowledge exam. More information on both exams can be found at <https://www.unomaha.edu/college-of-education/student-services/academics/required-exams.php>

**GPA Requirements:** BASA w/ PK-12 students must have at least a 2.5 GPA at the time of applying for the Pre-Professional Education Core classes (TED 2100 and TED 2200). By the time students formally apply to the College of Education (TED 2300 and TED 2400) student GPA must be 2.75.

**Graduation Requirements:** Should students unsuccessfully complete their Clinical Practice or choose to not move forward with the PK-12 Art Certification, students may still graduate with a BASA degree.

## Studio Art Minor

### Requirements

Code	Title	Credits
<b>Studio Core Classes</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
Choose one of the following courses:		3
ART 1210	FOUNDATION: 2-D DESIGN	
ART 1220	FOUNDATION: DIGITAL MEDIA	
<b>Upper Level Studio Classes</b>		
Select three (3) of the following list of concentrations at the 3000 and above level:		9
Book Arts		
Ceramics		
Drawing		
Graphic Design		
Media Arts		
Painting		
Printmaking		
Sculpture		
<b>Total Credits</b>		<b>18</b>

## Studio Art with K-12 Certification, Bachelor of Arts

This option gives students the opportunity to teach K-12 art or the capacity to pursue graduate level work in an M.A. or M.Ed. program in art education.

The BASA with K-12 certification requires a minimum of 134 credit hours of which 63 are in ART and 30 are from the College of Education.

### Requirements

Studio Core I (12 hrs.), Studio Core II (18 hrs.), Art History Core (9 hrs.) and Art History Elective (3 hrs.) courses are the same as in the BASA with a concentration in Two Dimensional or Three Dimensional Arts.

The following courses are required:

Code	Title	Credits
<b>Studio Core I</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2000	CORE ONE PORTFOLIO REVIEW	0
<b>Studio Core II</b>		
ART 2100	LIFE DRAWING I	3
ART 3310	ELEMENTARY SCULPTURE	3
ART 3410	ELEMENTARY PAINTING	3
ART 3510	ELEMENTARY PRINTMAKING	3
or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3610	ELEMENTARY CERAMICS	3
<b>Art History Core</b>		
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
Select one course from each of the following two groups:		6
Group A - Modern History:		
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	
ART 3830	HISTORY OF PHOTOGRAPHY	
ART 4880	MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920)	
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
Group B - Pre-Modern History:		
ART 3700	INTRODUCTION TO ANCIENT ART	
ART 3710	EGYPTIAN ART	
ART 3720	GREEK ART	
ART 3730	ETRUSCAN & ROMAN ART	
ART 4770	EARLY MEDIEVAL ART	
ART 4780	LATE MEDIEVAL ART HISTORY	
ART 4810	NORTHERN EUROPEAN RENAISSANCE ART HISTORY	
ART 4830	ITALIAN RENAISSANCE ART HISTORY	
ART 4850	BAROQUE AND ROCOCO ART HISTORY	
Plus one Art History Elective approved by advisor		3
<b>K-12 Art Concentration</b>		
ART 3300	ELEMENTARY ART METHODS <sup>1</sup>	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 4300	SECONDARY ART METHODS <sup>1</sup>	3
ART 4350	TRENDING TOPICS IN ART EDUCATION	3
<b>Studio Emphasis</b>		
A student must work with a faculty advisor to select coursework for an emphasis which must include an intermediate and advanced level class from the following:		6
ART 1820	WATERCOLOR II	

ART 2110	LIFE DRAWING II	
ART 3000	MEDIA ARTS 1	
ART 3100	ADVANCED DRAWING I	
ART 3110	ADVANCED DRAWING II	
ART 3120	MEDIA ARTS 2	
ART 3130	GRAPHIC DESIGN 1	
ART 3140	COMPUTER GENERATED IMAGERY	
ART 3170	DIGITAL GAME DESIGN	
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	
ART 3210	COLOR THEORY	
ART 3220	HAND PRODUCED BOOK II: LETTERPRESS PRINTING	
ART 3230	BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING	
ART 3320	INTERMEDIATE SCULPTURE	
ART 3360	APPLIED ART & DESIGN	
ART 3420	INTERMEDIATE PAINTING	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3530	PAPERMAKING	
ART 3620	INTERMEDIATE CERAMICS	
ART 4140	COMPUTER GENERATED IMAGERY II	
ART 4150	GRAPHIC DESIGN 2	
ART 4180	ADVANCED DIGITAL GAME DESIGN	
ART 4310	ADVANCED SCULPTURE	
ART 4410	ADVANCED PAINTING	
ART 4510	ADVANCED TECHNIQUES IN PRINTMAKING	
ART 4610	ADVANCED CERAMICS	

**BASA Capstone Course**

ART 4020	PROFESSIONAL STUDIO PRACTICES	3
----------	-------------------------------	---

**College of Education Art Education Requirements<sup>2</sup>**

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2300	HUMAN GROWTH AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12

**Total Credits** **93**

<sup>1</sup> It is highly recommended that ART 3300 and ART 4300 be taken in the year just prior to student teaching.

<sup>2</sup> Pursuit of the K-12 certification requires admission to the Teacher Preparatory Program through the College of Education and a successfully completed PPST.

**PK-12 Art Certification - V1****Freshman**

		Credits
<b>Fall</b>		
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3

LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
----------	---	---

**Credits** **15**

**Spring**

ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3

**Credits** **15**

**Sophomore****Fall**

ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
CMST 1110	PUBLIC SPEAKING FUNDS	3

**Credits** **15**

**Spring**

ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1

**Credits** **16**

**Junior****Fall**

ART 1810	WATERCOLOR I	3
ART 3310	ELEMENTARY SCULPTURE	3
TED 2380 or TED 2300	DEVELOPMENT AND LEARNING IN ADOLESCENCE or HUMAN GROWTH AND LEARNING	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
PHYS 1350	PRINCIPLES OF ASTRONOMY	3

**Credits** **18**

**Spring**

ART 4300	SECONDARY ART METHODS	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	3
HIST 2040	AFRICAN AMERICAN HISTORY I: TO 1865	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3

**Credits** **15**

**Summer**

ART 4350	TRENDING TOPICS IN ART EDUCATION	3
----------	----------------------------------	---

**Credits** **3**

**Senior****Fall**

ART 3300	ELEMENTARY ART METHODS	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3

ART 3130	GRAPHIC DESIGN 1	3
ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>124</b>

**PK-12 Certification - V2****Freshman**

<b>Fall</b>		<b>Credits</b>
ART 1100	FOUNDATION: DRAWING	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ENGL 1150	ENGLISH COMPOSITION I	3
LLS 1010	INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
ART 2000	CORE ONE PORTFOLIO REVIEW	0
ART 2100	LIFE DRAWING I	3
ART 3510	ELEMENTARY PRINTMAKING	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
<b>Credits</b>		<b>12</b>
<b>Spring</b>		
ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1030	PHYSICS OF EVERYDAY LIFE	3
PHYS 1034	PHYSICS OF EVERYDAY LIFE LABORATORY	1
<b>Credits</b>		<b>13</b>

**Junior**

<b>Fall</b>		
ART 1810	WATERCOLOR I	3
ART 3310	ELEMENTARY SCULPTURE	3
TED 2300	HUMAN GROWTH AND LEARNING	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Credits</b>		<b>12</b>
<b>Spring</b>		
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

ART 3200	THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN	3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	3
HIST 2040	AFRICAN AMERICAN HISTORY I: TO 1865	3
<b>Credits</b>		<b>15</b>
<b>Summer</b>		
ART 4350	TRENDING TOPICS IN ART EDUCATION	3
<b>Credits</b>		<b>3</b>
<b>Senior</b>		
<b>Fall</b>		
ART 3300	ELEMENTARY ART METHODS	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 3130	GRAPHIC DESIGN 1	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Credits</b>		<b>12</b>
<b>Spring</b>		
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
PHYS 1350	PRINCIPLES OF ASTRONOMY	3
ART 4830	ITALIAN RENAISSANCE ART HISTORY	3
BLST 1000	INTRODUCTION TO BLACK STUDIES	3
ART 4300	SECONDARY ART METHODS	3
<b>Senior + 1 Semester</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
<b>Credits</b>		<b>27</b>
<b>Total Credits</b>		<b>124</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

\* For a comprehensive list of elective courses please consult your advisor.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

Students in the BASA w/ PK-12 Certification program must complete the Praxis Core Academic Skills test by the completion of TED 2400. Prior to the completion of Clinical Practice students must successfully complete the Praxis II Art Content Knowledge exam. More information on both exams can be found at <https://www.unomaha.edu/college-of-education/student-services/academics/required-exams.php>

**GPA Requirements:** BASA w/ PK-12 students must have at least a 2.5 GPA at the time of applying for the Pre-Professional Education Core classes (TED

2100 and TED 2200). By the time students formally apply to the College of Education (TED 2300 and TED 2400) student GPA must be 2.75.

**Graduation Requirements:** Should students unsuccessfully complete their Clinical Practice or choose to not move forward with the PK-12 Art Certification, students may still graduate with a BASA degree.

## Studio Art K12 Certification/ Bachelor of Arts in Fine Arts Two or Three Dimensional Dual Degree, BFA

### Requirements

Students earning the BASA with K-12 certification can earn the dual degree of BFA with Two Dimensional Arts or Three Dimensional Arts concentration. The dual degree requires a minimum of 150 credit hours of course work. In addition to fulfilling the requirements for the BASA with K-12 certification, the dual degree of BFA with Two Dimensional Arts or Three Dimensional Arts concentration requires the student to apply to the BFA program (see the Art and Art History Unit website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/art-and-art-history/undergraduate-programs/bfa-studio-art.php>) or faculty advisor for details). Once accepted into the BFA Program, students must successfully complete the following BFA sequence of courses:

Code	Title	Credits
<b>BFA Sequence</b>		
ART 4320	BACHELOR OF FINE ARTS INDEPENDENT STUDY I	3
ART 4330	BACHELOR OF FINE ARTS INDEPENDENT STUDY II	3
ART 4420	BACHELOR OF FINE ARTS THESIS	3
ART 4920	ART IN THEORY AND IN PRACTICE SINCE 1900	3
<b>ART Elective</b>		
	One elective course from Two Dimensional Arts or Three Dimensional Arts "Advanced work" course list. Course to be determined in consultation with a Department faculty advisor.	3
<b>Total Credits</b>		<b>15</b>

### Total ART Credit Hours: 75

Once a student enters the BFA program, they are carefully monitored to remain focused on their skillset and artwork. If a student fails a BFA semester, they must retake that semester and may not advance to the next BFA level until they have mastered the previous course.

Occasionally a professor may request a student to take an additional semester of BFA (BFA III or ART 4340) before entering their Thesis semester. This additional semester gives the student an opportunity to enhance their growth and development prior to their Thesis semester. This additional semester would add 3 additional hours to the BFA sequence.

## Theatre

Theatre coursework is designed to provide students well-rounded experiences encompassing the varied components that work together to create the theatre experience. These areas include performance (acting/directing), production design (scenic, costume, lighting, sound), box office, publicity, house management, dramaturgy, stage management, and much more. Above all, we're committed to each student's individual development toward artistic and cultural maturity and growth that cultivates global diversity and service to our community. Through in-class and production

work, students gain valuable life skills including discipline, collaboration, communication, research, planning, achieving deadlines and problem-solving.

The unit's mission is to ignite in the student, teacher and community: critical thinking, compassionate feeling, collaborative vision and the capacity to delight.

### Other Information

The general areas of study in theatre are acting, directing, design, dramatic literature, theatre history and criticism and design/production including stagecraft, stage lighting, scene design, costume and makeup. Beyond the general theatre core, students are able to pursue a concentration in a specialized area such as acting, musical theatre, design, production, technology, stage management, or theatre scholarship.

Theatre majors are required to participate actively and consistently in productions sponsored by the department. The department stages a minimum of four major productions per academic year. These productions encompass the breadth and vitality of live theatre, from musicals to classics to new plays. A variety of production opportunities are also offered in the Studio theatre space.

### Writing in the Discipline

Students deepen their knowledge and understanding of Theatre, as well as developing their academic writing abilities by completing one of the approved upper division Theatre History courses, that include THEA 3710 or THEA 4780 or THEA 4790.

### Contact Information

For more information contact Theatre at 402.554.2406

Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/theatre/>)

### Degrees Offered

- Theatre, Bachelor of Arts (p. 502)

### Minors Offered

- Theatre Minor (p. 506)

#### THEA 1000 THEATRE PRACTICUM (1 credit)

Lecture, discussion, and experience in theatre production concepts and techniques. One hour formal meeting each week and an average of two-four hours per week in an assigned technical production area based on your interests and skills. Required of Theatre majors and may be taken by all other students. May be repeated eight times.

#### THEA 1010 THEATRE APPRECIATION (3 credits)

A survey course designed to introduce students to all areas of theatre practice and study. Several major periods of theatre art and practice will be explored and, depending on the instructor, emphasis may include acting, playwriting, design and theatre technology, and or theatre literature.

**Prerequisite(s)/Corequisite(s):** None. Not recommended for Theatre Majors

**Distribution:** Humanities and Fine Arts General Education course

#### THEA 1050 FILM HISTORY AND APPRECIATION (3 credits)

A journey through one of many different possible worlds of film. Students will learn about various dimensions of filmmaking—historical development, cinematography, editing, screenwriting, and so much more. Exposure to critical perspectives on the genre(s) under consideration. Includes regular viewing of excerpts and full-length films. (Cross-listed with JMC 1050).

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1200 SINGING TECHNIQUE FOR ACTORS (1 credit)**

This course provides instruction in singing technique from the perspective of the actor and musical theatre repertoire. It is designed for students to develop their individual vocal skills and to practice the concepts of vocal health, resonance, breath support, knowledge of voice types, knowledge of their own voice type and ranges as well as specific elements of musicianship such as good intonation, rhythm, and phrasing. Different from applied vocal study within the School of Music curriculum, this course focuses on the needs of actors in musical theatre. Specifically, it utilizes repertoire for non-classical styles of singing and uses different criteria than the School of Music to meet the different backgrounds of theatre students.

**THEA 1210 VOICE FOR THE ACTOR (3 credits)**

This course is a comprehensive exploration of the actor's voice and speech. The student gains a detailed understanding of breath, tension and relaxation, resonance, articulation, textual interpretation, and learns to combine movement and voice, enhancing creativity in vocal expression. The focus is freeing the unique vocal potential of each student, and on training the voice for performance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1300 ACTING I (3 credits)**

The basic acting class, for majors and non-majors. Emphasis on freeing oneself as a preparation for basic character and scene work using exercises for relaxation, energy generation, concentration and group interaction. Three relationships basic to the actor are explored: to oneself, to another actor, to the ensemble.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1500 FOUNDATIONS OF PRODUCTION DESIGN (3 credits)**

An introductory course introducing students to the omnipresence and role of design in contemporary society; and to fundamental elements and principles of analysis, conceptualization, and visual interpretation, as they apply to the production design process.

**THEA 1600 FOUNDATIONS OF SCENIC PRODUCTION (3 credits)**

An introduction to scenic production class designed to develop the skills, knowledge, theories and materials of professional designers and craftpersons, as well as developing a working knowledge of the practices in the business of technical theatre.

**THEA 1610 SCENIC PRODUCTION LABORATORY (1-3 credits)**

Directed, practical experiences in scenic production skills.

**THEA 1650 COSTUME AND MAKEUP FOR THEATRE (3 credits)**

An introductory course covering foundational vocabulary, skills, materials, tools, and processes used for costume construction and makeup application specifically for the theatre.

**THEA 1700 SCRIPT ANALYSIS (3 credits)**

This course introduces a variety of approaches for analyzing plays and other dramatic works, especially as they are employed by actors, directors, designers, dramaturgs, and other theatre artists. There will be multiple opportunities to apply these methods of analysis through class discussion and written work. Script analysis will be explored with an eye toward theatrical production, recognizing each playscript as the blueprint for a potential production. Particular attention will be paid to genre, structure, style, character, theme, language, imagery, and dramatic action. The focus will be on traditional dramatic structure, though some attention/discussion will be given to less traditional/non-linear works.

**THEA 2000 THEATRE PRACTICUM II (2 credits)**

Lecture, discussion, and experience in theatre production concepts and techniques. One hour formal meeting each week with Instructor, and an average of two-four Lab hours per week (or more) in an assigned technical production area based on your interests and skills. Lab hours will be established with the lab supervisor. Required of Theatre majors and may be taken by all other students. May be repeated for credit.

**Prerequisite(s)/Corequisite(s):** Four semesters of THEA 1000.

**THEA 2020 THEATRE FOR YOUNG AUDIENCES (3 credits)**

A course that introduces the theories and practices of using theatre and drama, as an educational and social tool, as well as creating theatre for and with youth. Includes opportunities to create and utilize techniques in both performance and the learning environment.

**Prerequisite(s)/Corequisite(s):** THEA 1010 Theatre Appreciation or THEA 1300 Acting I or THEA 1600 Foundation: Scenic Production

**THEA 2030 INTERNSHIP I (1-6 credits)**

This course provides an opportunity for the student to participate in a professional summer theatre company and receive course credit. The course will involve practical application. Areas of study might include artistic direction, direction, dramaturgy, arts management, production management, design and technology, or performance. Assignments are made according to the individual interests and skills of the student as they match available opportunities and needs in the industry.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Theatre Practicum (2 credits). Permission of instructor.

**THEA 2200 MUSICAL THEATRE AND OPERA WORKSHOP (1 credit)**

THEA 2200 Musical Theatre and Opera Workshop is a performance lab course offered during fall semester that integrates singing, movement and acting through rehearsal, individual coaching and group exercises. It is designed for performance based students in opera and musical theatre and develops equally the skill sets required for each discipline. It is the primary workshop for the development of singing/moving actor skills at UNO. The workshop utilizes rehearsal, exercise, ensemble and individual coaching to challenge and benefit students of all grade and experience levels. It is recommended and beneficial that performance students in both opera and musical theatre take THEA 2200 multiple times.

**THEA 2300 MOVEMENT FOR THE ACTOR (3 credits)**

Discovery and training of the human body as a technical instrument and as one of the key expressive elements of any performance-oriented medium.

**Prerequisite(s)/Corequisite(s):** THEA 1300 Acting I

**THEA 2400 STAGE MANAGEMENT (3 credits)**

This fundamental course investigates theater-making from the point of view of a stage manager. Through the exploration of a theatre production process, students learn the artistic and organizational techniques needed to professionally stage-manage traditional and non-traditional productions. Integrated management theory allows each student to identify how their practice can be informed by theory and to begin cultivating their individual stage management style.

**Prerequisite(s)/Corequisite(s):** Permission of instructor

**THEA 2500 DRAWING FOR THE THEATRE (3 credits)**

Drawing for the Theatre is a course that introduces students to the visual language of drawing through observation, exercises and most importantly, evaluations and critiques. In addition to traditional drawing techniques, this course will cover color theory and figure drawing. The course develops insights into the mechanisms of visual perception, how the individual components of the drawing relate to the whole and compositional organization. Each student develops observational skills rooted in traditional drawing media while striving to develop critical thinking and research skills.

**Prerequisite(s)/Corequisite(s):** THEA 1500 or THEA 1510 Foundations of Production Design, THEA 1700 Script Analysis

**THEA 2600 COSTUME PATTERNING AND DRAPING (3 credits)**

Exploration of the creation of patterns for theatrical costumes. Techniques include flat patterning, draping and development of historical patterns. Specific attention is given to period silhouette and detail and theatrical costume production conventions.

**Prerequisite(s)/Corequisite(s):** THEA 1650 or THEA 1550 or permission of instructor.

**THEA 3000 SPECIAL TOPICS IN THEATRE (3 credits)**

This course utilizes a topical approach that explores various aspects of theatre that are outside the set Theatre curriculum. Topics and disciplines will vary from term to term. Course description will be announced in advance. It is repeatable for credit if content differs.

**THEA 3010 ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 8015).

**Prerequisite(s)/Corequisite(s):** THEA 1000 Theatre Practicum, THEA 1700 Script Analysis

**THEA 3200 MUSICAL THEATRE ENSEMBLE (1 credit)**

THEA 3200 Musical Theatre Ensemble is a performance lab course that utilizes rehearsal and in person or virtual video performance to develop group and individual skills. Students are accepted into the class via auditions. Each semester a new collection of musical theatre ensemble repertoire is chosen to teach group movement, scene work and vocal musicianship. The first half of the semester is devoted to teaching rehearsal, staging and preparation skills and the second half of the semester consists of performance opportunities that are scheduled by the instructor. Additionally, performing members of the class are given instruction in auditioning and work on solo repertoire for their individual musical theatre voice categories. (e.g.: belt, belt mix, soprano mix, tenor, baritenor, etc.) The course provides opportunities and training in rehearsal accompaniment and musical direction, stage management, scheduling and promotion, choreography and directing.

**Prerequisite(s)/Corequisite(s):** Prerequisites: THEA 1200 Singing Technique and Musicianship For Actors or Applied Voice. Co-requisites: THEA 2200 Opera and Musical Theatre Studio. Invitation to enroll by audition for instructor.

**THEA 3300 ACTING II (3 credits)**

Incorporating skills and awareness developed in Acting I, this class moves toward examining various tools for character development by oneself, in large group improvisations and with written scripts. Specific scene work leads to a final scene presented both for the class and for all interested persons.

**Prerequisite(s)/Corequisite(s):** THEA 1300 Acting I

**THEA 3400 DIRECTING I (3 credits)**

Directing I examines the development of the role of director in Western Theatre; provides practice in the directing process including script analysis, dramaturgical research, staging visual composition, collaboration with designers and performers; considers alternative approaches to directing and encourages students to begin to develop a personal directing style. (Cross-listed with THEA 8435)

**Prerequisite(s)/Corequisite(s):** THEA 1300, THEA 1500, THEA 1600, THEA 1700, THEA 3300

**THEA 3410 HUMAN DYNAMICS IN THE ARTS (3 credits)**

Human Dynamics in the Arts is a practical course for students who aspire to become effective leaders, managers, and directors of arts, nonprofit, education and business organizations. Students will gain a deeper understanding of how to strengthen organizations by recognizing the complex interplay of individual motivation, personal growth and develop, effective communication, and organizational goals. Students will learn to apply specific communication techniques that will enable them to recognize patterns of behavior that reflect underlying emotional needs critical to motivation and workplace productivity. They will use these techniques to build trust, foster positive working relationships, maximize talents, and develop more effective, productive, and dynamic organizations. Students will also gain an understanding of the importance of developing an entrepreneurial mindset critical to success in a rapidly changing workplace. They will learn to recognize opportunities, identify solutions, and develop clear, effective strategies for moving their organizations forward.

**Prerequisite(s)/Corequisite(s):** CMST 1110 and Junior Standing

**THEA 3500 COLLABORATIVE DESIGN STUDIES (3 credits)**

Collaborative Design Studies explores the integration and process of theatrical production including scenery, lighting, costume, projection and sound. It chronicles their individual and collective impact on storytelling. While developing the skills of the Scenographer, students will work collaboratively as they foster their individual artistic design talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 8615).

**Prerequisite(s)/Corequisite(s):** THEA 1500/THEA 1510, THEA 1600/THEA 1630, THEA 1700

**THEA 3660 STAGE AND TV LIGHTING (3 credits)**

Characteristics and control of light and color and their application to the theatre and television; elementary electricity; lens systems; reflectors; lamps; control systems; automation. (Cross-listed with THEA 8665).

**Prerequisite(s)/Corequisite(s):** THEA 1630 or permission of instructor.

**THEA 3700 THEATRE HISTORY AND LITERATURE: CONTEMPORARY (3 credits)**

This course offers a brief survey of European and world theatre from the emergence of post-modernism to the present time. It also focuses especially on theatre for social change, community development, and the community-based theatre movement. It will include a service-learning component with one or more regional social-service or similar agencies.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 3710 THEATRE HISTORY AND LITERATURE: MODERN / 1850-2000 (3 credits)**

This course is a survey of both western European and world theatre from the emergence of modernism to 1980, about the time of the emergence of post-modernism.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 3720 THEATRE AND SOCIAL JUSTICE (3 credits)**

This service-learning course will combine both research and practice in theatre that involves social change. Students will study the history of such theatre, with special focus on developments in the 20th century. All research will be accompanied by several community-based projects whereby students will create theatre with specific populations (schools, community centers, health centers, senior homes, etc.). (Cross-listed with THEA 8755).

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 4000 SUMMER THEATRE WORKSHOP (3 credits)**

Intensive supervised workshop experience involving significant overall contribution(s) to the summer theatre program.

**THEA 4020 ADVANCED PROJECTS IN THEATRE (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 8026)

**Prerequisite(s)/Corequisite(s):** 9 hours of theatre in the general area to be studied and permission of the instructor.

**THEA 4030 INTERNSHIP II (1-6 credits)**

This course provides an opportunity for the student to participate in a professional summer theatre company and receive course credit. The course will involve practical application. Areas of study might include artistic direction, direction, dramaturgy, arts management, production management, design and technology, or performance. Assignments are made according to the individual interests and skills of the student as they match available opportunities and needs in the industry.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Practicum, THEA 2000 Practicum II or Permission of Instructor

**THEA 4050 SHAKESPEARE ON FILM: THE ART OF INTERPRETATION (3 credits)**

Study how Shakespeare's plays are interpreted for performance. Explore how production shapes our understanding of the text. Understand how the change of medium from page to stage to screen reveals meaning in unique ways. Experience a dynamic way of making the most extraordinary plays your own. Classes will feature readings, lecture, class discussion, and film screenings of different cinematic interpretations of several of Shakespeare's plays. Previous study of Shakespeare is helpful but not required.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 4310 ADVANCED ACTING: POST REALISM (3 credits)**

Advanced work in the technical skills of voice, speech, movement and textual analysis needed for post-realist material. (Cross-listed with THEA 8316)

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4320 ADVANCED ACTING: GREEKS TO RESTORATION (3 credits)**

The fundamental theories and practices of major styles of acting from ancient Greece to the Restoration, including interpretation of outstanding dramatic literature. (Cross-listed with THEA 8326).

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4330 ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION (3 credits)**

In-depth exploration of a play or playwright's work to connect acting class with performance. Special emphasis on creating a working process that allows the ensemble to emerge. The class will culminate in public performance. (Cross-listed with THEA 8336).

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4340 ADVANCED ACTING: AUDITIONING (3 credits)**

An acting class designed to develop auditioning skills and material as well as cultivate a working knowledge of the business of acting. (Cross-listed with THEA 8346)

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4400 DIRECTING II (3 credits)**

A practicum in play selection, analysis, casting, rehearsing and performing. (Cross-listed with THEA 8446)

**Prerequisite(s)/Corequisite(s):** THEA 1300/THEA 2310, THEA 1500/THEA 1510, THEA 1600/THEA 1630, THEA 1700, THEA 3300/THEA 2320, THEA 3400/THEA 4430

**THEA 4500 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical storytelling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 8506).

**Prerequisite(s)/Corequisite(s):** THEA 1500/THEA 1510 and THEA 1700 or permission of instructor.

**THEA 4510 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical story telling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through story telling. (Cross-listed with THEA 8516)

**Prerequisite(s)/Corequisite(s):** THEA 1510 and THEA 3610.

**THEA 4550 PERIOD STYLES IN DRESS AND DECOR (3 credits)**

An historical survey course introducing students to the major periods and iconic styles and trends in western architecture, dress and interior decor of the past 2000 years; and to the social, cultural and technological influences on those trends, particularly as they relate to theatrical and production design. (Cross-listed with THEA 8556).

**Prerequisite(s)/Corequisite(s):** THEA 1700 and THEA 3700/THEA 3770, THEA 3710/THEA 3760, THEA 4710 or THEA 4720 or by permission of instructor.

**THEA 4610 SCENE DESIGN (3 credits)**

Principles of composition, perspective and color for the stage; the designer's approach to the play, production of ground plans, elevations and sketches. (Cross-listed with THEA 8616)

**Prerequisite(s)/Corequisite(s):** THEA 1010 and THEA 1630 and THEA 2630 and Junior standing.

**THEA 4780 THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500 (3 credits)**

This course is a survey of both western European and early Asian theatre and the related theatre literature in ancient Greece and Rome, India, and medieval Europe from the fifth century BCE to the beginning of the European renaissance.

**Prerequisite(s)/Corequisite(s):** ENGL1160 and Junior standing

**THEA 4790 THEATRE HISTORY AND DRAMATIC LITERATURE: RENAISSANCE TO 1800 (3 credits)**

This course is a survey of primarily western European theatre and the related theatre literature from the Renaissance until the English sentimental comedy.

**Prerequisite(s)/Corequisite(s):** ENGL1160 and Junior standing or Permission of the Instructor.

**THEA 4900 ADVANCED PROJECTS - CAPSTONE (3 credits)**

Demonstration of mastery in a specific area of theatre through an advanced project in acting, musical theatre, directing, design/technical theatre, playwriting, or dramaturgy. This will serve as an end of career course designed to evaluate the student's competency and knowledge of theatre practice.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Practicum, THEA 2000 Practicum, and permission of the instructor

## Theatre, Bachelor of Arts

The Bachelor of Arts in theatre degree offers students a broad-based liberal arts foundation in combination with rigorous and disciplined professional training.

Students may elect to pursue either a general major OR a concentration in acting, musical theatre, stage management, design or technology.

Students seeking a theatre major concentration must meet with the undergraduate theatre faculty adviser prior to applying. An application will be provided. Once the application is completed and returned, a decision on admittance will be made by the faculty. A portfolio or audition may be required.

### Requirements

Code	Title	Credits
<b>Theatre Core Requirements</b>		
THEA 1000	THEATRE PRACTICUM <sup>1</sup>	4
THEA 1300	ACTING I	3
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	3
THEA 1700	SCRIPT ANALYSIS	3
THEA 2000	THEATRE PRACTICUM II <sup>2</sup>	4
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	3

THEA 4430	DIRECTING I	3
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500	3
Select three of the following:		9
THEA 1210	VOICE FOR THE ACTOR	
THEA 1550	COSTUME AND MAKEUP FOR THEATRE	
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	
THEA 3660	STAGE AND TV LIGHTING	
Select two of the following:		6
THEA 3750	THEATRE AND SOCIAL JUSTICE	
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 4790	THEATRE HISTORY AND DRAMATIC LITERATURE: RENAISSANCE TO 1800	
<b>Total Credits</b>		<b>41</b>

<sup>1</sup> THEA 1000 is a one-hour course required each semester during the first four semesters for a maximum total of 4 semesters. Students who transfer into the program may request up to 2 hours of this requirement be waived.

<sup>2</sup> THEA 2000 is a two-hour course required each semester of your third year.

### General Theatre Major Requirements

Students will complete twenty-four (24) credit hours of elective theatre course work, selected in consultation with their theatre adviser, from the following:

Code	Title	Credits
THEA 1000	THEATRE PRACTICUM <sup>1</sup>	4
THEA 1050	FILM HISTORY AND APPRECIATION	3
THEA 1060	HISTORY OF THE BROADWAY MUSICAL	3
THEA 1200	SINGING TECHNIQUE FOR ACTORS	1
THEA 1210	VOICE FOR THE ACTOR	3
THEA 1220	MOVEMENT FOR THE ACTOR	3
THEA 1300	ACTING I	3
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	3
THEA 1550	COSTUME AND MAKEUP FOR THEATRE	3
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	3
THEA 1700	SCRIPT ANALYSIS	3
THEA 2000	THEATRE PRACTICUM II <sup>2</sup>	4
THEA 2030	INTERNSHIP I	1-6
THEA 2050	THE FILMS OF ALFRED HITCHCOCK	3
THEA 2200	MUSICAL THEATRE AND OPERA WORKSHOP	1
THEA 2400	STAGE MANAGEMENT	3
THEA 3020	SPECIAL TOPICS IN THEATRE	3
THEA 3200	MUSICAL THEATRE ENSEMBLE	1
THEA 3230	AMERICAN MUSICAL THEATRE REPERTOIRE	3
THEA 3300	ACTING II	3
THEA 3410	HUMAN DYNAMICS IN THE ARTS	3
THEA 3420	GLOBAL CITIZENSHIP IN THE ARTS	3
THEA 3500	COLLABORATIVE DESIGN STUDIES	3
THEA 3660	STAGE AND TV LIGHTING	3
THEA 3700	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	3

THEA 3710	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	3
THEA 3750	THEATRE AND SOCIAL JUSTICE	3
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	3
THEA 3770	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	3
THEA 4000	SUMMER THEATRE WORKSHOP	3
THEA 4010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY	1-3
THEA 4020	ADVANCED PROJECTS IN THEATRE	1-3
THEA 4030	INTERNSHIP II	1-6
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	3
THEA 4060	THEATRE FOR YOUNG AUDIENCES	3
THEA 4310	ADVANCED ACTING: POST REALISM	3
THEA 4320	ADVANCED ACTING: GREEKS TO RESTORATION	3
THEA 4330	ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION	3
THEA 4340	ADVANCED ACTING: AUDITIONING	3
THEA 4410	MISSION AND STRATEGY IN ARTS ORGANIZATIONS	3
THEA 4440	DIRECTING II	3
THEA 4500	CHALLENGES IN PRODUCTION DESIGN	3
THEA 4550	PERIOD STYLES IN DRESS AND DECOR	3
THEA 4900	ADVANCED PROJECTS - CAPSTONE	3

### Acting/Directing Concentration

Application can be made, via the faculty advisor, upon completion of 23 credit hours including the following:  
THEA 1210, THEA 1220,

THEA 1700, THEA 1300, ENGL 1150, ENGL 1160

two (2) additional general education courses, two (2) credit hours of THEA 1000, and one (1) additional THEA course in concentration area.

To remain in good standing in the concentration, a student must complete all required focused courses with a grade of "B" (3.0) or above and an acting audition each semester

Code	Title	Credits
<b>Required courses:</b>		
THEA 1210 or THEA 1220	VOICE FOR THE ACTOR MOVEMENT FOR THE ACTOR	3
THEA 1300	ACTING I	3
THEA 3300	ACTING II	3
THEA 4340	ADVANCED ACTING: AUDITIONING	3
Select four of the following:		12
THEA 4310	ADVANCED ACTING: POST REALISM	
THEA 4320	ADVANCED ACTING: GREEKS TO RESTORATION	
THEA 4330	ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION	
THEA 3750	THEATRE AND SOCIAL JUSTICE	
THEA 4010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
THEA 4440	DIRECTING II	

**Total Credits**

**24**

## Design Concentration

Application can be made, via the faculty advisor, upon completion of 23 credit hours including the following:

THEA 1510, THEA 1600, THEA 1700, ENGL 1150ENGL 1160, two (2) additional general education courses, two (2) credit hours of THEA 1000, and one (1) additional THEA course in concentration area.

To remain in good standing in the concentration, a student must complete all required focused courses with a grade of "B" (3.0) or above and a portfolio review will be required each semester.

Code	Title	Credits
<b>Required courses:</b>		
THEA 3610	COLLABORATIVE DESIGN STUDIES	3
THEA 4500	CHALLENGES IN PRODUCTION DESIGN	3
THEA 4550	PERIOD STYLES IN DRESS AND DECOR	3
THEA 4900	ADVANCED PROJECTS - CAPSTONE	3
Select two of the following:		6
THEA 2500	DRAWING FOR THE THEATRE	
THEA 3020	SPECIAL TOPICS IN THEATRE	
THEA 3400	DIRECTING I	
THEA 3410	HUMAN DYNAMICS IN THE ARTS	
Select one of the following:		3
THEA 4010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
Choose one (1) additional three credit (3), advisor approved, course outside the department that relates to the Design Concentration.		3
<b>Total Credits</b>		<b>24</b>

## Technical Theatre Concentration

Application can be made, via the faculty advisor, upon completion of 23 credit hours including the following: THEA 1700,THEA 1510, THEA 1600, ENGL 1150, ENGL 1160, two (2) additional general education courses, two (2) credit hours of THEA 1000, and one (1) additional THEA course in concentration

To remain in good standing in the concentration, a student must complete all required focused courses with a grade of "B" (3.0) or above and a portfolio review will be required each semester.

Code	Title	Credits
<b>Required courses:</b>		
THEA 3610	COLLABORATIVE DESIGN STUDIES	3
THEA 4510	CHALLENGES IN PRODUCTION DESIGN	3
THEA 4550	PERIOD STYLES IN DRESS AND DECOR	3
Select two of the following:		6
THEA 3020	SPECIAL TOPICS IN THEATRE	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
THEA 4500	CHALLENGES IN PRODUCTION DESIGN	
THEA 2500	DRAWING FOR THE THEATRE	
Select two of the following:		6
THEA 2500	DRAWING FOR THE THEATRE	
THEA 4010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4210	AUDIO RECORDING TECHNIQUES II	

Choose one (1) additional three credit (3), advisor approved, course outside the department that relates to the Technical Theatre Concentration.	3
--	---

**Total Credits** **24**

## Stage Management Concentration

Application can be made, via the faculty advisor, upon completion of 23 credit hours including the following:

THEA 1500, THEA 1600, THEA 1700, ENGL 1150, ENGL 1160, two (2) additional general education courses, two (2) credit hours of THEA 1000, and one (1) additional THEA course in concentration area.

To remain in good standing in the concentration, a student must complete all required focused courses with a grade of "B" (3.0) or above and a portfolio review will be required each semester.

Code	Title	Credits
<b>Required courses:</b>		
PHHB 3030	FIRST AID	3
THEA 3020	SPECIAL TOPICS IN THEATRE	3
THEA 3660	STAGE AND TV LIGHTING	3
CMST 2010	INTERPERSONAL COMMUNICATION	3
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3
MGMT 3490	MANAGEMENT	3
Select two of the following courses		6
THEA 3410	HUMAN DYNAMICS IN THE ARTS	
THEA 3420	GLOBAL CITIZENSHIP IN THE ARTS	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
MGMT 4040	ORGANIZATIONAL BEHAVIOR	
THEA 4410	MISSION AND STRATEGY IN ARTS ORGANIZATIONS	
<b>Total Credits</b>		<b>24</b>

### Freshman

Fall		Credits
THEA 1000	THEATRE PRACTICUM	1
THEA 1700	SCRIPT ANALYSIS	3
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	3
Select one of the following		3
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	
THEA 1300	ACTING I	
English COMP I		3
Gen Ed (Social Science)		3
Credits		16

### Spring

THEA 1000	THEATRE PRACTICUM	1
Select one of the following		3
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	
THEA 3660	STAGE AND TV LIGHTING	
Select one of the following		3
THEA 1300	ACTING I	
THEA 1550	COSTUME AND MAKEUP FOR THEATRE	
English COMP II		3
Gen Ed (Humanities) May also count as Global Diversity		3
Gen Ed (Social Science)		3
<b>Credits</b>		<b>16</b>

**Sophomore****Fall**

THEA 1000	THEATRE PRACTICUM	1
Select one of the following		3
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	
THEA 1300	ACTING I	
THEA 1550	COSTUME AND MAKEUP FOR THEATRE	
THEA 1210	VOICE FOR THE ACTOR	
Gen Ed (Humanities & Fine Arts) May also take for Global Diversity		3
Gen Ed (Quantitative Literacy)		3
Gen Ed (6)		3
<b>Credits</b>		<b>13</b>

**Spring**

THEA 1000	THEATRE PRACTICUM	1
Complete remaining requirements		3
THEA 1300	ACTING I	
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	
THEA 1550	COSTUME AND MAKEUP FOR THEATRE	
THEA 3660	STAGE AND TV LIGHTING	
Theatre Elective		3
Gen Ed (Public Speaking)		3
Gen Ed (Natural/Physical Science)		4
Gen Ed (Humanities & Fine Arts)		3
<b>Credits</b>		<b>17</b>

**Junior****Fall**

THEA 2000	THEATRE PRACTICUM II	2
THEA 3400	DIRECTING I	3
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	3
Complete one of the following		3
THEA 3700	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 3710	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3720	THEATRE AND SOCIAL JUSTICE	
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3770	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 4430	DIRECTING I	
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500	
Theatre Elective		3
Gen Ed (Social Science)		3
<b>Credits</b>		<b>17</b>

**Spring**

THEA 2000	THEATRE PRACTICUM II	2
Complete one of the following		3
THEA 3700	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 3710	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	

THEA 3770	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 4430	DIRECTING I	
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500	
Theatre Elective		3
Theatre Elective		3
Theatre Elective		3
<b>Credits</b>		<b>14</b>

**Senior****Fall**

THEA 4900	ADVANCED PROJECTS - CAPSTONE	3
Select one of the following		3
THEA 3700	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 3710	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3720	THEATRE AND SOCIAL JUSTICE	
THEA 3760	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3770	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 4430	DIRECTING I	
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500	
Theatre Elective		3
Theatre Elective		3
Theatre Elective		3
<b>Credits</b>		<b>15</b>

**Spring**

Select one of the following:		3
THEA 4430	DIRECTING I	
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500	
Theatre Elective		3
Theatre Elective		3
Theatre Elective		3
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Theatre Minor

The theatre minor offers students a broad-based liberal arts foundation in combination with rigorous and disciplined professional training, in all aspects of theatre and the wider liberal arts. In completing the requirements for the minor, students must have 9 credits of upper-division coursework.

### Requirements

Code	Title	Credits
THEA 1000	THEATRE PRACTICUM (Repeat three (3) times)	1
THEA 1300	ACTING I	3
Select one of the following		3
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	
THEA 3660	STAGE AND TV LIGHTING	
Select 9 hours of Theatre Electives (must include at least two (2) upper division (3000/4000) courses from the following:		9
THEA 1050	FILM HISTORY AND APPRECIATION	
THEA 1500	FOUNDATIONS OF PRODUCTION DESIGN	
THEA 1650	COSTUME AND MAKEUP FOR THEATRE	
THEA 1610	SCENIC PRODUCTION LABORATORY	
THEA 1600	FOUNDATIONS OF SCENIC PRODUCTION	
THEA 1700	SCRIPT ANALYSIS	
THEA 2000	THEATRE PRACTICUM II	
THEA 2020	THEATRE FOR YOUNG AUDIENCES	
THEA 2030	INTERNSHIP I	
THEA 2300	MOVEMENT FOR THE ACTOR	
THEA 2500	DRAWING FOR THE THEATRE	
THEA 2600	COSTUME PATTERNING AND DRAPING	
THEA 3000	SPECIAL TOPICS IN THEATRE	
THEA 3010	ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY	
THEA 3310	VOICE FOR THE ACTOR	
THEA 3300	ACTING II	
THEA 3400	DIRECTING I	
THEA 3500	COLLABORATIVE DESIGN STUDIES	
THEA 3660	STAGE AND TV LIGHTING	
THEA 3700	THEATRE HISTORY AND LITERATURE: CONTEMPORARY	
THEA 3710	THEATRE HISTORY AND LITERATURE:MODERN / 1850-2000	
THEA 3720	THEATRE AND SOCIAL JUSTICE	
THEA 4000	SUMMER THEATRE WORKSHOP	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
THEA 4030	INTERNSHIP II	
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	
THEA 4310	ADVANCED ACTING: POST REALISM	
THEA 4320	ADVANCED ACTING: GREEKS TO RESTORATION	
THEA 4330	ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION	
THEA 4340	ADVANCED ACTING: AUDITIONING	

THEA 4500	CHALLENGES IN PRODUCTION DESIGN
THEA 4550	PERIOD STYLES IN DRESS AND DECOR
THEA 4780	THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500
THEA 4790	THEATRE HISTORY AND DRAMATIC LITERATURE: RENAISSANCE TO 1800
THEA 4900	ADVANCED PROJECTS - CAPSTONE

**Total Credits**

**18**

## Writer's Workshop: Creative Writing

The Writer's Workshop mission is to offer creative writing students an apprenticeship with professional writers. We prepare students to read closely, think critically, write professionally and find their voices in poetry, fiction, creative nonfiction, and screenwriting. Students will also sharpen their capacity for empathy, opening themselves to diverse cultural points of view.

### Other Information

#### Thesis Option

Students whose work is above average and who are considering doing graduate work in creative writing may apply after one Advanced Studio to pursue the BFA with Senior Thesis. The result is a book-length manuscript of original work in the student's area of concentration (e.g. a collection of poems, a collection of short stories, a novel, a collection of essays, or a screenplay), prepared during the last year of study while working one-on-one with a WRWS faculty member. To earn this special designation on their official transcripts, candidates for the degree must take two semesters of WRWS 4990.

### Writing in the Discipline

WRWS 2050 or WRWS 2060 Fundamentals of Fiction or Fundamentals of Poetry

### Student Groups

The Crop Literary Club  
13th Floor Literary Magazine

### For More Information on Creative Writing

Contact the Department of Writer's Workshop at 402.554.2406

Website (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/writers-workshop/>)

### Degrees Offered

- Creative Writing, Bachelor of Fine Arts (p. 508)

### Minors Offered:

- Creative Writing Minor (p. 511)
- Screenwriting Minor (p. 511)

### WRWS 1010 CONTEMPORARY WRITERS:IN PERSON IN PRINT (3 credits)

An introduction to reading contemporary literature by studying the ways in which a writer shapes a poem or tale to communicate with an audience. Emphasizes the most contemporary prose and poetry and includes a series of readings and classroom visits by guest writers whose books are the texts for the class.

**Prerequisite(s)/Corequisite(s):** ENGL1160 or equivalent. Not open to non-degree graduate students.

**WRWS 1500 INTRODUCTION TO CREATIVE WRITING (3 credits)**

An introduction for non-majors in creative writing to the art and craft of writing fiction, poetry, and creative nonfiction. Follows a workshop format based on individual and group critique of students' writing, discussion of principles and techniques of the craft, and reading and analysis of instructive literary examples.

**Prerequisite(s)/Corequisite(s):** ENGL1160

**Distribution:** Humanities and Fine Arts General Education course

**WRWS 2000 SPECIAL STUDIES IN WRITING (3 credits)**

Offers varying subjects in writing and reading for the basic study of special forms, structures and techniques of imaginative literature. Consult the current class schedule for the semester's subject. May be repeated for credit with change of subject.

**Prerequisite(s)/Corequisite(s):** ENGL 1160. Not open to non-degree graduate students.

**WRWS 2050 FUNDAMENTALS OF FICTION WRITING (3 credits)**

A study of the ways in which writers confront the technical choices of their craft, this course introduces students to the major elements of fiction in order to increase their critical awareness both as readers and writers and to prepare them for work in succeeding fiction studios.

**Prerequisite(s)/Corequisite(s):** Prerequisite(s)/Corequisite(s): ENGL1160 or equivalent.

**WRWS 2060 FUNDAMENTALS OF POETRY WRITING (3 credits)**

This beginning writing course in poetry emphasizes the manner in which poets meet and deal with the technical choices confronting them in the making of a poem. Written work introduces students to a number of established forms in order to increase an understanding of the elements of a successful poem.

**Prerequisite(s)/Corequisite(s):** ENGL1160 or equivalent. Not open to non-degree graduate students.

**WRWS 2100 BASIC FICTION STUDIO (4 credits)**

A basic workshop course in fiction writing, studying the shapes and techniques of composing complete fictions. This is the first of four fiction studios.

**Prerequisite(s)/Corequisite(s):** WRWS2050

**WRWS 2200 BASIC POETRY STUDIO (4 credits)**

This beginning level studio explores different poetic forms and encourages the development of the writer's voice.

**Prerequisite(s)/Corequisite(s):** WRWS 2060

**WRWS 2300 BASIC CREATIVE NONFICTION STUDIO (4 credits)**

A beginning studio in various forms and craft techniques of creative nonfiction. Students study and practice writing such forms as the personal essay, the memoir, the adventure narrative, the essay of issues, etc.

**Prerequisite(s)/Corequisite(s):** WRWS 2050 or 2060. Not open to non-degree graduate students.

**WRWS 2400 FOUNDATIONS OF SCREENWRITING (3 credits)**

This course introduces the student to the foundational elements of screenwriting. The student will learn and practice the techniques of conveying a story in images and sound, creating characters with human motives and conflicts, editing for economy and thematic significance. Proper script formatting will be taught and expected.

**Prerequisite(s)/Corequisite(s):** English 1160 or equivalent.

**Distribution:** Humanities and Fine Arts General Education course

**WRWS 2600 BASIC SCREENWRITING AND TELEVISION WRITING STUDIO (4 credits)**

This studio introduces the fundamentals of screenwriting. The student will produce a pitch, outline and completed industry-standard screenplay that conveys a story, creates characters, and is edited for economy and theme. Proper script formatting will be taught and expected.

**Prerequisite(s)/Corequisite(s):** WRWS 2050, or WRWS 2060. Not open to non-degree graduate students.

**WRWS 3000 SELECTED TOPICS IN WRITING (1-3 credits)**

This course presents selected theoretical and practical approaches to crafting one or more the following genres: poetry, fiction, creative nonfiction, screenwriting, young adult literature, the video game narrative, or the graphic novel. Specific topics for the course will vary from semester to semester. Consult current class scheduled for the semester's topic(s). This course may be repeated for credit as a different course under a new topic

**Prerequisite(s)/Corequisite(s):** Vary according to specific topics being offered

**WRWS 3010 LITERARY MAGAZINE (APPLIED) (3 credits)**

This course provides hands-on editorial experience by reading submitted manuscripts, maintaining correspondence with prospective contributors, and shaping the contents of UNO's literary journal, 13th Floor. May be repeated up to six hours.

**Prerequisite(s)/Corequisite(s):** Sophomore and/or permission of magazine faculty advisor.

**WRWS 3030 ADVANCED CONTEMPORARY WRITERS (3 credits)**

This advanced course explores contemporary literature by studying the ways in which writers in multiple genres shape their work to communicate with an audience. It emphasizes the most contemporary prose and poetry and includes a series of readings and classroom visits by guest writers whose books are the texts for the class.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**WRWS 3100 INTERMEDIATE FICTION STUDIO (4 credits)**

An intermediate course in fiction writing. Emphasis on developing complete short stories or constructing a novel.

**Prerequisite(s)/Corequisite(s):** WRWS 2100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 3200 INTERMEDIATE POETRY STUDIO (4 credits)**

An intermediate course in the making of poetry, this class will focus on the study of traditional and contemporary models, as well as crafting original poems.

**Prerequisite(s)/Corequisite(s):** WRWS 2200. Not open to non-degree graduate students.

**WRWS 3300 INTERMEDIATE CREATIVE NONFICTION STUDIO (4 credits)**

An intermediate-level studio course in forms and crafting techniques of creative nonfiction. Students study and practice writing within such forms as the literary essay, the essay of issues, historical nonfiction, the nonfiction novel, etc.

**Prerequisite(s)/Corequisite(s):** WRWS 2300 or permission of instructor. Not open to non-degree graduate students.

**WRWS 3500 CREATIVE WRITING FOR THE ARTS (3 credits)**

An introduction to the art and craft of writing fiction, poetry, creative nonfiction, and analyses of works in art, music, and journalism/political rhetoric. Intended for non-majors in creative writing, and tailored to the needs of other arts disciplines, notably those in CFAM, the course will follow a workshop format based on individual and group critique of students' writing, discussion of principles and techniques of craft and selected literary readings. Students will also experience and analyze other arts forms, which may include exhibits of visual and performance art, journalistic essays and/or political speeches.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**Distribution:** Humanities and Fine Arts General Education course and Writing in the Discipline Single Course

**WRWS 3600 INTERMEDIATE SCREENWRITING STUDIO (4 credits)**

This course will build on the foundation established in the Beginning Screenwriting Studio (2600). The student will complete and revise the first draft of a feature-length screenplay. The student will also pitch, note-card, and begin writing a speculation script for television. The class will attend Film Streams once a month to view the current independent offering. There will be lectures and assigned reading. The course will culminate in the student beginning work on a second feature-length screenplay.

**Prerequisite(s)/Corequisite(s):** WRWS 2600. Not open to non-degree graduate students.

**WRWS 3800 THE WRITER'S VOICE: AUTHORS ON THE PAGE AND AT THE PODIUM (3 credits)**

This course will serve as an introduction to the art and craft of fiction, poetry, and creative nonfiction, as well as to analyses of written and publicly performed works of creative writing. This course is open to students who are not creative writing majors, and it is tailored to the needs of other arts disciplines, notably those in CFAM. WRWS 3800 will involve students crafting reflective, analytical, and creative writing based on the texts and video recorded public readings of visiting authors.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent

**Distribution:** Writing in the Discipline Single Course

**WRWS 3990 INDEPENDENT STUDIES (3-6 credits)**

For the writing major who has need of work not currently available in program offerings and who has demonstrated a capacity for working independently. Emphasis on in-depth study in some specific aspect of writing.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**WRWS 4000 FORM AND THEORY (3 credits)**

Advanced study of varying forms, structures, and techniques in creative writing. Specific topics of study may change each semester, and students may repeat the course under a new topic. Consult current class schedule.

**Prerequisite(s)/Corequisite(s):** Completion of WRWS 2100 or 2200 or 2300, varies according to specific topics offered.

**WRWS 4100 ADVANCED FICTION STUDIO II (4 credits)**

An advanced course in fiction in which students write and edit the most fully-developed short stories and/or novel sections of their college career, as well as read, analyze, and discuss assigned texts. Students examine the techniques of fiction writing, use the vocabulary and perspective they have gained so far to discuss their and others' work. They draw upon aspects of the self, the senses, imagination and memory to produce texts unique to their own voice and experience. (Cross-listed with WRWS 4110, WRWS 8116)

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4110 ADVANCED FICTION STUDIO II (4 credits)**

An advanced course in fiction in which students write and edit the most fully-developed short stories and/or novel sections of their college career, as well as read, analyze, and discuss assigned texts. Students examine the techniques of fiction writing, use the vocabulary and perspective they have gained so far to discuss their and others' work. They draw upon aspects of the self, the senses, imagination and memory to produce texts unique to their own voice and experience. (Cross-listed with WRWS 4100, WRWS 8116)

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4200 ADVANCED POETRY STUDIO I (4 credits)**

An advanced course in poetry writing. Emphasis on refining poetic technique. (Cross-listed with WRWS 8206)

**Prerequisite(s)/Corequisite(s):** WRWS 3200 or WRWS 4210 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4210 ADVANCED POETRY STUDIO II (4 credits)**

An advanced course in poetry writing with an emphasis on refining poetic technique and expression.

**Prerequisite(s)/Corequisite(s):** WRWS 3200 or WRWS 4200 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4300 ADVANCED CREATIVE NONFICTION STUDIO (4 credits)**

An advanced studio course in writing creative nonfiction. The course provides a context in which the student continues to practice techniques of literary nonfiction through the process of writing and rewriting.

**Prerequisite(s)/Corequisite(s):** WRWS 3300 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4310 ADVANCED CREATIVE NONFICTION STUDIO II (4 credits)**

An advanced studio course in writing creative nonfiction. The course provides a context in which the student continues to practice techniques of literary nonfiction through the process of writing and rewriting.

**Prerequisite(s)/Corequisite(s):** WRWS 2300 and WRWS 3300, or permission of instructor. Not open to non-degree graduate students.

**WRWS 4600 ADVANCED SCREENWRITING STUDIO I (4 credits)**

This class will focus on the craft of screenwriting: plot, format, substance, style, scene development, film structure (both independent and main stream), three dimensional characters, and precise, professional dialogue. The student will complete a feature-length screenplay over course of the semester. There will be lectures and assigned reading. Once a month the student will view the current independent offering at Film Streams. This class will guide the student in completing a work portfolio, querying agents, applying to internships, and preparing for a career in film and television. (Cross-listed with WRWS 8606).

**Prerequisite(s)/Corequisite(s):** WRWS 2600 and WRWS 3600.

**WRWS 4610 ADVANCED SCREENWRITING STUDIO II (4 credits)**

This class will build on the knowledge gained in Beginning Screenwriting Studio (WRWS 2600) and Intermediate Screenwriting Studio (WRWS 3600). The student will complete a second feature-length screenplay and an original pilot for television. There will be lectures and assigned reading. Once a month the student will view the current independent offering at Film Streams. This class will guide the student in completing a work portfolio, querying agents, applying to internships, and preparing for a career in film and television after graduation.

**Prerequisite(s)/Corequisite(s):** WRWS 2600 and WRWS 3600. Not open to non-degree graduate students.

**WRWS 4990 SENIOR THESIS (3-6 credits)**

An option for the writing majors in their last year of study to enable them to prepare a body of original work in their areas of concentration for judging by a committee of faculty.

**Prerequisite(s)/Corequisite(s):** Permission of department chair and thesis advisor. Not open to non-degree graduate students.

# Creative Writing, Bachelor of Fine Arts

## Requirements Bachelor of Fine Arts

The Writer's Workshop offers a major leading to the Bachelor of Fine Arts (BFA) degree, with concentrations in Poetry, Fiction, Creative Nonfiction, and Screenwriting

### Writer's Workshop Core Requirements

Code	Title	Credits
<b>Literature and Theory Core</b>		<b>9</b>
WRWS 1010	CONTEMPORARY WRITERS:IN PERSON IN PRINT	
WRWS 4000	FORM AND THEORY (two times) <sup>1</sup>	
or		
WRWS 4000 & WRWS 3990	FORM AND THEORY and INDEPENDENT STUDIES <sup>1</sup>	
or		
WRWS 3010 & WRWS 4000	LITERARY MAGAZINE (APPLIED) and FORM AND THEORY <sup>5</sup>	
<b>Foreign Language</b>		<b>8-10</b>
Select 8-10 hours <sup>2</sup>		
<b>Lower Level Literature</b>		<b>9</b>

Select three (3) 2000-level literature courses from any discipline offering a course in a primary source of literature; WRWS Special Topics courses (2000) included. Of the 3 courses, at least 1 must be from the following:<sup>3</sup>

ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II
ENGL 2450	AMERICAN LITERATURE I
ENGL 2460	AMERICAN LITERATURE II
ENGL 2500	LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD
ENGL 2510	GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD
ENGL 2520	LITERATURE OF WESTERN CIVILIZATION: THE MODERN WORLD

Upper Level Literature

ENGL 4340	SHAKESPEARE	3
-----------	-------------	---

Select five (5) additional 3000- or 4000-level literature classes from any language or discipline (in consultation with faculty adviser) offering a course in a primary source of literature.<sup>4</sup> 15

Total Credits	44-46
---------------	-------

- <sup>1</sup> Two semesters of WRWS 4000 required for core. Students may enroll a third time in WRWS 4000 for literature credit. Must be different topics each time. Prerequisites for WRWS 4000 Form and Theory: one Studio in appropriate genre.
- <sup>2</sup> Minimum of one academic year of the same college-level foreign language or ASL. High school equivalent of foreign-language fluency is not acceptable for this requirement.
- <sup>3</sup> Two WRWS Special Topics courses (2000) may be included, for no more than a total of 2 Special Topics courses in all categories.
- <sup>4</sup> Two WRWS Special Topics course (3000) may be included, for no more than a total of 2 Special Topics courses in all categories.
- <sup>5</sup> Literary Magazine (Applied) (3010) may be taken as either upper-division literature course, or as a Form and Theory (4000). WRWS 3010 cannot apply for both a literature course and a Form and Theory.

A Creative Writing Minor

May be obtained by successful completion of 18 credits of course work.

Creative Nonfiction

Code	Title	Credits
<b>Requirements:</b>		
Writing Core		
Select one of the following three course groups:		11
Group A:		
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	
WRWS 2100	BASIC FICTION STUDIO	
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	
Group B:		
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	
WRWS 2200	BASIC POETRY STUDIO	
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	
Group C:		
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	
or WRWS 2060	FUNDAMENTALS OF POETRY WRITING	
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	
<b>Concentration Area</b>		

WRWS 3300	INTERMEDIATE CREATIVE NONFICTION STUDIO	4
WRWS 4300	ADVANCED CREATIVE NONFICTION STUDIO	4
WRWS 4310	ADVANCED CREATIVE NONFICTION STUDIO II	4
Select three of the following or discuss options with advisor. NOTE: some courses have pre-reqs.		9
JMC 3400	MAGAZINE ARTICLE WRITING	
JMC 3220	CRITICAL WRITING FOR THE MASS MEDIA	
JMC 3500	PR AND ADVERTISING DESIGN	
JMC 4220	LITERARY JOURNALISM	
JMC 4250	STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING	
ENGL 4820	AUTOBIOGRAPHY	
ENGL 4860	THE MODERN FAMILIAR ESSAY	
<b>Total Credits</b>		<b>32</b>

Fiction and Poetry

Code	Title	Credits
<b>Requirements:</b>		
Writing Core chosen in consultation with advisor		18
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	
Select the relevant Basic Studio plus 2 additional Basic Studios		
WRWS 2100	BASIC FICTION STUDIO	
WRWS 2200	BASIC POETRY STUDIO	
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	
<b>Concentration Area</b>		
Select either the Fiction Studio sequence or the Poetry Studio sequence		12
Sequence 1:		
WRWS 3100	INTERMEDIATE FICTION STUDIO	
WRWS 4100	ADVANCED FICTION STUDIO I	
WRWS 4110	ADVANCED FICTION STUDIO II	
Sequence 2:		
WRWS 3200	INTERMEDIATE POETRY STUDIO	
WRWS 4200	ADVANCED POETRY STUDIO I	
WRWS 4210	ADVANCED POETRY STUDIO II	
<b>Total Credits</b>		<b>30</b>

Screenwriting

Code	Title	Credits
<b>Requirements:</b>		
Writing Core		
Select one of the following three course groups:		11
Group A:		
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	
WRWS 2100	BASIC FICTION STUDIO	
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	
Group B:		
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	
WRWS 2200	BASIC POETRY STUDIO	

WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	
<b>Group C:</b>		
WRWS 2050 or WRWS 2060	FUNDAMENTALS OF FICTION WRITING FUNDAMENTALS OF POETRY WRITING	
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	
<b>Concentration Area</b>		
WRWS 3600	INTERMEDIATE SCREENWRITING STUDIO	4
WRWS 4600	ADVANCED SCREENWRITING STUDIO I	4
WRWS 4610	ADVANCED SCREENWRITING STUDIO II	4
Select three of the following or discuss options with advisor. NOTE: some courses have pre-reqs.		9
WRWS 3000	SELECTED TOPICS IN WRITING <small>relevant topics only per advisor</small>	
ART 3140	COMPUTER GENERATED IMAGERY	
THEA 1300	ACTING I	
THEA 3000	SPECIAL TOPICS IN THEATRE	
THEA 4020	ADVANCED PROJECTS IN THEATRE <small>relevant topics only per advisor</small>	
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	
JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4810	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
JMC 4820	POLITICS AND FILM	
Appropriate 3000- or 4000-level course may be selected from other departments, with approval of WRWS advisor.		
<b>Total Credits</b>		<b>32</b>
<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
COMP I (COMP II if student has AP credit)		3
Quantative Literacy		3
Public Speaking		3
Humanities and Fine Arts or Social Science (Can also count as a Diversity)		3
Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
COMP II <sup>1</sup>		3
Lower-Level Literature		3
Humanities and Fine Arts or Social Science (Can also count as a Diversity)		3
Humanities and Fine Arts		3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
Fundamentals of Fiction or Poetry <sup>3</sup>		3
Humanities and Fine Arts or Social Science		3
Natural/Physical Science with Laboratory		4
Lower-Level Literature		3
<b>Credits</b>		<b>13</b>

**Spring**

Basic Studio	4
Second Fundamental of Fiction or Poetry for Fiction or Poetry majors	3
OR- First CNF or Screenwriting Elective	
OR- Pre-requisite for one (1) CNF or Screenwriting Elective <sup>3</sup>	
Lower-Level Literature	3
Upper-Level Literature	3
Humanities and Fine Arts or Social Science	3
<b>Credits</b>	<b>16</b>

**Junior****Fall**

Intermediate Studio	4
First Extra Basic for Fiction or Poetry majors	3-4
OR- First or Second CNF or Screenwriting Elective	
Upper-Level Literature	3
Upper-Level Literature	3
<b>Credits</b>	<b>13-14</b>

**Spring**

Advanced Studio I	4
Second Extra Basic for Fiction or Poetry majors	3-4
OR- Second or Third CNF or Screenwriting Elective	
Upper-Level Literature	3
Upper-Level Literature	3
<b>Credits</b>	<b>13-14</b>

**Senior****Fall**

Advanced Studio II	4
Third CNF or Screenwriting Elective	3
Contemporary Writers	3
Form & Theory	3
Foreign Language or ASL	5
<b>Credits</b>	<b>18</b>

**Spring**

Form & Theory	3
Humanities and Fine Arts or Social Science	3
Foreign Language or ASL	5
Upper-Level Literature	3
Elective	1-3
<b>Credits</b>	<b>15-17</b>

**Total Credits** **118-122**

<sup>1</sup> If student enters UNO with AP Comp credit, they can take Comp II in Freshman Fall semester, and Fundamentals of Fiction/Poetry in Freshman Spring semester.

<sup>2</sup> \*Fundamentals of Fiction or Poetry is, on rare occasion, accepted from another institution.

\*\*Fundamentals fulfills the Writing in the Discipline requirement

<sup>3</sup> Most pre-reqs for CNF and Screenwriting Electives overlap with WRWS required courses; however, the pre-reqs for a few CNF/Screenwriting Electives adds 3-6 hours to the Road Map.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** Students must successfully complete all major courses with a grade of "C" (2.0) or better.

**Graduation Requirements:** The BFA in Creative Writing requires a minimum of 75 semester hours of major coursework designated by the candidate's area of emphasis (Fiction, Poetry, Creative Nonfiction or Screenwriting) in consultation with the student's program advisor. The degree requires 120 total credit hours of coursework.

## Creative Writing Minor

### Requirements

Select an Emphasis.

Code	Title	Credits
<b>Emphasis in Fiction</b>		
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	3
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	3
WRWS 2100	BASIC FICTION STUDIO	4
WRWS 3100	INTERMEDIATE FICTION STUDIO	4
WRWS 4100	ADVANCED FICTION STUDIO I	4
<b>Total Credits</b>		<b>18</b>

Code	Title	Credits
<b>Emphasis in Poetry</b>		
WRWS 2050	FUNDAMENTALS OF FICTION WRITING	3
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	3
WRWS 2200	BASIC POETRY STUDIO	4
WRWS 3200	INTERMEDIATE POETRY STUDIO	4
WRWS 4200	ADVANCED POETRY STUDIO I	4
<b>Total Credits</b>		<b>18</b>

Code	Title	Credits
<b>Emphasis in Creative Non-Fiction</b>		
WRWS 2050 or WRWS 2060	FUNDAMENTALS OF FICTION WRITING FUNDAMENTALS OF POETRY WRITING	3
WRWS 2300	BASIC CREATIVE NONFICTION STUDIO	4
WRWS 3300	INTERMEDIATE CREATIVE NONFICTION STUDIO	4
WRWS 4300	ADVANCED CREATIVE NONFICTION STUDIO	4
ENGL 4860 or JMC 3400	THE MODERN FAMILIAR ESSAY MAGAZINE ARTICLE WRITING	3
<b>Total Credits</b>		<b>18</b>

## Screenwriting Minor

### Requirements

Screenwriting minor purpose: to meet students' needs to prepare for the job market. Also, the Screenwriting minor offers students the option of enhancing their major field of study with a minor that offers an introduction to the craft of screenwriting and an entrée to a career in film.

Code	Title	Credits
<b>Required Courses:</b>		
WRWS 2050 or WRWS 2060	FUNDAMENTALS OF FICTION WRITING FUNDAMENTALS OF POETRY WRITING	3
WRWS 2600	BASIC SCREENWRITING AND TELEVISION WRITING STUDIO	4
WRWS 3600	INTERMEDIATE SCREENWRITING STUDIO	4
WRWS 4600	ADVANCED SCREENWRITING STUDIO I	4
Select one elective from the following list or other film-related courses from other departments, per approval of WRWS academic advisor:		3
WRWS 3000	SELECTED TOPICS IN WRITING	
THEA 3000	SPECIAL TOPICS IN THEATRE (Script Analysis )	
THEA 3300	ACTING II	
THEA 4020	ADVANCED PROJECTS IN THEATRE	
THEA 4050	SHAKESPEARE ON FILM: THE ART OF INTERPRETATION	
JMC 3320	VIDEO FIELD AND STUDIO PRODUCTION	
JMC 4380	FILM THEORY AND CRITICISM	
JMC 4810	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
JMC 4820	POLITICS AND FILM	
ART 3140	COMPUTER GENERATED IMAGERY	
<b>Total Credits</b>		<b>18</b>

## College of Education, Health, and Human Sciences

### Mission/Vision

The College of Education, Health, and Human Science's philosophy and purpose are grounded in the central principles identified by the faculty for preparing graduates who are dedicated practitioners, reflective scholars, and responsible citizens. The outcomes/goals related to the principles focus on the knowledge, skills, and disposition espoused by the faculty and are built on the fundamental belief that all children can learn. The full text of the conceptual framework may be found here (<https://www.unomaha.edu/college-of-education-health-and-human-sciences/>)

Please note the information contained in this portion of the catalog is general information for the College of Education, Health, and Human Sciences. For more specific details please consult information specific to your intended department.

### General Information

#### Overview of degree programs

The College of Education, Health, and Human Sciences is comprised of six academic units; the Departments of Counseling; Educational Leadership; Special Education and Communication Disorders; Teacher Education; Biomechanics, and Health and Kinesiology. Through its departments and school, the college seeks to prepare individuals for careers in a variety of

fields including teaching, educational administration, counseling, public health, athletic training, exercise science, library science, special education, sign language interpreting, biomechanics, early childhood inclusive education and communication disorders. The college offers programs at the undergraduate and graduate levels. This catalog describes only those programs at the undergraduate level.

The college offers the following undergraduate degrees: Bachelor of Science in Education, Bachelor of Science in Biomechanics, and Bachelor of Science in Public Health. Some programs must be completed in conjunction with one (or more) other programs. Educator preparation programs lead to state certification. Additionally, the college offers a number of special course sequences which do not result in a degree but which result in added teaching endorsements.

All students in a degree program in the college must meet the university general education requirements. Additional information on these requirements can be found at the University General Education website (<https://www.unomaha.edu/general-education/>). Please contact an academic advisor for recommended choices for the major.

Certain majors/programs in the College of Education, Health, and Human Sciences require specifically related content coursework. For further information, and to view the requirements for specific majors/programs, visit the college website (<https://www.unomaha.edu/college-of-education/>) or contact an academic advisor.

## Accreditation Information

The following programs in the College of Education, Health, and Human Sciences are accredited by:

Major	Degree	Accreditation Body
Athletic Training	MA	Commission on Accreditation of Athletic Training Education (CAATE)
Counseling: Concentration in Community Counseling	MA MS	Council for Accreditation of Counseling and Related Educational Programs (CACREP)
Counseling: Concentration in School Counseling K-12	MA MS	- Council for Accreditation of Counseling and Related Educational Programs (CACREP) - Nebraska Department of Education
Educational Leadership	MS Ed.S. Ed.D	- National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education
Elementary Education	BSED	- National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education
Public Health	BS	- Council on Education for Public Health (CEPH)

### School Library

### MS/Endorsement

- National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education and National Recognition by the American Library Association (ALA) and the American Association of School Librarians (AASL)

Secondary Education	BSED	- National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education
Special Education	BSED	- National Council for Accreditation of Teacher Education (NCATE) - Nebraska Department of Education
Speech-Language Pathology	MS	- Council of Academic Accreditation of the American Speech-Language-Hearing Association (ASHA) - Nebraska Department of Education

All preparation programs within the college adhere to the national standards promulgated by their respective professional organizations.

## Choice of Catalog Policy

Students maintaining continuous enrollment follow the requirements outlined by the Catalog in effect when they first enroll in the University of Nebraska at Omaha. The Catalog of the term of admission prescribes, at minimum, the General Education curriculum and the set of academic policies that govern progress toward completion of a degree. The Catalog of the term of admission also describes the program requirements of the student's major(s), minors, endorsements, and concentrations. Alternatively, a student may choose to follow **all** of the program and policy requirements outlined by any single Catalog in effect during subsequent terms of continuous enrollment. If a student elects to move to another catalog, the change of catalog must be noted in MavTracks and DegreeWorks by the advisor. Each student is responsible for knowing and abiding by the policies described in the Catalog chosen.

For interruptions in enrollment of more than one semester, individuals will be held to the requirements of the catalog of the year when they re-enter the College.

## Contact Information

College of Education, Health, and Human Sciences  
Roskens Hall  
6001 Dodge Street  
Omaha, NE 68182

Dean's Office RH – 402.554.2719  
Office of Academic Advising and Field Experiences- 402.554.2717  
Teacher Certification – 402.554.2718  
Health and Kinesiology – 402.554.2670  
Special Education and Communication Disorders – 402.554.3355  
Teacher Education – 402.554.3666

Program Website (<http://www.unomaha.edu/college-of-education/>)

## Admission Requirements

Prospective students may apply for admission to the college by indicating their preference on the University Application for Admission.

Deadlines for UNO undergraduate admission to the College of Education, Health, and Human Sciences are:

- August 1 for fall semester
- December 1 for spring semester
- June 1 for summer sessions

Admission to the College of Education, Health, and Human Sciences does not guarantee admission to a specific program. Certain programs, such as educator preparation, require a separate application and admission process. Specific admission requirements for programs within the College of Education, Health, and Human Sciences are noted in the departments'/school's section of this catalog or on the college website.

## Academic Requirements for the College Degrees

### Number of Hours to Graduate

The bachelor's degrees (BS in Education, BS in Biomechanics and BS in Public Health) require a minimum of 120 credit hours; 30 of the last 36 hours must be taken in residence. University General Education requirements apply to all programs. The College of Education, Health, and Human Sciences will accept toward a degree program those courses for which credit by examination is given (up to 30 hours) and recommended by the respective departments within the college of the university. Up to eight credit hours of elective credit may be allowed for military service.

Program specifications and expectations are noted in the departments'/school's sections of this catalog or on the college website (<https://www.unomaha.edu/college-of-education/>). Candidates in educator preparation programs must also complete all requirements in the professional education sequence, and the requirements for their teaching certification and endorsements/emphasis area(s). Students in non-educator preparation programs must complete all the requirements of the particular program.

### Minimum GPA/Additional Requirements

Students in the College of Education, Health, and Human Sciences must maintain a 2.5 cumulative grade point average. This GPA is calculated based on all courses taken in the University of Nebraska system (UNL, UNO, UNK). The cumulative GPA determines eligibility for professional coursework.

Individual major programs within the College of Education, Health, and Human Sciences can require students to maintain higher GPA standards to remain in good standing. In addition, course prerequisites may require higher GPA to enter upper-level coursework.

### College Requirements, BA/BS Requirements

For specific program requirements, see the department/school section of this catalog or the college website.

## Transfer Credit Policy

Students may transfer into the college from other institutions by completing the application process and meeting the minimum cumulative grade point average GPA of 2.5 (on a 4.0 scale).

Transfer credit from outside the NU system can be applied to course requirements, but outside credit does not affect the NU system GPA or a student's good standing in the college. Transfer GPA is only considered before a student has earned 12 or more hours in the NU system. In this time period, students may be permitted into courses or accepted to professional programs based on their transfer cumulative GPA. Once

students complete 12 credits or more in the NU system, the NU system GPA will be used to measure quality of work.

Official transcripts must be sent to the UNO Office of Admissions from each previous college or university attended whether credit was earned or not. Hand-carried or student-submitted transcripts are not acceptable. Only 64 credit hours can be transferred from an approved 2-year institution.

Only credits earned at accredited institutions will be accepted by the college. In accordance with University policies, the college will accept, for transfer, grades of "C-" or better for University General Education courses. Credits earned at an institution which is part of the Nebraska Network of Community Colleges will be accepted by the college provided the grades are the equivalent of a "C-" or better for University General Education courses. Credits from institutions seeking regional accreditation (but not yet accredited) may be accepted after 30 hours of work are satisfactorily completed at UNO. Acceptance of any transfer credits by the college does not ensure application to a particular program or endorsement.

Determination of applicability is the responsibility of the specific department/school. Departments within the college and programs will determine applicability of transfer credits and of grades to meet specific requirements. The University accepts "C-" grades, but programs may have a higher standard of applicability of transfer credits. For specific program requirements, see the department/school section of this catalog or the college website.

Individuals with degrees in education, transferring to the College of Education, Health, and Human Sciences for teacher certification only, must successfully complete all program requirements prior to clinical practice. (The program coursework for any endorsement must total a minimum of 12 hours, six of which are in the major area.)

Special Note: Transfer Admission from Colleges within UNO

Students transferring from another college on the UNO campus to the College of Education, Health, and Human Sciences must meet the minimum cumulative GPA requirement of 2.5.

### Unacceptable Credits

Professional education courses will be accepted only from institutions which are accredited for teacher education by the national, state and/or regional accrediting agency and those classes are good for a 10 year period. Education courses will not be accepted from two-year institutions or other institutions unless the college has a specific articulation agreement with that institution or the course has received departmental approval.

Retroactive Credit Policy >> (p. 29)

Advanced Placement Credits >> (p. 29)

Military Credit >> (p. 29)

IB Credit >> (p. 29)

Placement Exams and Credit by Examinations Policies/Practices >> (p. 64)

### Residency Requirement

The bachelor's degrees (BS in Education, BS in Biomechanics and BS in Public Health) require a minimum of 120 credit hours; 30 of the last 36 hours must be taken in residence.

## Quality of Work

The following quality of work standards apply to all individuals in the college.

- Maintain a cumulative GPA of 2.5 or higher for admission to the College of Education, Health, and Human Sciences. For specific program requirements, see the department/school section of this catalog or the college website.

- Maintain a 2.5 cumulative grade point average to remain in good standing with the College of Education, Health, and Human Sciences. This GPA is calculated based on all courses taken in the University of Nebraska system (UNL, UNO, UNK). The cumulative GPA determines eligibility for professional coursework.
- Individual major programs within the College of Education, Health, and Human Sciences can require students to maintain higher GPA standards to remain in good standing. In addition, course prerequisites may require a higher GPA to enter upper-level coursework. For specific program requirements, see the department/school section of this catalog or the college website.
- Individuals are expected to progress steadily toward the degree. Majors will complete work for the degree according to the requirements of the catalog of the year in which they entered the college. For interruptions in enrollment of more than one semester, individuals will be held to the requirements of the catalog of the year when they re-enter the college.

NOTE: Please see departments'/school's sections for information on programs, lists of courses, and additional academic performance requirements

## General Education courses

Per General Education policy, College of Education, Health, and Human Sciences general education courses meeting Humanities/ Fine Arts, Social Science or Natural Science requirements are exempt from the repeat policy and students do not need to meet the minimum CEHHS 2.5 NU GPA requirement to take courses filling these distribution requirements.

Courses that meet only U.S. or Global Diversity requirements may enforce prerequisites of the program or department.

For undergraduate CEHHS courses that have no listed pre-requisite, any UNO student is eligible to enroll.

A minimum grade of "C-" must be earned in all coursework in the university general education requirements to be applied to a College of Education, Health, and Human Sciences degree.

## Good Academic Standing Policy >> (p. 30)

## Credit/No Credit (CR/NC) Grades >> (p. 30)

## Completion of Incomplete Grade

Under certain circumstances, a student may be eligible for an "I" grade in a course. Please see information in the grades information section of the [catalog \(p. 30\)](#).

Questions about the procedures to follow in the college should be directed to the respective department chair or school director.

Students who do receive a grade of "I" in a course with a department prefix of BMCH, CDIS, COUN, HEKI, KINS, PHHB, SPED, or TED may not enroll in any course for which the "I" course is a prerequisite until the "I" grade has been removed and replaced with a passing grade.

## Repeatable Grades/Courses

For a general education course offered by the College of Education, Health, and Human Sciences, any student may repeat this course.

A College of Education, Health, and Human Sciences student in an educator preparation program, non-certification concentration, Library Science, Communication Disorders or Sign Language Interpreting concentration who receives a grade below "C" or a "W" (Withdraw) in any undergraduate course with a department prefix of BMCH, CDIS, COUN, HEKI, KINS, PHHB, SPED, or TED may re-enroll in that course for one additional time for a total of two attempts. For exceptions to this rule, please review program-specific requirements.

A College of Education, Health, and Human Sciences student in Biomechanics, Kinesiology, or Public Health who receives a grade below "C-" or a "W" (Withdraw) in any undergraduate course with a department prefix of BMCH, CDIS, COUN, HEKI, KINS, PHHB, SPED, or TED may re-enroll in that course for one additional time for a total of two attempts. For exceptions to this rule, please review program-specific requirements.

A candidate who is removed from, withdraws from, or receives a grade of "I" in field, internship, clinical, practicum, or clinical practice experience, regardless of reason, must appeal to the Academic Review Committee (ARC) to be allowed to repeat the experience. If the appeal is granted, the candidate must reapply for a placement. A candidate may repeat such experiences only once.

See also "Completion of Incomplete Grade" for additional information.

## Appeal Process >> (p. 30)

## Grade Appeal Policy

Individuals who believe that their grade in a particular course does not properly reflect their performance, or that the instructor acted in an arbitrary or capricious manner in determining the grade, should first contact the instructor to determine the rationale for the grade or if there was an error in reporting. Consultation with the instructor should take place before taking any formal action in regard to a grade appeal.

After the instructor has provided the rationale for the grade in question and has indicated that no error in reporting was made, the individual may then wish to petition the department/school for reconsideration. In such instances, the student should contact the department chair/school director to obtain information on the procedures to follow in requesting an appeal at the department/school level.

If an individual believes that the department/school action did not comply with the due process procedures or did not provide legitimate relief, he/she may petition the Student Affairs Committee of the College of Education, Health, and Human Sciences. This committee is the appellate body for grade appeals after a student has received a decision at the department/school level. Students wishing to appeal a grade to the Student Affairs Committee should contact the Dean's Office (Roskens Hall 211) to obtain the procedures to follow in filing an appeal.

## Academic Amnesty

Individuals without a previous degree who are currently enrolled in the College of Education, Health, and Human Sciences, and who have successfully completed one full year of coursework at UNO, may petition to have all coursework taken during all or part of their first two years removed for the purpose of computing grade point average. One full year of successful coursework at UNO shall be defined as 24 consecutive hours with a grade point average of at least 2.5.

Deletion of previous coursework shall be by entire semester(s), or year(s) as the case may be and the student must be at least four years removed from the semester or year to be deleted. Individuals who apply under this rule may not be considered for degrees with honors at graduation.

The petition for academic amnesty is submitted in accordance with the following guidelines:

1. After consultation with an academic advisor, the individual is responsible for initiating the petition.
2. The petition should be addressed to the dean of the college. It should include the individual's name, identification number, and address, as well as identification of the specific semesters for which removal is being requested.
3. The petition should be submitted to the Dean's Office, Roskens Hall 211.

4. The individual is advised in writing regarding the dean's decision. Copies of the decision are sent to the individual's advisor and the registrar.

Note: Application of the College of Education, Health, and Human Science's amnesty policy for students in other colleges at UNO is possible under the following circumstances:

1. The individual meets the cumulative hour and GPA requirements of the College of Education, Health, and Human Science's amnesty policy.
2. The individual must have "assured" admission status. (See general information section of the undergraduate catalog for a description of the admission categories.)
3. The application of the College of Education, Health, and Human Sciences policy will raise the cumulative GPA to the required 2.5 overall average.

## Academic Probation and Suspension

Students whose GPA fall below 2.5 on a 4.0 scale will be placed on academic probation with the College of Education, Health, and Human Sciences for one semester. During the probationary semester, students may enroll in a voluntary support program and make efforts to raise the cumulative GPA.

During a probation semester, CEHHS students are allowed to repeat College of Education, Health, and Human Sciences courses in which they did not earn a passing grade (see program requirements for minimum passing grade). Students who want to repeat a course with field or practicum requirements must appeal and/or seek permission in accordance with departmental guidelines to be allowed to repeat the experience.

Students are encouraged to repeat courses in which they earned below the minimum passing grade to return to good standing in the College of Education, Health, and Human Sciences. Per Office of the University Registrar policy, when an undergraduate course is repeated, only the most recent grade will be calculated into the GPA.

Students whose cumulative GPA remains below the 2.5 minimum for the second consecutive semester are ineligible to remain in the College of Education, Health, and Human Sciences and must change their major and college. Such students may re-enter the College of Education, Health, and Human Sciences should they repair their cumulative GPA to the standard required for their program.

Students whose GPAs fall below 2.0 on a 4.0 scale may be subject to suspension based on the Office of the University Registrar's posted guidelines. (<https://www.unomaha.edu/registrar/faculty-and-staff/additional-information/probation-suspension-deans-list.php>)

## Reinstatement Policy Following Academic Suspension >> (p. 30)

## Academic Advising

Working in partnership with academic advisors is key to student success. Programs in the College of Education, Health, and Human Sciences are carefully sequenced. To move through these programs in a timely manner, students must plan carefully and regularly consult their advisors. In addition to program requirements, academic advisors assist students in exploring and defining an academic career, life goals, and pathways for success. Advisors will assist in developing problem-solving and decision-making skills through a collaborative and process-oriented advising approach. Advisors provide information about university requirements; discuss career goals, graduate or professional programs, or licensure requirements; and refer to campus resources that improve students' academic experiences. The Roskens Hall 204 academic advising office serves Pre-Elementary, Elementary, Pre-Secondary, Secondary, Pre-Early Childhood Inclusive, Early Childhood Inclusive, Pre-Special Education, Special Education, Library Science, and Communication Disorders majors. The Health and Kinesiology advising office is located in 207 in the H&K building and serves pre-Athletic

Training, Biomechanics, Kinesiology, and Public Health majors. Students are expected to meet with their advising partners every semester.

## Mission of College of Education, Health, and Human Sciences Academic Advising

Our mission is to empower students to explore and achieve their educational goals through intentional partnerships.

## Vision of College of Education, Health, and Human Sciences Academic Advising

College of Education, Health, and Human Sciences advisors help students make the most of their education. We support the personal and professional growth of the whole student with the goal of promoting persistence and success.

## Values of College of Education, Health, and Human Sciences Academic Advising

As advisors, we value engaged student learning. We believe high expectations and consistent support are key to helping emerging professionals navigate the university curriculum. We work in our college and on our campus to advocate for student success.

## Advising Holds >> (p. 23)

## Student Holds >> (p. 23)

## Senior Check

Senior checks are completed in conjunction with academic advisors. For specific program requirements, see the department/school section of this catalog or the college website.

## Application for Degree

All students graduating from UNO must file an "Application for Degree" with the Records and Registration Office and pay the required fee at the beginning of the semester in which they will graduate and not later than the date listed in the university calendar. Failure to file for the degree by this deadline may postpone a student's graduation date. Applications are available online via MavLink. After applying for the degree, students should visit the UNO Bookstore as soon as possible to order the cap and gown and graduation announcements. For more information click [here](https://www.unomaha.edu/registrar/students/graduation-and-diplomas/graduation-general-information.php) (<https://www.unomaha.edu/registrar/students/graduation-and-diplomas/graduation-general-information.php>).

## Biomechanics

The mission of the Department of Biomechanics is to provide a new understanding of the dynamical aspects of human movement via multidisciplinary approaches. In particular, we aim to achieve the following specific objectives:

1. Quantitatively characterize the complex behavior in healthy and abnormal movement patterns via innovative analyses.
2. Educate and train students, clinicians, and basic scientists so they may apply concepts of human movement variability in their careers as educators and researchers.
3. Improve our understanding of basic healthy and abnormal movement patterns using an interdisciplinary approach in clinically oriented research.
4. Develop new diagnostic and prognostic tests and related biotechnology for a variety of movement disorders and aging.
5. Provide biomechanically related services to interested parties as well as to University and community partners.
6. Participate in community outreach activities that involve biomechanically related educational opportunities.

Biomechanics is the study of forces that act on the body and the effects they produce. It is an intersection of biology, physiology, anatomy, physics,

mathematics, and chemistry. Biomechanics is a rapidly growing discipline that has many applications in robotics, forensics, ergonomics, clinical assessment and rehabilitation of movement disorders, design of prosthetics, sports performance, sports equipment design, safety, etc.

The B.S. in Biomechanics is an excellent choice for students planning to a) pursue graduate education and careers in research, b) work in biomechanically related industry and hospital laboratories, and c) pursue graduate education in professional schools for physical therapy, occupational therapy, medicine and other science-based programs.

The Minor in Biomechanics is ideal for those students who have a major outside of Biomechanics and would benefit from learning the basic principles of Biomechanics.

## Other Information

Once students are admitted to the Bachelor of Science in Biomechanics they will be in the College of Education, Health, and Human Services and will be required to maintain a cumulative college GPA of 2.5/4.0 scale and grades of "C-" or better in the core courses to remain in good standing in the College of Education, Health, and Human Services.

The department highly encourages students to engage in undergraduate research with a faculty mentor. A list of Biomechanics faculty can be found on our website (<http://www.unomaha.edu/college-of-education/biomechanics-core-facility/about-us/directory/>). There are also many undergraduate volunteer and student worker opportunities available in the Department.

## Fast Track Program

The Department of Biomechanics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

### Program Specifics:

- This program is available for undergraduate students pursuing a BS in Biomechanics desiring to pursue a MS in Biomechanics.
- Students must have completed no less than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.0
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - Applicants for this program are highly encouraged to pursue research opportunities in the Department of Biomechanics or comparable programs.
  - The admit term must be after the completion term of the undergraduate degree.

All 8000 level BMCH courses are eligible for students part of the Fast Track program.

## Contact Information

Biomechanics Research Building  
402.554.3228  
[unobiomechanics@unomaha.edu](mailto:unobiomechanics@unomaha.edu)

Website (<https://www.unomaha.edu/college-of-education/biomechanics-core-facility/>)

## Degrees Offered

- Biomechanics, Bachelor of Science (p. 517)

## Writing in the Discipline

BMCH 4200 Methods in Biomechanics I, BMCH 4210 Methods in Biomechanics II, BMCH 4980 Capstone Design in Biomechanics I, BMCH 4990 Capstone Design in Biomechanics II.

- Biomechanics Minor (p. 519)

Biomechanics is the study of the mechanical laws that create human and animal motion. Biomechanics applies principles from engineering, mechanics, physics, and biology to study human and animal movement. Biomechanics majors have the ability to pursue a wide variety of careers. These careers range from being technologically centered to human health centered.

### Potential career opportunities/settings:

- Physical and Occupational Therapy\*
  - Physical Therapist
  - Occupational Therapist
- Prosthetics and Orthotics\*
  - Prosthetist
- Medical Device Design
  - Research Scientist
- Clinical Research
  - Gait Analysis Biomechanist
- Robotics
  - Field Application Engineer
  - Robotics Technician
- Ergonomics
  - Ergonomist
- Medicine\* (Orthopedics, Cardiology, Neurology)
  - Orthopedic Surgery
  - Sports Medicine
- Athletic Training\*
  - Athletic Trainer
- Sports Performance
  - Footwear Material Developer
  - Footwear Research and Development

\*Requires graduate study

### BMCH 1000 INTRODUCTION TO BIOMECHANICS (3 credits)

This is an introductory course in biomechanics that provides a brief history, an orientation to the profession, and explores the current trends and problems and their implications for the discipline.

**Distribution:** Social Science General Education course

### BMCH 1100 ETHICS OF SCIENTIFIC RESEARCH (3 credits)

This course is a survey of the main ethical issues in scientific research.

**Distribution:** Humanities and Fine Arts General Education course

**BMCH 2200 ANALYTICAL METHODS IN BIOMECHANICS (3 credits)**

Through this course, students will learn the fundamentals of programming and problem solving for biomechanics with Matlab and Excel. Students will also learn the attributes and uses of other programming languages.

**BMCH 2400 HUMAN PHYSIOLOGY & ANATOMY I (4 credits)**

The study of the structure and function of the systems of the body with an emphasis on the skeletal, muscular, cardiovascular and respiratory systems.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BMCH 2500 HUMAN PHYSIOLOGY AND ANATOMY II (4 credits)**

The study of the structure and function of the systems of the body with an emphasis on the nervous system, special senses, digestive system, endocrine system, metabolism and body temperature regulation, lymphatic system, and urinary system.

**Prerequisite(s)/Corequisite(s):** PE 2400 or BMCH 2400 with a grade of C- or better.

**BMCH 3000 BIOMECHANICAL STATICS & DYNAMICS (3 credits)**

This course is the study and exploration of the effect of forces on biological systems, mainly the human body, during static and dynamic situations.

**Prerequisite(s)/Corequisite(s):** PHYS 2110, PHYS 1154

**BMCH 4000 BIOMATERIALS (3 credits)**

Students will learn the classification, properties, characterization methods, body interactions, applications, and design principles of biomaterials.

(Cross-listed with BMCH 8006).

**BMCH 4100 BIOINSPIRED ROBOTICS (3 credits)**

The goal of the course is to involve students in an interdisciplinary vision of biomechanics, biology, engineering and architecture by learning how humans and other animals function in their environment. These design principles from nature can be translated into novel devices, structures, and robots. (Cross-listed with BMCH 8106).

**BMCH 4200 METHODS IN BIOMECHANICS I (3 credits)**

In this course students learn about the methods and equipment used in biomechanics as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. (Cross-listed with BMCH 8206).

**Prerequisite(s)/Corequisite(s):** BMCH 3000, BMCH 2200 with a grade of C- or better or department permission.

**BMCH 4210 METHODS IN BIOMECHANICS II (3 credits)**

In this course students learn about advanced methods and equipment used in biomechanics, as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. This course builds on the experience gained in BMCH 4200/8206, Methods in Biomechanics I. (Cross-listed with BMCH 8216).

**Prerequisite(s)/Corequisite(s):** BMCH 4200 with a grade of C- or better or department permission.

**BMCH 4630 BIOMECHANICS (3 credits)**

A study of the forces that act on a human body and the effects that they produce.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 [previously PE 2400] or PE 2880 or BIOL 2740 or equivalent, AND PHYS 1110 and PHYS 1154 OR MATH 1950 to be taken concurrently or completed previously with a grade of C- or better.

**BMCH 4640 ORTHOPEDIC BIOMECHANICS (3 credits)**

Orthopedic Biomechanics focuses on the use of biomechanical principles and scientific methods to address clinical questions that are of particular interest to professionals such as orthopedic surgeons, physical therapists, rehabilitation specialists, and others. (Cross-listed with BMCH 8646).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 or department permission.

**BMCH 4650 NEUROMECHANICS OF HUMAN MOVEMENT (3 credits)**

A study of basic principles of neural process as they relate to human voluntary movement. Applications of neural and mechanical principles through observations and assessment of movement, from learning to performance, as well as development. (Cross-listed with NEUR 4650).

**Prerequisite(s)/Corequisite(s):** BMCH 1000 or PE 2430.

**BMCH 4660 CLINICAL IMMERSION FOR RESEARCH AND DESIGN (3 credits)**

This course will involve exposure to current clinical practices, identification of unmet clinical needs, and information regarding future career options. In this course, students will be matched with local clinical sites to provide a unique opportunity for innovative and interdisciplinary approaches to problem solving subject to practical constraints. Concepts in clinical rehabilitation, integrated assessments, regulation of medical devices in health care will be covered. This course will review the latest research efforts for rehabilitation in the context of device design and implementation. (Cross-listed with BMCH 8666).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 or equivalent and Instructor Permission. Not open to non-degree graduate students.

**BMCH 4670 INTRODUCTION TO MECHANICS OF BIOMATERIALS (3 credits)**

In this course students will learn how to analyze the stresses and strains in different structures under complex loading conditions with extensive examples from biomaterials and materials generally used in the medical device field. (Cross-listed with BMCH 8676).

**Prerequisite(s)/Corequisite(s):** BMCH 3000 or Department Permission

**BMCH 4680 SPORTS BIOMECHANICS (3 credits)**

This course is intended to provide students with a foundational knowledge on how to analyze sport movements through biomechanical analytical methods. Students will utilize foundational biomechanical principles and apply them to a variety of sports and associated movements. (Cross-listed with BMCH 8686).

**Prerequisite(s)/Corequisite(s):** BMCH 4630

**BMCH 4980 CAPSTONE DESIGN IN BIOMECHANICS I (4 credits)**

Teams of senior-level students work with sponsors and faculty advisers to develop solutions to real problems in the biomechanics and health-care related fields.

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 4990 CAPSTONE DESIGN IN BIOMECHANICS II (4 credits)**

Teams of senior-level students work with sponsors and faculty advisers to develop solutions to real problems in the biomechanics and health-care related fields. The Capstone Design II course is intended to further develop and validate the concept direction chosen during Capstone Design I by designing the specific details necessary to build and test a proof-of-concept prototype.

**Prerequisite(s)/Corequisite(s):** BMCH 4980, or department permission.

## Biomechanics, Bachelor of Science

### University General Education Requirements

Code	Title	Credits
<b>Fundamental Academic Skills</b>		
ENGL 1150	ENGLISH COMPOSITION I	3
ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1220	COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	ARGUMENTATION AND DEBATE	
Writing in the Discipline in the Major (0 credit hours) This requirement is satisfied by writing required in:		
BMCH 4200	METHODS IN BIOMECHANICS I	3
BMCH 4210	METHODS IN BIOMECHANICS II	3
BMCH 4980	CAPSTONE DESIGN IN BIOMECHANICS I	4
BMCH 4990	CAPSTONE DESIGN IN BIOMECHANICS II	4

### Distribution Requirements

Natural & Physical Sciences (minimum 7 credit hours from at least two different disciplines and with at least one laboratory course)	7
Humanities and Fine Arts (9 credit hours taken from at least two different disciplines/curriculum designations)	9
Social and Behavioral Sciences (9 credit hours taken from at least two different disciplines/curriculum designations)	9
<b>Cultural Diversity</b>	
Cultural Diversity coursework may satisfy distribution requirements in Humanities/Fine Arts or in Social/Behavioral Sciences:	6
Global (minimum 3 credit hours)	
US (minimum 3 credit hours)	
<b>Total Credits</b>	<b>57</b>

**NOTE:** 14 hours from the professional core fulfilling the University General Education requirements include: eight hours in natural/physical sciences, three hours in mathematics (MATH 1320 will supersede MATH 1220), and three hours in the social/behavioral sciences (PSYC 1010). The 120 hour degree also assumes that students select coursework in humanities/fine arts area and the social/behavioral sciences area that satisfy requirements for U.S. diversity and global diversity.

### Required Professional Core Courses

Code	Title	Credits
<b>Natural Sciences</b>		
BIOL 1450	BIOLOGY I <sup>1</sup>	5
BIOL 1750	BIOLOGY II	5
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I <sup>1</sup>	4
BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II <sup>1</sup>	4
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY <sup>1</sup>	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I <sup>1</sup>	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
<b>Mathematics</b>		
MATH 1320	PRE-CALCULUS ALGEBRA <sup>2</sup>	3
MATH 1330	TRIGONOMETRY	3
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
Statistics Requirement (Choose one of the courses below)		
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
OR		
STAT 1530	ELEMENTARY STATISTICS	3
OR		
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
OR		
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
<b>Behavioral Science</b>		
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I <sup>3</sup>	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
<b>Biomechanics Core</b>		

BMCH 1000	INTRODUCTION TO BIOMECHANICS	3
BMCH 1100	ETHICS OF SCIENTIFIC RESEARCH	3
BMCH 2200	ANALYTICAL METHODS IN BIOMECHANICS	3
BMCH 3000	BIOMECHANICAL STATICS & DYNAMICS	3
BMCH 4630	BIOMECHANICS	3
<b>Biomechanics Electives</b>		
BMCH 4000	BIOMATERIALS	3
BMCH 4100	BIOINSPIRED ROBOTICS	3
BMCH 4640	ORTHOPEDIC BIOMECHANICS	3
BMCH 4650	NEUROMECHANICS OF HUMAN MOVEMENT	3
BMCH 4660	CLINICAL IMMERSION FOR RESEARCH AND DESIGN	3
BMCH 4670	INTRODUCTION TO MECHANICS OF BIOMATERIALS	3
BMCH 4680	SPORTS BIOMECHANICS	3
<b>Practica</b>		
BMCH 4200	METHODS IN BIOMECHANICS I	3
BMCH 4210	METHODS IN BIOMECHANICS II	3
BMCH 4980	CAPSTONE DESIGN IN BIOMECHANICS I	4
BMCH 4990	CAPSTONE DESIGN IN BIOMECHANICS II	4
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Eight hours of courses marked can be counted in fulfilling university general education requirements in the natural science distribution area.
- <sup>2</sup> Three hours for College Algebra exceeds the MATH 1220 course required in general education.
- <sup>3</sup> Three hours for Introduction to Psychology can be counted in fulfilling university general education requirements in the social/behavioral science distribution area.

### Freshman

Fall		Credits
BIOL 1450	BIOLOGY I	5
BMCH 1000	INTRODUCTION TO BIOMECHANICS	3
MATH 1220	COLLEGE ALGEBRA <sup>1</sup>	3
Attend Durango Days; other campus events		
Advising appointment for spring: Sept. - Oct.		
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
<b>Credits</b>		<b>15</b>

### Spring

BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II <sup>1</sup>	4
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	5
BIOL 1750	BIOLOGY II	5
Advising appointment for fall: February - March		
Join a student organization		
<b>Credits</b>		<b>17</b>

### Sophomore

Fall		
BMCH 2200	ANALYTICAL METHODS IN BIOMECHANICS	3
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3

CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
ENGL 1150	ENGLISH COMPOSITION I	3
Advising appointment for spring: Sept. - Oct.		

**Credits** **15**

### Spring

BMCH 1100	ETHICS OF SCIENTIFIC RESEARCH	3
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
ENGL 1160	ENGLISH COMPOSITION II	3
Advising appointment for fall: February - March		

**Credits** **15**

### Junior Fall

BMCH 3000	BIOMECHANICAL STATICS & DYNAMICS	3
BMCH 4200	METHODS IN BIOMECHANICS I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
MATH 1960	CALCULUS II	5

Advising appointment for spring: Sept. - Oct.

Shadowing/Volunteer experiences		
---------------------------------	--	--

**Credits** **17**

### Spring

BMCH 4210	METHODS IN BIOMECHANICS II	3
BMCH 4630	BIOMECHANICS	3
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
BMCH 4650	NEUROMECHANICS OF HUMAN MOVEMENT	3

Advising appointment for fall: February - March

Visit Academic & Career Development Center for resume/  
cover letter building and editing

Start thinking about internship

**Credits** **14**

### Senior

BMCH 4980	CAPSTONE DESIGN IN BIOMECHANICS I	4
PSYC 4440	ABNORMAL PSYCHOLOGY	3
Humanities and Fine Arts with Diversity		3
Humanities and Fine Arts		3

Advising appointment for spring: Sept. - Oct.

**Credits** **13**

### Spring

BMCH 4990	CAPSTONE DESIGN IN BIOMECHANICS II	4
BMCH 4100	BIOINSPIRED ROBOTICS	3
BMCH 4640	ORTHOPEDIC BIOMECHANICS	3
Social Science with Diveristy		3
Elective		1
Apply for graduation		
Career searching		

**Credits** **14**

**Total Credits** **120**

<sup>1</sup> BIOL2740 and BIOL2840 can be taken in place of BMCH 2400 and 2500

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Biomechanics Minor

### Requirements

Code	Title	Credits
<b>Core Courses:</b>		
BMCH 1000	INTRODUCTION TO BIOMECHANICS	3
BMCH 2200	ANALYTICAL METHODS IN BIOMECHANICS	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
<b>Electives:</b>		
Select three from the following:		9
BMCH 3000	BIOMECHANICAL STATICS & DYNAMICS	
BMCH 4100	BIOINSPIRED ROBOTICS	
BMCH 4200	METHODS IN BIOMECHANICS I	
BMCH 4210	METHODS IN BIOMECHANICS II	
BMCH 4630	BIOMECHANICS	
BMCH 4640	ORTHOPEDIC BIOMECHANICS	
BMCH 4650	NEUROMECHANICS OF HUMAN MOVEMENT	

**Total Credits** **19**

## Health and Kinesiology

### Our Mission

The School of Health and Kinesiology (H&K) is committed to excellence and the faculty is dedicated to teaching, scholarly activity, and service. The primary mission of the School of H&K is to prepare students for successful careers or advanced academic studies in kinesiology, public health, and physical education. The faculty shares a common sense of purpose to provide the knowledge, resources, and opportunities that will enable students to possess the skills and dispositions necessary to become dedicated practitioners, reflective scholars, and responsible citizens.

### Accreditation

The teacher educator programs in Health and Physical Education are accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Nebraska Department of Education.

The Bachelor of Science in Public Health program is accredited by the Council on Education for Public Health (CEPH).

## Contact

School of Health and Kinesiology  
6323 Maverick Plaza  
Omaha, NE 68182  
402.554.2670

Website (<https://www.unomaha.edu/college-of-education/health-kinesiology/>)

## Admissions

### Public Health Admission Information

Students must have a cumulative and major GPA of at least 2.5.

### Kinesiology Admission Information

Students must have a cumulative and major GPA of at least 2.5.

### Physical Education and Health Education Educator Preparation Program Admission Information

The college offers educator preparation programs at the following levels: elementary education, middle level, and secondary education. For a complete listing of the endorsement areas at each level can be found here (<https://www.unomaha.edu/college-of-education/student-services/certification/endorsements.php>).

## Degrees Offered

- Bachelor of Science in Public Health (BSPH) (p. 529)
- Bachelor of Science in Education, Kinesiology (BSED) (p. 531)

## Writing in the Discipline

Public Health majors fulfill the Writing in the Discipline requirement through the completion of PHHB 4960

Kinesiology majors fulfill the Writing in the Discipline requirement through the completion of KINS 4010, KINS 4940, and BMCH 4630

## Minors Offered

- Human Performance Minor (p. 533)
- Public Health Minor (p. 533)
- Sports Medicine Minor (p. 533)
- Worksite Wellness Minor (p. 533)

## Endorsements Offered

- Physical Education (PK-12) and Health Education (p. 573)
- Physical Education (7-12) and Health Education (7-12) (p. 575)
- Coaching (7-12) (p. 583)

## Public Health, Bachelor of Science

A degree in Public Health prepares students to become professionals who promote the health of the general public through education and skills for individuals and communities. Public Health professionals are leaders who engage in advocacy for policies that enhance and ensure healthy populations.

### Potential Career Opportunities/settings and examples:

- Government agencies
  - Centers for Disease Control and Prevention (CDC)
  - Department of Health and Human Services
  - State, Regional, County, and City Health Departments
  - Legislative bodies

- Housing Authority
- Peace Corps
- School Systems
  - Primary – 12 education
  - Colleges/Universities
  - Administration
- Non-profit organizations
  - American Red Cross
  - American Cancer Society
  - Women's Center for Advancement
  - Diabetes Educational Center of the Midlands
  - Planned Parenthood
  - Multiple Sclerosis Society
  - Wellness Council of the Midlands
- Non-Governmental Organizations (Global Health)
  - World Food Program
  - CARE International
  - International Red Cross
  - Oxfam
  - Catholic Relief Services
  - World Vision
- Foundations
  - Buffett Foundation
  - Gates Foundation
- Hospitals
- Corporations

## Kinesiology, Bachelor of Science in Education

The Kinesiology program is designed to prepare students to assume positions as fitness or health promotion directors and exercise consultants.

### Potential Career Opportunities/settings:

- Biomechanist
- Community Fitness Specialist
- Exercise Physiologist
- Fitness Club Management
- Hospital Based Fitness & Wellness Specialist
- Laboratory Technician
- Personal Trainer
- Physical Activity Specialist
- Physical Therapy Aid or Technician
- Sports Industry/Equipment Exercise Science Specialist
- Strength & Conditioning Specialist
- Worksite Fitness/Wellness Specialist

## Physical Education Teaching Preparation

The Physical Education Teaching program prepares students to become certified physical educators in the state of Nebraska. Students may select an endorsement that includes Physical Education PK-6 and 7-12 dual endorsement or Physical Education 7-12 and Health Education 7-12 dual endorsement. The program includes hands on field experience in both urban and suburban schools beginning with observations and culminating with student teaching the final semester.

### Potential Career Opportunities/settings:

- Elementary School
- Middle School
- High School

*\*Requires additional degrees/certifications.*

### **HEKI 2000 MEDICAL TERMINOLOGY (1 credit)**

This course provides students the foundation for understanding medical language and terminology used in health-related careers. Students will gain an understanding of the basic elements used to build and analyze medical terms used to describe the human body. Utilizing the body systems approach, students will learn correct pronunciation, definitions, and spelling used to describe the human body, pathological processes, procedures, as well as conditions and diseases that affect it.

### **HEKI 2100 STATISTICS IN HEALTH AND KINESIOLOGY (3 credits)**

This class is designed to present an introduction to statistical evaluation of testing and measurement techniques commonly used in health and kinesiology. Appropriate test selection, administration, and the interpretation of results with fundamental statistical methods will be emphasized.

**Prerequisite(s)/Corequisite(s):** MATH 1220, or ACT Math sub score of at least 23, or Accuplacer score of at least 4, or Math SAT score of at least 540

### **HEKI 2400 HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER (3 credits)**

This course is designed to aid the classroom teacher in developing and implementing health education and physical education programs in the elementary school curriculum.

**Prerequisite(s)/Corequisite(s):** TED 2300

### **HEKI 3090 APPLIED NUTRITION (3 credits)**

The purpose of this course is to provide candidates with information from which to make informed decisions about their own personal nutrition and to apply nutritional concepts to the design of interventions in health, exercise science, physical education, and athletic training.

### **KINS 1010 INTRODUCTION TO SPORTS MEDICINE (1 credit)**

The primary purpose of this course is to allow students to explore a variety of professions related to the field of sports medicine and how they work together to ensure safe participation in physical activity. Topics such as basic injury pathology, safe participation in sports, communication, and legal and ethical issues will be reviewed.

### **KINS 1500 FUNDAMENTALS OF GROUP EXERCISE (1 credit)**

This course is designed to provide students with the knowledge and skills to perform fundamental exercises associated with a variety of group exercise formats (e.g. bootcamp, kickboxing, yoga, indoor cycling, step, etc.). Students will also learn proper technique, transitions, progressions/regressions, modification, and sequencing to create a safe and inclusive class environment.

**Prerequisite(s)/Corequisite(s):** Kinesiology majors, Pre-AT, Exploratory H&K, or PE Teaching majors

### **KINS 1600 FUNDAMENTALS OF RESISTANCE TRAINING (1 credit)**

This class is designed to provide each student with the knowledge needed to understand how to properly perform basic weight training movements for each muscle group. Students will understand and learn the importance of keeping good body positioning, technique, spotting, breathing and safety procedures with free weights and machine weights as well learning to developing basic weight-training programs and understanding basic training principles.

**Prerequisite(s)/Corequisite(s):** Kinesiology majors, Pre-AT, Exploratory H&K, or PE Teaching majors. Not open to non-degree graduate students.

### **KINS 1800 FITNESS FOR LIVING (3 credits)**

This course is aimed at exploring the values of physical activity, assessing fitness needs and prescribing appropriate activities. The course will be taught as a lecture lab.

### **KINS 2130 LIFEGUARDING (3 credits)**

This course is designed to prepare candidates in assuming the duties and responsibilities of a lifeguard. The main focus will be accident prevention in and around the water. Also stressed will be the recognition of a person in distress and a drowning victim. The development of an emergency plan and the articulation with the emergency rescue service will also be key elements in this course.

### **KINS 2140 WATER SAFETY INSTRUCTORS COURSE (3 credits)**

This is a course in water safety instruction. The purpose of this course is to teach those enrolled how to teach the various swimming skills. This would include teaching beginning swimming through emergency water safety. Candidates who satisfactorily complete the course will be issued a Water Safety Instructor Certificate.

**Prerequisite(s)/Corequisite(s):** Seventeen years of age and possession of current Advanced Lifesaving or Emergency Water Safety Certificate

### **KINS 2210 GROUP EXERCISE LEADERSHIP (2 credits)**

This course is designed to provide students with competencies in the theory, concepts, and skills related to group exercise instruction and leadership. Students will explore both the dynamics of group participation and instructions across various modalities including; step, hi-low aerobics, cardio kickboxing, water aerobics, dance fitness, sports conditioning, indoor cycling, yoga, Pilates, and barre.

**Prerequisite(s)/Corequisite(s):** PE 1800 or KINS 1800 with a grade of C- or better, School of H&K majors, Secondary Education majors with endorsements in Health/PE 7-12, and PE Pk-6th and 7-12

### **KINS 2220 THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING (2 credits)**

This course is designed for the college student majoring in Exercise Science, Physical Education and related degrees to develop leadership skills necessary to teach safe and effective resistance training programs.

**Prerequisite(s)/Corequisite(s):** PE 1800 or KINS 1800 with a grade of C- or better, School of H&K majors, Secondary Education majors with endorsements in Health/PE 7-12, and PE Pk-6th and 7-12

### **KINS 2310 TEACHING GAMES 1 (3 credits)**

The purpose of this course is to help preservice physical education teachers facilitate enhanced performance, analysis, and tactical understanding of invasion games and field run/score games (e.g. basketball, soccer, team handball, football, speedball, ultimate Frisbee, hockey, softball, cricket, and modified kickball).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### **KINS 2320 TEACHING GAMES 2 (3 credits)**

The purpose of this course is to help preservice physical education teachers facilitate enhanced performance, analysis, and tactical understanding of net/wall games and lifetime activities (e.g. volleyball, badminton, tennis, racquetball, golf, archery, pickleball, table tennis).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### **KINS 2330 OUTDOOR/ADVENTURE ACTIVITIES (3 credits)**

The course will address the basic requirements for living comfortably and traveling in wilderness areas. Basic orienteering skills, team building activities, identifying and minimizing risks associated with outdoor pursuits, and environmental safety issues will be included.

**Prerequisite(s)/Corequisite(s):** SED or ELED major, HED 3030 or PHHB 3030. Not open to non-degree graduate students.

### **KINS 2430 FOUNDATIONS IN KINESIOLOGY (3 credits)**

This is an introductory course in kinesiology that includes an orientation to the profession and a consideration of current trends, problems and issues and their implications for the field of kinesiology. The course also examines the relationship of kinesiology to other cultures, general education, and global perspective.

**Distribution:** Social Science General Education course

**KINS 2700 FUNDAMENTALS OF ATHLETIC TRAINING (3 credits)**

An introduction to the field of athletic training as well as injury prevention and basic athletic training skills in wound care, taping/bracing, evaluation, and treatment.

**Prerequisite(s)/Corequisite(s):** PE 1010 or KINS 1010, BMCH 2400, BMCH 2500 and admission into the Athletic Training Program. Not open to non-degree graduate students.

**KINS 2800 MOTOR LEARNING (3 credits)**

This course is the study of motor development, and the conditions and factors that influence the normal development and the learning of motor skills. Emphasis is placed upon normal developmental patterns and behaviors and learning principles throughout the life-span as it relates to a diverse American culture.

**Prerequisite(s)/Corequisite(s):** PE 2430/KINS 2430 with a grade of C- or better, or ATHT majors, or permission of instructor

**KINS 3000 SPECIAL PROJECTS (1-3 credits)**

Conducted as short course, seminar, workshop or special project.

**Prerequisite(s)/Corequisite(s):** The prerequisite for the special project will be determined by the instructor.

**KINS 3010 SCIENTIFIC PRINCIPLES OF COACHING (3 credits)**

Designed for coaches and potential coaches who are not physical education majors. Covers basic information to include kinesiology, physiology of exercise and behavioral aspects of coaching.

**Prerequisite(s)/Corequisite(s):** For non physical education majors.

**KINS 3040 PREVENTION AND CARE OF ATHLETIC INJURIES (3 credits)**

This course covers selected topics related to the prevention and care of athletic related injuries. Emphasis will be placed on injury prevention through proper training, conditioning, nutrition and hydration strategies. Basic evaluation and treatment of athletic related injuries and legal aspects will also be covered.

**Prerequisite(s)/Corequisite(s):** PE3010/KINS 3010, or BMCH 2400 or BIOL 2740, and HED3030/PHHB 3030 or current CPR certification and First Aid certification.

**KINS 3060 METHODS OF PRESCHOOL AND PRIMARY SCHOOL PHYSICAL EDUCATION (3 credits)**

The study of current methodology in developmentally appropriate preschool and primary school physical education. Candidates will use the assessment, planning, implementation and evaluation model in developing physical education programs for this age group.

**Prerequisite(s)/Corequisite(s):** KINS 2800, EDUC 2510 or EDUC 2520 or TED 2400, 2.75 NU GPA and must have passed Praxis Core (Math, Reading, and Writing)

**KINS 3110 INTRODUCTION TO DANCE (3 credits)**

This course provides an introduction to dance as a performing art focusing on the choreographer, the dancer, the audience, the different dance genres and dance as a means of communication and expression.

**KINS 3120 DANCE SOMATICS: AN INTEGRATED APPROACH TO UNDERSTANDING THE BODY IN MOTION (3 credits)**

This course explores the body in motion through the lenses of various dance and movement theories, as well as self-reflection. Students will learn to move in an embodied way and understand the physiological, developmental, and psychological foundation of movement for dance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 3130 CHOREOGRAPHY 1: INTRODUCTION TO CHOREOGRAPHIC TOOLS, ARTISTIC AESTHETICS, & PERFORMANCE ELEMENTS (3 credits)**

This course explores the act of choreography as a medium for artist expression through improvisation, choreographic constructs, and content themes. Students will learn how to build ideas into choreographic dances through experimentation, structured frameworks, and feedback. Students will also present their work in a small performance at the conclusion of the semester.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 3140 SPORTS OFFICIATING (3 credits)**

The general principles, basic guidelines, philosophy, mechanics and rules of officiating several team and individual sports will be covered.

**KINS 3300 TEACHING DANCE IN THE SCHOOLS (3 credits)**

The course is designed for physical education pedagogy majors, elementary teachers, and recreation leaders who are interested in obtaining the fundamentals of a variety of rhythmic and creative dance activities and their teaching methods for preschool through twelfth grade.

**Prerequisite(s)/Corequisite(s):** EDUC 2010 or TED 2300 or permission of instructor

**KINS 3350 TEACHING & CURRICULUM DEVELOPMENT IN ELEMENTARY PHYSICAL EDUCATION (3 credits)**

The study of teaching methodology and curriculum development in the elementary schools. Particular attention will be given to meeting the motor needs and interests of children aged 9-12. Assessing children's motor performance, prescribing activities, and evaluating the program effectiveness will be addressed.

**Prerequisite(s)/Corequisite(s):** KINS 3060, KINS 3300, KINS 2310, TED 2400, 2.75 NU GPA

**KINS 3480 ORGANIZATION AND ADMINISTRATION OF ATHLETICS (3 credits)**

A study of the organization and administration of athletics in the secondary schools.

**Prerequisite(s)/Corequisite(s):** Sophomore

**KINS 3710 SWIMMING COACHING THEORY AND PRACTICE (3 credits)**

This course is designed to develop the competencies essential to the successful coaching of swimming at all levels. The focus is on theory, swimming techniques, rules, safety, and coaching methods of competitive swimming.

**KINS 3720 SOCCER COACHING THEORY & PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of soccer. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection, and modern coaching theories specific to the sport of soccer.

**KINS 3730 SOFTBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of fast pitch softball. The course will encompass the philosophy of coaching, coaching techniques, conditions/training activities and the analysis and correction of skills.

**KINS 3740 VOLLEYBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of volleyball. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories.

**KINS 3750 WRESTLING COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of wrestling. The focus is on conditioning/training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of wrestling.

**KINS 3760 BASEBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop knowledge in all phases of the game. Special focus is on fundamentals, drills, managing and psychology of coaching.

**KINS 3770 FOOTBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of football on all levels. The focus is on theory, history and origin, conditioning, safety techniques, coaching techniques, strategy, equipment selection and modern coaching theories.

**KINS 3780 TRACK AND FIELD COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of track and field. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of track and field.

**KINS 3790 BASKETBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of basketball. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of basketball.

**KINS 3800 HOCKEY COACHING THEORY (3 credits)**

An introductory course in the developing the desirable attributes of hockey players, rules of the game, fundamental skills and systems of ice hockey as well as the study of key principles in successful players. Basic offensive and defensive strategies will be discussed. Also discussed will be the evolution of the sport and its equipment.

**KINS 3900 MOTIVATION FOR PHYSICAL ACTIVITY (3 credits)**

The central purpose of this course is to examine the psychological basis of exercise and physical activity. The majority of the course will focus on traditional theories principles of psychology as they relate to exercise. Emphasis is placed on understanding the motives underlying involvement in exercise and physical activity and the psychological benefits derived from acute and chronic involvement in an exercise program. Throughout the course, consideration will be given to theoretical models, research findings, and practical application of the concepts to a variety of performance settings.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 with a grade of C- or better.

**KINS 4000 TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION (3 credits)**

This course is designed to develop candidates' competencies in physical education instructional methodology and curriculum development. Analysis of teacher behavior and selection of content and materials will be examined. Candidates will be introduced to and will implement various methods of teaching physical education at the secondary level so as to develop the skills to become an effective teacher.

**Prerequisite(s)/Corequisite(s):** KINS 2310, KINS 2320, KINS 2330, KINS 3300, TED 2400, 2.75 NU GPA, and must have passed Praxis Core (Math, Reading, and Writing)

**KINS 4010 LABORATORY METHODS IN EXERCISE SCIENCE (6 credits)**

This course will provide students an opportunity to achieve competency in operating various pieces of equipment typically used in biomechanics and exercise physiology laboratories. The students will gain experience in interpreting the results of the tests administered, and writing exercise prescriptions based upon those results. Students must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** BMCH 2500 or BIOL 2840, BMCH 4630, PE 4940 or KINS 4940, CPR certification, department consent; must be School of H&K major or ATHT major. Students cannot complete KINS 4010 and KINS 4800 in the same term.

**KINS 4050 EXERCISE AND SPORT NUTRITION (3 credits)**

This course presents an overview of the principles of nutrition and the relationship between nutrition and health, fitness, and sports performance. It is designed to provide students with the knowledge and skills necessary to assess nutritional status, improve overall health, and enhance sports performance. (Cross-listed with KINS 8056).

**Prerequisite(s)/Corequisite(s):** HEKI 3090

**KINS 4070 OPTIMIZING SPORTS PERFORMANCE (3 credits)**

The course is designed for coaches, athletes and physically active people, and allied health professionals. Course content emphasizes integration of several disciplines in sports medicine aimed at preparing one for optimal sports performance. Topics include peaking, detraining, overuse injury, efficiency, special foods and nutritional requirements, genetics and trainability, and designing of multi-year training schedules. (Cross-listed with KINS 8076).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 4080 CLINICAL EXERCISE PHYSIOLOGY (3 credits)**

This course will offer students the knowledge, skills, and abilities to take the American College of Sports Medicine's health fitness instructor certification exam. This course will emphasize health risk assessment, exercise testing, and exercise prescription for healthy and clinical populations. (Cross-listed with KINS 8086).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 4100 APPLIED KINESIOLOGY (3 credits)**

This course will introduce students to the use of basic theories and principles of movement analysis from a kinesiological perspective. Students will apply anatomical knowledge to break down movement from a broad spectrum of activities.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 or PE 2880 or BIOL 2740 or equivalent

**Distribution:** Writing in the Discipline Sequenced Course

**KINS 4150 ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE (3 credits)**

A study of problems as they relate to philosophy, procedures and practices, and organization and administration of physical education & physical activity programs for exceptional students. This course surveys societal issues surrounding adaptive sports and recreation along with movement problems associated with specific disabilities. This course also provides the student with an opportunity to work with an individual who has a disability.

**Prerequisite(s)/Corequisite(s):** PE 2800 or KINS 2800 with a grade of C- or better and Jr Standing and PYED major or Secondary Education major with endorsement codes: 0802S or 0802C or 1913S

**Distribution:** U.S. Diversity General Education course

**KINS 4200 PLANNING WORKSITE WELLNESS PROGRAMS (3 credits)**

This course will focus on the planning of quality worksite wellness programs utilizing standards established by the Association for Worksite Health Promotion. Steps in the planning process such as needs assessment, strategic planning, implementation, and evaluation will be taught with special application to the worksite. Critical issues involving worksite programs will also be addressed such as upper management support, program standards, corporate culture, competencies for worksite health promotion professionals, economic benefits, behavioral theories, legal issues, and the integration of worksite wellness programs and health care. (Cross-listed with KINS 8206).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**KINS 4310 LOWER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the low back, hip, and lower extremities. (Cross-listed with KINS 8316).

**Prerequisite(s)/Corequisite(s):** PE 2700 or KINS 2700 and PE 4710 or KINS 4710. Not open to non-degree graduate students.

**KINS 4320 UPPER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the head, neck, thorax, and upper extremities. (Cross-listed with KINS 8326).

**Prerequisite(s)/Corequisite(s):** PE 4310/KINS 4310, PE 4330/KINS 4330, and PE 4720/KINS 4720. Not open to non-degree graduate students.

**KINS 4330 ATHLETIC THERAPEUTIC MODALITIES (3 credits)**

This course will cover the theory, physiology and application of physical agents used in the treatment of injuries and illness. Students will gain practical experience utilizing selected agents to treat injuries and illnesses. (Cross-listed with KINS 8336).

**Prerequisite(s)/Corequisite(s):** PE 2700 or KINS 2700 and PE 4710 or KINS 4710. Not open to non-degree graduate students.

**KINS 4350 ORGANIZATION AND ADMINISTRATION OF ATHLETIC TRAINING (3 credits)**

Administration of athletic training programs including the use of records and forms, budgets, facility design and legal concerns. (Cross-listed with KINS 8356).

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4320/KINS 4320

**KINS 4360 ORTHOPEDIC AND MEDICAL ASPECTS OF ATHLETIC TRAINING (3 credits)**

This course will enhance the candidate's knowledge of orthopedic and medical aspects of athletic training. Involves directed observation, experiential learning, literature review and hands-on experience under the supervision of local medical professionals in various settings. The student will be exposed to advanced evaluation and treatment skills, including imaging techniques and surgical procedures, rehabilitation and athletic training management.

**Prerequisite(s)/Corequisite(s):** PE 4320/KINS 4320 and PE 4340/KINS 4340

**KINS 4500 BEHAVIORAL ASPECTS OF COACHING (3 credits)**

This course is designed to provide the physical education teacher and athletic coach with an overview of the behavioral aspects of coaching athletes. The course will provide information which will enable the coach to enhance as well as orchestrate performance of elementary, junior high, senior high, college, and post-college athletes. (Cross-listed with KINS 8506).

**KINS 4700 FITNESS MANAGEMENT (3 credits)**

This course is an introduction to management concepts for fitness professionals such as human resource management, financial management, marketing, and facility risk management. Assessment, development, prescription, implementation, and evaluation strategies will be presented for each management concept. Students will develop the knowledge and skills necessary to orchestrate and manage high quality programs in various fitness settings.

**KINS 4710 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (1 credit)**

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Students will demonstrate skills and proficiencies in emergency procedures and the basic therapeutic modalities.

**Prerequisite(s)/Corequisite(s):** Formal admission to the Athletic Training Program, instructor permission, & continued compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 2700/KINS 2700. Not open to non-degree graduate students.

**KINS 4720 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (1 credit)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Students will demonstrate advanced proficiencies in emergency procedures and initial proficiencies in lower extremity evaluation and application of therapeutic modalities.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training Program, PE 4710/KINS 4710, instructor permission, compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4310/KINS 4310 & PE 4330/KINS 4330

**KINS 4730 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (1 credit)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of skills and proficiencies in lower extremity care and initial proficiency in upper extremity evaluation and care.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training, PE 4720/KINS 4720, instructor permission, compliance w/published Athletic Training Technical Standards for Admission. Co-requisite: PE 4320/KINS 4320 & PE 4340/KINS 4340. Not open to non-degree graduate students.

**KINS 4740 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (1 credit)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of upper extremity evaluation and care and skills in medical exam techniques, pharmacology and interviewing.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training Program, PE 4730/KINS 4730, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4360/KINS 4360. Not open to non-degree graduate students.

**KINS 4750 CLINICAL PRACTICUM IN ATHLETIC TRAINING V (1 credit)**

Clinical Practicum in Athletic Training V is the fifth course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of skills in medical examination techniques and administrative tasks.

**Prerequisite(s)/Corequisite(s):** Formal admission to the Athletic Training Program, PE 4740/KINS 4740, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4350/KINS 4350. Not open to non-degree graduate students.

**KINS 4800 KINESIOLOGY PRACTICUM (3 credits)**

This practicum places the candidate in the role of an exercise leader in a Fitness for Living class. During this experience the candidate will participate in a seminar which will meet three days a week. Responsibilities in the role of an exercise leader will include: direct contact with students enrolled in this class during all lectures and activities and exercise leadership and supervision, fitness testing, and class presentations. During the seminar sessions the candidates will participate in discussions, group activities, and share experiences relative to their exercise leadership roles. Candidates must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** PE 2210/KINS 2210, PE 2220/KINS 2220, BMCH 2500 or BIOL 2840, BMCH 4630, PE 4940/KINS 4940, CPR certification and department consent. Students cannot complete KINS 4010 and KINS 4800 in the same term.

**KINS 4850 CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION (3 credits)**

The purpose of this course is to provide candidates with an introduction to the theories and practices involved in all phases of cardiac rehabilitation. (Cross-listed with KINS 8856).

**Prerequisite(s)/Corequisite(s):** PE 2500/KINS 2500 with a grade of C- or better or BIOL 2840 with a grade of C- or better, PE 4940/KINS 4940 with a grade of C- or better

**KINS 4910 INTERNSHIP IN EXERCISE SCIENCE (6 credits)**

This course is a supervised, educational work experience of at least 300 clock hours over at least a ten week period at an approved worksite offering programs and experiences in fitness development and health promotion.

**Prerequisite(s)/Corequisite(s):** PE 4800 or KINS 4800, 2.5 GPA, CPR Certification, and department consent

**KINS 4930 MEASUREMENT AND EVALUATION IN KINESIOLOGY (3 credits)**

This course is designed to present the theory and application of measurement and evaluation techniques commonly used in physical education, exercise science, physical activity, and health promotion.

Appropriate test selection, administration, and the interpretation of results with fundamental statistical methods will be emphasized. Students will participate in selected practical testing and measurement procedures.

**Prerequisite(s)/Corequisite(s):** PE 4940 or KINS 4940 with a grade of C- or better

**KINS 4940 PHYSIOLOGY OF EXERCISE (3 credits)**

A study of the major physiological systems of the human body and its acute and chronic responses to exercise. Includes application of physiological concepts to physical training and conditioning.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 or BIOL 2740 with a grade of C- or better, and School of H&K majors only.

**Distribution:** Writing in the Discipline Sequenced Course

**KINS 4960 TOPICS IN SPORTS MEDICINE (3 credits)**

This course covers selected topics regarding the science and medicine of sports participation. Some areas to be covered include the medical supervision of the athlete, special populations, conditioning, environmental concerns and sports nutrition.

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4350/KINS 4350, and PE 4730/KINS 4370; or instructor permission

**KINS 4970 PROBLEMS OF PHYSICAL EDUCATION (1-3 credits)**

This course is designed to provide an opportunity for individuals or groups to study problems in physical education.

**Prerequisite(s)/Corequisite(s):** Permission of instructor

**KINS 4980 COACHING PRACTICUM (1 credit)**

This course is designed to give the candidate practical experiences in the coaching of specific sports.

**Prerequisite(s)/Corequisite(s):** Junior standing and related coaching methods course. Permission of instructor

**KINS 4990 INTERNSHIP IN ATHLETIC TRAINING (6 credits)**

This course is a supervised, educational work experience of at least 300 clock hours over a minimum of a 10-week period at an approved athletic training worksite.

**Prerequisite(s)/Corequisite(s):** 90 hours completed, 2.5 GPA and department consent

**PEA 111A RACQUETBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the sport of racquetball.

**PEA 111B TENNIS (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of tennis. Included will be the fundamental skills and strategies of playing the game.

**PEA 111C GOLF (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of golf.

**PEA 111D JUDO (1 credit)**

A basic judo course designed primarily for men and women students with limited experience in judo. The course includes techniques of falling, self-balance, body management, disturbing opponent's balance, throwing techniques, techniques of pins, recognition of choking and armlocks, and judo principles for self-defense and individual sport techniques.

**PEA 111E SELF-DEFENSE (1 credit)**

This is a self defense course designed primarily for men and women students with little experience in self defense.

**PEA 111F TAEKWONDO (1 credit)**

Originally designed as a means of self-defense. Taekwondo is also excellent for physical conditioning, increasing agility, and building self-confidence. The purpose of the course is to introduce the student to the basic techniques and philosophies of Taekwondo.

**PEA 111G BASIC HAPKIDO (1 credit)**

In addition to the kicks and strikes normally associated with Oriental martial arts, Hapkido adds throws, take-downs, and restraint and submission holds. Hapkido is also excellent for physical conditioning, increasing agility, and building self-confidence. The purpose of the course is to introduce the student to the basic techniques and philosophies of Hapkido.

**PEA 111H WEIGHT TRAINING/BODY CONDITIONING (1 credit)**

The course is designed to develop the skills and knowledge necessary to begin and participate in a program of weight lifting as a lifelong activity.

**PEA 111I ADVANCED WEIGHT TRAINING (1 credit)**

The course is designed to enhance weightlifting and conditioning skills to an advanced level from skills already possessed by the student.

**PEA 111N KICKBOXING (1 credit)**

The course is a combination of boxing and kicking techniques and total body conditioning. It will focus on low, moderate, and/or high impact movements. The course will concentrate on safe and effective exercises that will develop the aerobic endurance and strength of the student. Students will utilize hand-wraps, gloves, focus mitts, and kicking shields during the course.

**PEA 111O MULTICULTURAL DANCE (1 credit)**

This course is designed to provide students with an introduction to dances from Europe, Asia, Africa, and North and South America.

**PEA 111P MODERN DANCE (1 credit)**

This course for men and women students is designed to develop technique in modern dance and acquire a brief knowledge, understanding, appreciation of modern dance, its history, and composition.

**PEA 111Q BALLET (1 credit)**

The course introduces the student to basic ballet technique and fosters an appreciation for ballet as an art form.

**PEA 111R JAZZ I (1 credit)**

The course is designed to introduce the student to various fundamental techniques in jazz dance and to incorporate these techniques into dance sequences.

**PEA 111S RELAXATION TECHNIQUES (1 credit)**

This course involves discussion about stress and its health related aspects. The focus is on demonstration and practice of selected stress management skills.

**PEA 111T YOGA I (1 credit)**

This course actively covers the scope of hatha yoga through both demonstration and participation as well as historical review of yoga.

**PEA 111U YOGA II (1 credit)**

This course actively continues to cover the scope of hatha yoga through both demonstration and participation as well as historical review of yoga.

**PEA 111V BEGINNING/INTERMEDIATE SWIMMING (1 credit)**

This course in Beginning and Intermediate Swimming is designed to expose the student to the basic skills involved in safe and efficient aquatics practices. Skills and information dealing with general water safety will be covered in order to create an awareness of the cause and prevention of water accidents, to develop a desire to be safe and to encourage healthy and safe water recreation.

**PEA 111W SCUBA (1 credit)**

This course in Beginning Scuba is designed to expose the student to the skills and equipment necessary to explore the world below the surface of the water through the use of a mask, fins, snorkel and compressed air tanks.

**Prerequisite(s)/Corequisite(s):** Swimming 50 yds. using two basic strokes; basic water adjustment; underwater swim at least 15 feet; treading water for two minutes; demonstrate two surface dives

**PEA 111X BASKETBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of basketball.

**PEA 111Z BACKPACKING & CAMPING (1 credit)**

This course is designed to introduce the student to backpacking and orienteering in order to provide the students with an appreciation for the outdoor environment.

**PEA 112A SWIM CONDITIONING (1 credit)**

This course in Swim Conditioning is designed to expose the participants to the benefits and variety of swimming as a lifetime fitness exercise.

**Prerequisite(s)/Corequisite(s):** Participants should have the ability to continuously swim 25 yards.

**PEA 112C POWER YOGA (1 credit)**

This course provides an exercise program based on traditional yoga poses (asanas) in a continuous series of exercises. The course will concentrate on safe, effective, exercise that will develop the cardiovascular fitness, muscular strength, endurance and flexibility of the student.

**PEA 112D PILATES MATWORK (1 credit)**

This course is based on a method of exercise develop by Joseph H. Pilates. The course will concentrate on safe, effective exercise that will develop the cardiorespiratory fitness, muscular strength, endurance and flexibility of the student.

**PEA 112E JAZZ II (1 credit)**

The course is designed to build upon the techniques learned in Jazz Dance I.

**Prerequisite(s)/Corequisite(s):** PEA 111R or permission of instructor

**PEA 112F ROCK CLIMBING (1 credit)**

This class focuses on the basic knowledge and skills necessary for the sport of rock climbing. Topics covered will include protecting the climber from falling, movement on the rock, rappelling, and an introduction to anchor setting and ethics. Each topic will emphasize risk management and current accepted technique in the field.

**PEA 112G BALLET II (1 credit)**

The course builds on the work introduced in Ballet I. While still basic, there is increased complexity as the student begins to demonstrate greater ability.

**Prerequisite(s)/Corequisite(s):** PEA 111Q or permission of instructor

**PEA 112H BALLROOM DANCE I (1 credit)**

This course is designed to introduce the student to various fundamental techniques in Ballroom social dance and to incorporate these into basic Ballroom, Latin, and Swing dances.

**PEA 112I TAI CHI FOR MOVEMENT IMPROVEMENT (1 credit)**

This course is designed to teach students various forms of T'ai Chi. There will be emphasis on balance, coordination, flexibility, relaxation, and strength. It is designed for all levels of ability.

**PEA 112J MODERN DANCE 2 (1 credit)**

The course is designed to further the student's study of modern dance techniques.

**Prerequisite(s)/Corequisite(s):** PEA 111P or permission of instructor. Not open to non-degree graduate students.

**PEA 112K SOCCER (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of soccer.

**PEA 112L WALKING/JOGGING (1 credit)**

This course is designed to help the students improve personal fitness through walking and jogging.

**PEA 112M VOLLEYBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of volleyball.

**PEA 112N ZUMBA (1 credit)**

Zumba is a fitness program inspired by Latin dance. Zumba combines Latin rhythms (salsa, bachata, merengue, and chachacha.) with cardiovascular exercise to create an aerobic routine that is fun and easy to follow.

**PEA 112O BALLROOM DANCE II (1 credit)**

The course is designed to further the student's study of Ballroom Dance techniques.

**Prerequisite(s)/Corequisite(s):** PEA 112H or permission of instructor

**PEA 112P INDOOR CYCLING (1 credit)**

This activity course is an indoor stationary cycling program. It is a high intensity, cardiovascular fitness program designed to promote lifetime fitness.

**PEA 112Q HIP HOP (1 credit)**

This course is designed to give students a beginning understanding and appreciation of hip hop dance.

**PEA 112R NET GAMES (1 credit)**

This course is designed to teach students the fundamental skills and rules of Badminton, Tennis, Pickleball, and Table Tennis.

**PEA 112S CROSS-TRAINING (1 credit)**

This course is designed to develop the technique, fitness level and knowledge base to effectively participate in cross-training activities. Individuals will be exposed to a variety of methods such as, but not limited to, plyometrics, agility training, kettlebells, and core training.

**PEA 112T ADVANCED MARTIAL ARTS (1 credit)**

The purpose of this course is to expand upon the basic techniques and philosophies presented in the UNO Martial Arts Introductory classes. The class will review the basic concepts and techniques taught in the intro classes which may be new to the student depending on the introductory class experience of the student.

**Prerequisite(s)/Corequisite(s):** PEA 111G, PEA 111F, or PEA 111D; or instructor consent.

**PEA 112U QI GONG (1 credit)**

This course actively covers the scope of Qi Gong through demonstration and participation as well as through a systematic elucidation of the history and theoretical underpinnings of Qi Gong.

**PEA 112V MINDFULNESS MEDITATION (1 credit)**

This course actively covers the scope of Meditation practices, including Mindfulness, through demonstration, lecture, discussion, and participation. Various methods will be taught, as well as the history, philosophy and practices of meditation. Contemporary research will also be discussed.

**PEA 112W TAP I (1 credit)**

The course is designed to introduce the student to various fundamental techniques in tap dance and to incorporate these techniques into dance sequences.

**PEA 112X BARRE FITNESS (1 credit)**

This is a fitness course that utilizes safe barre exercises to develop muscular endurance, flexibility, and neuromotor training. The course will concentrate on integrating the use of the ballet barre, light weights, and various props.

**PEA 113A BEGINNING ICE SKATING (1 credit)**

This course is designed for beginning ice skaters. Instructional emphasis will be placed on safely learning the life-long activity of ice skating. Students will develop an understanding of the basic principles and terminology of the sport of ice skating, improve on any current ice skating skills, and develop new skills such as forward and backward skating, crossovers, turns, and stops.

**PEA 1130 ADAPTED PHYSICAL EDUCATION (1 credit)**

This course is designed to provide an opportunity for independent physical education activity for a disabled person.

**Prerequisite(s)/Corequisite(s):** A disability which does not allow participation in regularly scheduled physical education activity courses.

**PHHB 1500 FOUNDATIONS IN PUBLIC HEALTH (3 credits)**

An introductory course for public health majors and other interested students, that examines the foundations of public health. The course includes an orientation to the process and the professions of public health and a consideration of current trends, problems and issues and their implications for public health professionals. The course will help candidates develop the knowledge, skills, competencies, and attitudes necessary to orchestrate an environment for positive public health.

**Distribution:** Social Science General Education course

**PHHB 2070 DRUG AWARENESS (3 credits)**

An introduction to the effects and rationales of drug use, misuse, and abuse. Included are the physiological, psychological, sociological, pharmacological, and legal aspects of drugs in a culturally diverse United States and abroad.

**PHHB 2310 HEALTHFUL LIVING (3 credits)**

A study of selected health problems and issues in our society as related to knowledge, attitudes, and behaviors necessary for healthful living in a culturally diverse society.

**PHHB 2850 STRESS MANAGEMENT (3 credits)**

The health-related aspects of stress will be the focus of this course. Selected techniques for the self-regulation of stress will be demonstrated, practiced, and analyzed. Pressures from the culturally diverse United States and implications of a global society will be analyzed. Students will develop skills and competencies necessary to create a learning environment conducive to reducing stress.

**PHHB 3000 SPECIAL PROJECTS (1-3 credits)**

This course is designed to provide an opportunity to study a topic in public health through short course, seminar, workshop, or special project.

**Prerequisite(s)/Corequisite(s):** The prerequisite for the special project will be determined by the instructor.

**PHHB 3030 FIRST AID (3 credits)**

Designed to give students knowledge and skill in implementing immediate, temporary treatment in case of injury or sudden illness before the services of a physician. Upon successful completion of the course, a student will receive a standard first aid and cardiopulmonary resuscitation certificate.

**PHHB 3060 PROMOTING POSITIVE HEALTH (3 credits)**

The focus of this team taught, experiential course will be assisting individual students: a) determine what wellness and mindfulness changes they wish to make in their lives; b) assisting them in acquiring the skills and learning about theories of how to effectuate change, and c) assisting them in making the change.

**Prerequisite(s)/Corequisite(s):** HPER 3090/HEKI 3090, HPER 2850/HEKI 2850, and Holistic Health - Eastern Perspectives. At least two of the following: PEA 111T, PEA 112I, PEA 112U, or PEA 112V One additional PEA course (may not be from the previous category or basketball or volleyball)

**PHHB 3070 DEATH AND DYING (3 credits)**

An interdisciplinary survey of literature in the field of thanatology, with an emphasis on working with the older patient and his or her family. (Cross-listed with GERO 3070).

**PHHB 3080 HEALTH CONCEPTS OF SEXUAL DEVELOPMENT (3 credits)**

An examination of factors influencing sexual development. Emphasis is given to topics pertinent to healthful living in today's culturally diverse, global society. (Cross-listed with WGST 3080).

**PHHB 3310 INJURY PREVENTION IN PUBLIC HEALTH (3 credits)**

This course is designed to explore public health strategies for the development and maintenance of safe physical environments with a focus on prevention of intentional and unintentional injuries. It explores a multitude of safety programs for school, business, recreation, transportation, and the home.

**PHHB 4000 METHODS AND MATERIALS IN HEALTH EDUCATION (3 credits)**

This course will provide an opportunity to study, develop and use different materials and equipment in public health. Various methods of teaching health will be practiced and evaluated. Candidates will be able to gain classroom and field experience (service-learning) in planning lessons and presentations.

**Prerequisite(s)/Corequisite(s):** Junior standing, HED 1500 or PHHB 1500

**PHHB 4040 EPIDEMIOLOGY & PREVENTION OF DISEASE (3 credits)**

The course is designed for public health students and others who are interested in public health. The cause, prevention, treatment and control of prevalent communicable and non-communicable disease in a culturally diverse and global society will be emphasized. Special emphasis will be given to diseases and health problems that can be prevented or controlled through public health initiatives.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4050 INTRODUCTION TO RESEARCH IN PUBLIC HEALTH (3 credits)**

This course will assist students to develop the basic skills to read and evaluate applied research to address contemporary problems in public health. The course will provide an introduction to proposal writing, data collection, research design, statistical analysis, and computer application. Unique problems associated with data collection in public health settings such as public health departments, neighborhood health centers, and community based organizations will be addressed.

**Prerequisite(s)/Corequisite(s):** Junior standing

**PHHB 4060 SCHOOL HEALTH PROGRAMS (3 credits)**

The purpose of this course is to provide information and strategies for planning, implementing, and evaluating Coordinated School Health Programs (CSHP) for diverse cultural groups. Content includes an overview of school health programs, the essential functions of each of the eight components, the role of national and state organizations in working with local agencies and school districts in promoting the development of comprehensive school health programs.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4130 COMMUNITY HEALTH (3 credits)**

A survey course of community health issues. The basics of epidemiology/statistical sciences, environmental health, managerial/administrative sciences, and behavioral/social sciences for community health are examined. Public health candidates will gain skills needed to develop and manage community health programs.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4200 A PUBLIC HEALTH APPROACH TO MENTAL HEALTH (3 credits)**

This public health course will help students think critically about the prevention, identification, and treatment of mental illness in the United States. Students will be introduced to concepts from the disciplines of public health, psychology and sociology to understand mental health disorders and their impact on population health. Students will explore health disparities through the lens of cultural, social, behavioral, psychological, and economic factors. Students will recognize that mental health exists on a continuum and develop skills to address environmental influences on behavior. (Cross-listed with PHHB 8206).

**PHHB 4280 SOCIAL MARKETING FOR PUBLIC HEALTH (3 credits)**

This course will introduce students to current theory, practices and resources in the field of social marketing as it relates to public health. Students will analyze and implement social marketing techniques.

**Prerequisite(s)/Corequisite(s):** HED 1500/PHHB 1500, HED 4040/PHHB 4040 and HED 4050/PHHB 4050

**PHHB 4400 HEALTH LITERACY (3 credits)**

This course is designed to provide students with the competencies to reduce problems associated with low health literacy. The two primary foci will be strategies to help patients and other health consumers improve their health literacy, and strategies to help health providers and health educators communicate in a manner that can be understood by all persons regardless of their health literacy

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4420 PUBLIC HEALTH INFORMATICS (3 credits)**

Students will learn the implementation, operation, and application of health information systems. Students will explore the legal and ethical issues surrounding health informatics and patient records, management and communication in health informatics, and social and organizational issues pertaining to health informatics.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 4550 and GERO 8556 and PHHB 8556 and WGST 4550).

**PHHB 4650 GLOBAL HEALTH (3 credits)**

This course will explore contemporary health problems around the world with particular emphasis being placed on problems experienced by developing countries. The political, economic, social, geographical, biological aspects of the problems and possible solutions will be addressed.

**Prerequisite(s)/Corequisite(s):** Junior standing

**Distribution:** Global Diversity General Education course

**PHHB 4700 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with PHHB 8706, SOC 4700, SOC 8706).

**Prerequisite(s)/Corequisite(s):** Junior Standing or permission of the instructor.

**Distribution:** U.S. Diversity General Education course

**PHHB 4880 PUBLIC HEALTH POLICY (3 credits)**

This course provides an overview of the U.S. health system, and an introduction to the skills necessary to address health policy issues. Students will develop a working knowledge of health services terminology, recognize basic health care concepts, distinguish between various components of the health care delivery system and be able to apply concepts learned in the analysis of a public health problem.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4950 PUBLIC HEALTH LEADERSHIP AND ADVOCACY (3 credits)**

This course reviews public health leadership concepts and practices that prepare candidates to fulfill professional roles as advocates and leaders in the health field. Politics and power structure in communities and organizations are addressed. The processes through which changes in the political, economic, organizational, and physical environment related to health status and health behavior are brought about will be addressed. Media advocacy, the legislative process, community organization, and coalition development will be explored as means of environmental change.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4960 PUBLIC HEALTH - PLANNING AND ORGANIZATION (3 credits)**

The course is designed to provide public health students an understanding of planning and organization in public health. The use of planning tools including social assessment methods, epidemiological methods, behavioral methods, organizational methods, administrative methods and evaluation procedures for public health initiatives will be included. Grant writing components will be emphasized.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500, Senior standing

**PHHB 4970 PROBLEMS OF HEALTH EDUCATION (1-3 credits)**

This course is designed to provide an opportunity for individuals or groups to study problems in health education.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHHB 4990 INTERNSHIP IN PUBLIC HEALTH (6 credits)**

This internship provides on-the-job training for public health students in a cooperative program with state and local health departments or other appropriate community and public health agencies. Direct field experience is completed by the student under the supervision of an experienced practitioner in an approved public health agency.

**Prerequisite(s)/Corequisite(s):** Completion of or current enrollment in core courses, GPA of 2.5 or above in required courses, and no grade below a C in required courses, and permission of instructor.

**RLS 2440 FOUNDATIONS OF RECREATION AND LEISURE (3 credits)**

A survey approach to the recreation, leisure services, parks professional field to include the historical philosophical bases of the overall profession. Provides the necessary foundational knowledge for majors as well as candidates within other areas of study.

**RLS 2500 OUTDOOR RECREATION (3 credits)**

A survey of the dynamics of outdoor recreation in American life. Designed to guide candidates through a learning experience that results in an introduction to and a broad-based understanding and appreciation of outdoor recreation.

**RLS 3100 SOCIAL ASPECTS OF SPORT AND LEISURE (3 credits)**

A critical examination of the function and significance of sports within the overall leisure behavior patterns of Western society. Recreational sport, sport spectatorship, and competitive athletics are considered from the dominant theoretical perspectives within sociology.

**Prerequisite(s)/Corequisite(s):** Six hours of social science or permission.

**RLS 3500 FOUNDATIONS OF RECREATION THERAPY (3 credits)**

An introduction to therapeutic recreation services as a specialized field within recreation. Course content touches on the majority of the special populations recognized within American society. An in-depth survey approach is utilized.

**RLS 4070 CAMPUS RECREATION MANAGEMENT (3 credits)**

A review of the knowledge, skills, and abilities required for the management of typical campus recreation programs and facilities. This course will prepare students for entry level positions managing campus recreation employees, programs, facilities and services. (Cross-listed with RLS 8076)

**RLS 4100 FACILITY DESIGN AND MANAGEMENT (3 credits)**

This course is designed to acquaint the recreation major or practitioner with the knowledge and certifications necessary to maintain and operate a recreation building including all major activity areas using the latest standards and technology. Attention will be devoted to the design and management process, including terminology, court specifications, handicapped accessibility, and swimming pool operation.

**RLS 4240 RECREATION ADMINISTRATION (3 credits)**

Designed to provide a background of information on public, private, and commercial recreation with special attention to organization, promotion, and development from the administrative aspect. (Cross-listed with RLS 8246)

**Prerequisite(s)/Corequisite(s):** RLS Major and Senior status

**RLS 4300 RECREATION PROGRAMMING AND LEADERSHIP (3 credits)**

An advanced study of recreational programming and leadership through practical applications. Emphasis is placed upon understanding proven programming and leadership knowledge and skills; understanding participant leisure behavior; understanding participant leisure needs; and skill development in ways through which organization, agencies and businesses create services to respond to the leisure needs of the consumer. (Cross-listed with RLS 8306)

**Prerequisite(s)/Corequisite(s):** Junior, Senior or Graduate Standing

**RLS 4400 TRAVEL AND TOURISM (3 credits)**

This course is designed to provide the recreation major or practitioner, and other interested candidates, with an awareness of the major components of the travel and tourism industry, including its costs and benefits to a resident community. (Cross-listed with RLS 8406)

**Prerequisite(s)/Corequisite(s):** Junior Standing.

**RLS 4420 RECREATION FOR THE AGING (3 credits)**

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with RLS 8426, GERO 4420, GERO 8426)

**RLS 4550 PRACTICUM I (6 credits)**

Practical learning experience in leisure service delivery under close University and agency supervision.

**Prerequisite(s)/Corequisite(s):** Senior, 2.5 GPA and department consent.

**RLS 4560 PRACTICUM II (6 credits)**

Practical learning experience in leisure service delivery under close University and agency supervision.

**Prerequisite(s)/Corequisite(s):** Senior, 2.5 GPA and department consent.

**RLS 4970 PROBLEMS OF RECREATION (1-3 credits)**

The purpose of this course is to provide an opportunity for candidates to participate in special conferences on problems in the field of recreation and to further professional improvement and growth beyond the normal four-year undergraduate program.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

# Public Health, Bachelor of Science

## Degree Description

The public health program prepares students to become professionals who promote the health of local, national, and global populations through

education and skills for individuals and communities. A degree in public health prepares students to think critically about societal issues through a justice-based framework, and public health professionals engage in advocacy for policies that ensure and support healthy populations. Students who graduate with a degree in public health pursue careers in a variety of fields, including health administration; health promotion, and behavior; epidemiology; and environmental health. Students are also prepared to pursue graduate degrees in public health or related fields.

## Admissions

Students must have a cumulative and major GPA of at least 2.5.

## Fast Track Program

The School of Health and Kinesiology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BS in Public Health major desiring to pursue a MS in Health & Kinesiology with a Health Behavior concentration, or those pursuing a BS in Kinesiology major desiring to pursue a MS in Health & Kinesiology with an Exercise Science concentration.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Requirements

### Courses Required for Major (core curriculum)

Students must meet the general education requirements. Additionally students must complete the public health program requirements:

Code	Title	Credits
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3
or SOC 2130	SOCIAL STATISTICS	
or HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
PHHB/SOC 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3

JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Students must complete the following 60 hours of public health courses:		
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
PHHB 4000	METHODS AND MATERIALS IN HEALTH EDUCATION	3
PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE	3
PHHB 4050	INTRODUCTION TO RESEARCH IN PUBLIC HEALTH	3
PHHB 4060	SCHOOL HEALTH PROGRAMS	3
PHHB 4130	COMMUNITY HEALTH	3
PHHB 4200	A PUBLIC HEALTH APPROACH TO MENTAL HEALTH	3
PHHB 4280	SOCIAL MARKETING FOR PUBLIC HEALTH	3
PHHB 4400	HEALTH LITERACY	3
PHHB/GERO/WGST 4550	HEALTH ASPECTS OF AGING	3
PHHB 4650	GLOBAL HEALTH	3
PHHB 4880	PUBLIC HEALTH POLICY	3
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	3
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	3
PHHB 4990	INTERNSHIP IN PUBLIC HEALTH	6
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3
Select two of the following:		6
PHHB 2070	DRUG AWARENESS	
PHHB 2850	STRESS MANAGEMENT	
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	
PHHB 3310	INJURY PREVENTION IN PUBLIC HEALTH	
HEKI 3090	APPLIED NUTRITION	
Select electives as needed to meet 120 hours minimum for the degree.		
<b>Total Credits</b>		<b>78</b>

Students must complete all required coursework, both general and professional, with a minimum GPA of 2.5 before applying for their practicum experiences. Prior to graduation, all public health coursework must be completed with a least a 2.5 overall GPA and no grade below "C-".

**Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Humanities and Fine Arts		3
Attend Durango Days; other campus events		
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3

CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1220	COLLEGE ALGEBRA	3
Natural/Physical Science with Lab		4
Elective		2
Advising appointment for fall: February - March		
Join a student organization		

**Credits** **15**

**Sophomore****Fall**

PSYC 3130 or SOC 2130 or HEKI 2100	STATISTICS FOR THE BEHAVIORAL SCIENCES or SOCIAL STATISTICS or STATISTICS IN HEALTH AND KINESIOLOGY	3
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	3
Humanities and Fine Arts		3
Clas 1 of 2 "Pick 2 Section" <sup>1</sup>		3
Elective		3
Advising appointment for spring: Sept. - Oct.		

**Credits** **15**

**Spring**

PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE	3
PHHB 4050	INTRODUCTION TO RESEARCH IN PUBLIC HEALTH	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
Elective		3
Humanities and Fine Arts		3
Advising appointment for fall: February - March		

**Credits** **15**

**Junior****Fall**

PHHB 4880	PUBLIC HEALTH POLICY	3
PHHB 4400	HEALTH LITERACY	3
PHHB 4130	COMMUNITY HEALTH	3
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
Class 2 of 2 "Pick 2 Section" <sup>1</sup>		3
Advising appointment for spring: Sept. - Oct.		

**Credits** **15**

**Spring**

PHHB 4700	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
PHHB 4650	GLOBAL HEALTH	3
PHHB 4000	METHODS AND MATERIALS IN HEALTH EDUCATION	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3
Elective		3
Advising appointment for fall: February - March		

**Credits** **15**

**Senior****Fall**

PHHB 4280	SOCIAL MARKETING FOR PUBLIC HEALTH	3
PHHB 4200	A PUBLIC HEALTH APPROACH TO MENTAL HEALTH	3
PHHB 4060	SCHOOL HEALTH PROGRAMS	3

PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	3
Elective		3
Advising appointment for spring: Sept. - Oct.		
PHHB 4990 Application Due		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
PHHB 4990	INTERNSHIP IN PUBLIC HEALTH	6
PHHB 4550	HEALTH ASPECTS OF AGING	3
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	3
Elective		3
Apply for graduation		
Career searching		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> Pick 2 Section - PHHB 2070, PHHB 2850, PHHB 3080, PHHB 3310 OR HEKI 3090

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Kinesiology, Bachelor of Science in Education

### Degree Description

The kinesiology major is designed to prepare students to assume positions as fitness or health promotion directors and exercise consultants in private or public agencies, health centers, cardiac rehabilitation programs, as well as corporate fitness programs. This major is also well-suited as a pre-professional program for students interested in further pursuing a career in athletic training, physical therapy, occupational therapy, nursing, physician assistant, and other medical fields. Additionally, the kinesiology major will prepare students for research intensive graduate programs in exercise physiology, biomechanics, physical activity, and others.

### Admissions

Students must have a cumulative and major GPA of at least 2.5.

### Fast Track Program

The School of Health and Kinesiology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time

frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing a BS in Public Health major desiring to pursue a MS in Health & Kinesiology with a Health Behavior concentration, or those pursuing a BS in Kinesiology major desiring to pursue a MS in Health & Kinesiology with an Exercise Science concentration.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Alternative Entry into the MA in Athletic Training from the BS in Kinesiology

The School of Health and Kinesiology offers an alternative entry into the MA in Athletic Training, which allows outstanding students to complete the BS in Education undergraduate Kinesiology degree and the MA in Athletic Training graduate degree. The alternative entry program is designed for dedicated students who are motivated and willing to take on early the challenges relating to graduate education. Interested students are encouraged to meet with their academic advisor for more information about this program.

### Requirements

#### Courses Required for Major (Core Curriculum)

In addition to the general education requirements, the following courses must be taken:

Code	Title	Credits
KINS 1800	FITNESS FOR LIVING	3
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
KINS 2210	GROUP EXERCISE LEADERSHIP	2
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II	4
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
KINS 2800	MOTOR LEARNING	3
KINS 3040	PREVENTION AND CARE OF ATHLETIC INJURIES	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3

KINS 4010	LABORATORY METHODS IN EXERCISE SCIENCE	6
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
BMCH 4630	BIOMECHANICS	3
KINS 4800	KINESIOLOGY PRACTICUM	3
KINS 4910	INTERNSHIP IN EXERCISE SCIENCE	6
KINS 4940	PHYSIOLOGY OF EXERCISE	3
HEKI 3090	APPLIED NUTRITION	3
PHHB 3030	FIRST AID	3
PHHB 4550	HEALTH ASPECTS OF AGING	3
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	5
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Select 4 hours of physical activity from the following:		4
PEA 111P	MODERN DANCE	
PEA 111Q	BALLET	
PEA 111T	YOGA I	
PEA 111S	RELAXATION TECHNIQUES	
PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	
PEA 111Z	BACKPACKING & CAMPING	
PEA 112D	PILATES MATWORK	
PEA 112H	BALLROOM DANCE I	
PEA 112I	TAI CHI FOR MOVEMENT IMPROVEMENT	
PEA 112L	WALKING/JOGGING	
PEA 112N	ZUMBA	
PEA 112P	INDOOR CYCLING	
PEA 112Q	HIP HOP	
PEA 112V	MINDFULNESS MEDITATION	
Select 15 hours of professional electives approved by the advisor.		15
<b>Total Credits</b>		<b>93</b>

Students must complete all required coursework, both general and professional, with a minimum GPA of 2.5 before applying for their practicum experiences. Prior to graduation, all exercise science coursework must be completed with a least a 2.5 overall GPA and no grade below "C-".

### Freshman

Fall		Credits
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I <sup>1</sup>	4
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
PEA Physical Education Activity <sup>2</sup>		1
Attend Durango Days; other campus events		
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>14</b>

### Spring

BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II <sup>1</sup>	4
KINS 1800	FITNESS FOR LIVING	3
ENGL 1160	ENGLISH COMPOSITION II	3
Humanities and Fine Arts		3
Elective		2
Advising appointment for fall: February - March		

Join a student organization		
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
PHYS 1110	GENERAL PHYSICS I WITH ALGEBRA	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Humanities and Fine Arts		3
PEA Physical Education Activity <sup>2</sup>		1
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
KINS 4940	PHYSIOLOGY OF EXERCISE	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts		3
Socail Science with Diversity		3
Class 1/5 Professional Elective <sup>3</sup>		3
PEA Physical Education Activity <sup>2</sup>		1
Advising appointment for fall: February - March		
<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
BMCH 4630	BIOMECHANICS	3
KINS 2210	GROUP EXERCISE LEADERSHIP	2
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
KINS 2800	MOTOR LEARNING	3
PHHB 3030	FIRST AID	3
Class 2/5 Professional Elective <sup>3</sup>		3
Advising appointment for spring: Sept. - Oct.		
Shadowing/Volunteer experiences		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
KINS 4010	LABORATORY METHODS IN EXERCISE SCIENCE	6
KINS 3040	PREVENTION AND CARE OF ATHLETIC INJURIES	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3
Class 3/5 Professional Elective <sup>3</sup>		3
PEA Physical Education Activity <sup>2</sup>		1
Advising appointment for fall: February - March		
Visit Academic & Career Development Center for resume/cover letter building and editing		
Start thinking about internship		
<b>Credits</b>		<b>16</b>
<b>Senior</b>		
<b>Fall</b>		
KINS 4800	KINESIOLOGY PRACTICUM	3
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
HEKI 3090	APPLIED NUTRITION	3
Class 4/5 Professional Elective <sup>3</sup>		3
Advising appointment for spring: Sept. - Oct.		

## KINS 4910 Application Due

Credits		15
<b>Spring</b>		
KINS 4910	INTERNSHIP IN EXERCISE SCIENCE	6
PHHB 4550	HEALTH ASPECTS OF AGING	3
Class 5/5 Professional Elective <sup>3</sup>		3
PEA Physical Education Activity <sup>2</sup>		1
Apply for graduation		
Career searching		
Credits		13
Total Credits		120

- <sup>1</sup> BIOL2740 and BIOL2840 can be taken in place of BMCH 2400 and 2500
- <sup>2</sup> Choose one PEA from each category on degree worksheet
- <sup>3</sup> Professional electives are chosen from the Elective Core Categories on the degree worksheet. Other courses may qualify following advisor approval

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 cumulative and major GPA

**Graduation Requirements:** Students must have a cumulative and major GPA of at least 2.5, no grade lower than "C-" in required courses, and no incomplete in required courses to be recommended for graduation.

## Human Performance Minor

Code	Title	Credits
Required Courses (16 hours)		
BIOL 2740 or BMCH 2400	HUMAN ANATOMY AND PHYSIOLOGY I HUMAN PHYSIOLOGY & ANATOMY I	4
KINS 4940	PHYSIOLOGY OF EXERCISE	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3
KINS 4070	OPTIMIZING SPORTS PERFORMANCE	3
KINS 4080	CLINICAL EXERCISE PHYSIOLOGY	3

## Sports Medicine Minor

### Requirements

Code	Title	Credits
PHHB 3030	FIRST AID <sup>1</sup>	3
HEKI 2000	MEDICAL TERMINOLOGY	1
HEKI 3090	APPLIED NUTRITION	3
KINS 1010	INTRODUCTION TO SPORTS MEDICINE	1
KINS 3040	PREVENTION AND CARE OF ATHLETIC INJURIES	3
BMCH 2400 or BIOL 2740	HUMAN PHYSIOLOGY & ANATOMY I HUMAN ANATOMY AND PHYSIOLOGY I	4

- <sup>1</sup> If a student already has current CPR certification and First Aid certification they may substitute KINS 1800 OR KINS 3010

At least a 2.5 NU GPA requirement for students to declare.

Must earn grade of C- or higher in courses required for this minor.

## Public Health Minor

### Requirements

Students will be required to complete 15 credits from the following:

Code	Title	Credits
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
Select 3 credits from the following:		3
PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE	
PHHB 4050	INTRODUCTION TO RESEARCH IN PUBLIC HEALTH	
Select 3 credits from the following:		3
PHHB 4130	COMMUNITY HEALTH	
PHHB 4400	HEALTH LITERACY	
<b>Electives</b>		<b>6</b>
PHHB 4060	SCHOOL HEALTH PROGRAMS	
PHHB 4550	HEALTH ASPECTS OF AGING	
PHHB 4650	GLOBAL HEALTH	
PHHB 4880	PUBLIC HEALTH POLICY	
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	
<b>Total Credits</b>		<b>15</b>

At least a 2.0 NU GPA requirement for students to declare.

Must earn grade of C- or higher in courses required for this minor.

## Worksite Wellness Minor

Code	Title	Credits
<b>Required Courses (9 hours)</b>		
KINS 1800	FITNESS FOR LIVING	3
KINS 4200	PLANNING WORKSITE WELLNESS PROGRAMS	3
PHHB 2310	HEALTHFUL LIVING	3
<b>Electives (Choose 6 hours)</b>		
MKT 3200	BUSINESS COMMUNICATIONS	3
MGMT 3490	MANAGEMENT	3
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3

PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS	3
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	3
KINS 4700	FITNESS MANAGEMENT	3

Note: Candidates, who receive a grade below "C" or an "I"; or who voluntarily withdraw from any practicum or field experience after being identified as a student in jeopardy; or who are withdrawn from any practicum or field experience must petition to continue in the program.

## Teacher Education

Teacher Education at UNO is dedicated to your success and the success of our region's children and teens. As an undergraduate student you will receive one-on-one guidance from an instructional coach who will give you meaningful feedback on your skills as you practice teaching in one of our many partner schools. This process will prepare you for the clinical practice experience and the real world of teaching upon graduation. As a graduate student in one of our award-winning programs, you'll experience blended learning with distance friendly classes taught by professors with PK-12 classroom experience.

Whether you want to teach kindergarten or high school math, whether you are a first-year student or an experienced educator seeking more skills, you will benefit from the unique network of support offered by our department, UNO and the schools of our city. You will receive the opportunities you need and the support you can rely on to become a dedicated practitioner, a reflective scholar and a responsible citizen.

### Accreditation

The Educator Preparation Programs are accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Nebraska State Department of Education. The program will seek Council for the Accreditation of Educator Preparation (CAEP) accreditation upon the next review cycle. The Library Science/School Librarian Program is nationally recognized by the American Association of School Librarians (AASL) / American Library Association (ALA).

### Other Information

#### Praxis II Content Test:

All educator preparation candidates seeking certification are required to take a Praxis II content test in each endorsement area of their preparation prior to being awarded initial teacher certification through the Nebraska Department of Education (NDE). It is recommended that candidates take the Praxis II content test the semester prior to their clinical practice semester.

This link (<http://www.ets.org/praxis/ne/requirements/>) will take you to the ETS website page for the Nebraska Department of Education requirements. The page lists the Nebraska requirements for each endorsement area.

### Professional Education Sequence

All candidates in programs leading to teacher certification must complete the courses that constitute the professional education sequence. The professional education sequence is composed of 15 credit hours organized into four courses of three credits each: TED 2100, TED 2200, TED 2300 or TED 2380 and TED 2400.

TED 2100 and TED 2200 (Pre-professional Education Core) are open to all students on the UNO campus with a cumulative 2.5 GPA. TED 2200 meets the Nebraska Department of Education requirement for human relations.

To enroll in the other professional education sequence courses (TED 2300 or TED 2380 and TED 2400), candidates must have successfully applied to the Educator Preparation Program and must satisfy any other prerequisites listed for the course. Candidates who receive a grade below "C", "I" (incomplete), or a "W" (Withdraw) in a professional education sequence course may not continue in the professional course sequence until that grade is removed.

TED 2300 must be completed satisfactorily with a "C" or better prior to enrollment in TED 2400.

### Professional Dispositions Statement

Teaching is a profession that requires its potential candidates to be individuals of integrity. Prospective teachers must be able to demonstrate they are individuals of strong moral character who can make mature decisions for themselves and for the students whom they will teach. Teachers are responsible for the education, safety, and well-being of anyone in their charge. The University of Nebraska at Omaha College of Education, Health, and Human Sciences prepares future teachers who show a high degree of moral character and the ability to act responsibly inside and outside the classroom. These individuals must be able to serve as representatives of the College and the University and must demonstrate the personal and professional dispositions of the teaching profession.

Inappropriate behaviors on the part of the candidates, which in the College's reasonable judgment, violate the University's Student Code of Conduct, establish a lack of integrity or moral/ethical character, or demonstrate conduct or patterns of behavior inconsistent with the personal and professional dispositions expected in the teaching profession, shall be sufficient grounds for 1) denial of admission to or enrollment in educator preparation programs, 2) dismissal or removal from programs, courses, observations, field experiences, practica, clinical practice, and similar field-based experiences, and 3) withholding institutional recommendation for certification. Such behaviors could be evidenced within the University or PK-12 school environment, outside the University or PK-12 school environment, and/or in an electronic or digital context. Displays or patterns of behaviors may be established by any credible means including, but not limited to, the facts surrounding a record of arrests or convictions or information obtained by the University directly from a school or district official. Teacher candidates should note that the College of Education, Health, and Human Sciences must provide a recommendation for certification in order for a student to obtain his/her teaching certificate. Accordingly, inappropriate behaviors by candidates could jeopardize not only their educational goals at UNO but also their professional goals including the ability to become a certified teacher.

Candidates who exhibit inappropriate behaviors may be referred for a Conference of Concern to formally identify the unsuitable behaviors, recommend corrective action(s), and determine the candidate's suitability for continuing in educator preparation. Candidates who have convictions outlined in the Nebraska Department of Education's Rule 20, Section 005.07A, will be allowed to continue in the educator preparation program or referred for certification only through an appeal to the Commissioner or State Board of Education.

Note: In accordance with the Nebraska Department of Education, Rule 20, the following information must be provided to all persons who apply for admission to programs leading to teacher certification: *Persons who have felony convictions or misdemeanor convictions involving abuse, neglect or sexual misconduct are automatically rejected by the Nebraska Department of Education for certification.*

### Field/Clinical/Practicum/Clinical Practice Experiences

As part of their educator preparation program, candidates are required to complete various field, clinical, practicum, and clinical practice experiences.

In accordance with policies and procedures of the Nebraska Department of Education, and in compliance with the requests of cooperating school districts, no candidate will be permitted to participate in PK-12 classroom-based experiences (including clinical practice) until a signed statement of personal and professional fitness to teach has been completed. The statement of personal and professional fitness is required as part of the admission application to an educator preparation program.

## Clinical Practice Policies

All candidates for Elementary, Middle level, Special education, or Secondary teacher certification will be required to complete one semester of full-day clinical practice for a total of 12 credit hours. Candidates seeking an additional endorsement to the basic certificate will be required to complete additional clinical practice experiences in their endorsement area(s). Clinical practice experiences will be completed in identified, local, metropolitan, area schools where placement and supervision are arranged through the College of Education, Health, and Human Sciences.

Admission to clinical practice is by application only. Application for clinical practice must be made in the fall or spring term preceding the clinical practice semester. Applicants cannot be considered for placement unless all application materials are submitted by the announced deadline:

September 15 for spring clinical practice and February 1 for fall clinical practice.

Candidates must have satisfactorily completed all required coursework prior to clinical practice.

A minimum grade of "C" must be earned in all certification requirements, endorsements, and concentrations. All grades of incomplete and any grades below "C" in these specific requirements must be removed prior to clinical practice. Candidates are responsible for contacting their advisor regarding said grades.

Candidates must have a minimum cumulative GPA of 2.75 or higher in order to be eligible for clinical practice.

**Special Note:** Candidates who are withdrawn from any clinical practice experience, or who voluntarily withdraw after being identified as a candidate in jeopardy, must petition if they wish to continue in their professional preparation program.

## Certification

Upon successful completion of all coursework and clinical practice, candidates are eligible to apply and may be recommended for a State of Nebraska teaching certificate. Candidates should apply for the certificate in the semester they graduate. Information on application procedures can be obtained in the Office of Academic Advising and Field Experiences, Roskens Hall 204. You may also email [unocertification@unomaha.edu](mailto:unocertification@unomaha.edu)

## Contact:

212 Roskens Hall  
6001 Dodge Street  
Omaha, NE 68182-0163  
402.554.3666

Website (<http://www.unomaha.edu/college-of-education/teacher-education/>)

## Students interested in becoming teachers must formally apply for admission to the Educator Preparation Program (EPP).

Admission policies can be found on the college website (<https://www.unomaha.edu/college-of-education/student-services/academics/admissions-teacherprep.php>). Deadlines for applying are October 1 for spring semester; and March 1 and June 1 for fall semester.

All students accepted into the Educator Preparation Program (EPP) must complete a background check. The background check must be conducted in the time frame and by the vendor determined by the College of Education, Health, and Human Sciences. The student is responsible for the cost of the background check.

Upon initial admission to educator preparation, all students are required to purchase LiveText, a web-based interface that documents progress in regard to program standards.

## Application for Admission to Educator Preparation Program (EPP)

### Step 1:

The following requirements must be met prior to submitting an **Initial Application** to the Educator Preparation Program (EPP).

- Admission to UNO
- Completion of UNO's General Education Fundamental Academic requirements, or their transfer equivalents. These include English Composition I (ENGL 1150 (<https://catalog.unomaha.edu/search/?P=ENGL%201150>) or ENGL 1154 (<https://catalog.unomaha.edu/search/?P=ENGL%201154>)), ENGL Composition II (ENGL 1160 (<https://catalog.unomaha.edu/search/?P=ENGL%201160>) or ENGL 1164 (<https://catalog.unomaha.edu/search/?P=ENGL%201164>)), Communication Studies (CMST 1110 (<https://catalog.unomaha.edu/search/?P=CMST%201110>) or CMST 2120 (<https://catalog.unomaha.edu/search/?P=CMST%202120>)), and Quantitative Literacy (MATH 1120 (<https://catalog.unomaha.edu/search/?P=MATH%201120>), MATH 1130, MATH 1220 (<https://catalog.unomaha.edu/search/?P=MATH%201220>), STAT 1530, or STAT 1100 ) or placement beyond through the Math Placement Examination or Math ACT score.
- Established cumulative University of Nebraska System GPA of 2.50 or higher (12+ credit hours in the NU system)
- Completion, or in progress at the time of application, of TED 2100 (<https://catalog.unomaha.edu/search/?P=TED%202100>), TED 2200 (<https://catalog.unomaha.edu/search/?P=TED%202200>).

Grades must be posted before the application packet is submitted: fall semester grades for March 1 deadline, spring semester grades for June 1 deadline, and summer semester grades for October 1 deadline.

**NOTE:** The Praxis CORE Academic Skills for Educators test is strongly recommended but not required for **Initial Application** to EPP.

### Step 2:

The following requirements must be met for **Formal Admission** to the Educator Preparation Program (EPP).

- Established cumulative University of Nebraska System GPA of 2.75 or higher
- Completion of TED 2100 (<https://catalog.unomaha.edu/search/?P=TED%202100>), TED 2200 (<https://catalog.unomaha.edu/search/?P=TED%202200>), TED 2300 (<https://catalog.unomaha.edu/search/?P=TED%202300>) or TED 2380 and TED 2400 (<https://catalog.unomaha.edu/search/?P=TED%202400>) with a grade of "C" or better
- Meet or exceed the minimum Nebraska state score requirements on all sections of the Praxis I-CORE Academic Skills for Educators Test. (Reading – 156, Writing – 162, Mathematics -150)

**NOTE:** The official Praxis CORE scores must be on file in the College of Education, Health, and Human Sciences Office of Academic Advising at the time of Formal Admission. The Formal Admission deadlines are: May 30 and November 30.

The Office of Academic Advising will verify GPA requirements, Praxis CORE scores and passing grades for coursework. Students who are admitted to the Educator Preparation Program, but do not pass TED 2100 (<https://catalog.unomaha.edu/search/?P=TED%202100>) and TED 2400 (<https://catalog.unomaha.edu/search/?P=TED%202400>) with a grade of "C" or better and/or the Praxis CORE, will not be permitted to continue in the Educator Preparation Program course sequence until such grade(s) and score(s) are received.

## GPA Requirements (UNO Students)

- Currently enrolled UNO students with 12 or more credit hours in the Nebraska System (UNK, UNL, UNO) must have a minimum cumulative GPA of 2.50 for Initial Application and a minimum cumulative GPA of 2.75 for Formal Admission.
- GPA Requirements (Transfer Students): Transfer students with 12 or more credit hours in the Nebraska System (UNL, UNK, UNO) must have a minimum cumulative **NU system** GPA of 2.50 for all attempted coursework for initial application and a minimum cumulative **NU system** GPA of 2.75 for formal admission.

## Degrees Offered

- Education, Bachelor of Science

## Programs

- Elementary Education (p. 544)
- Library Science (p. 552)
- Secondary Education (p. 553)
- Early Childhood Inclusive (p. 541)

## Writing in the Discipline

Writing Student Learning Objectives for all ECI, ELED and SED majors are all addressed in TED 2100 Ed Foundations. Writing Student Learning Objectives for all library science majors are all addressed in TED 4800 Leadership and Management in Library and Information Agencies.

## Secondary Education Concentration

### For more information...

and a complete listing of program requirements visit the College of Education, Health, and Human Sciences website at <http://www.unomaha.edu/college-of-education/teacher-education/>

## Endorsements Offered

Candidates seeking 6-12, 7-12 or PK-12 certification must complete one of the endorsements below.

- Art (PK-12) Endorsement (p. 558)
- Biology (7-12) Endorsement (p. 559)
- Business, Marketing, Information Technology (BMIT) (6-12) Endorsement (p. 560)
- Chemistry (7-12) Endorsement (p. 561)
- English Language Arts (7-12) Endorsement (p. 563)
- Secondary English (7-12) with ESL Supplemental Endorsement (p. 564)
- Secondary English (7-12) with Additional Subject Endorsement (p. 565)
- World Language - French (7-12) Endorsement (p. 565)
- World Language - German (7-12) Endorsement (p. 567)
- Mathematics (6-12) Endorsement (p. 568)
- Middle Level (5-9) Endorsement (p. 569)
- Music (PK-12) Endorsement (p. 572)
- Physics (7-12) Endorsement (p. 572)
- Physical Education (PK-12) Endorsement (p. 573)
- Physical Education (7-12) and Health (7-12) Endorsement (p. 575)
- Science (7-12) Endorsement (p. 576)
- Social Science (7-12) Endorsement (p. 578)
- World Language - Spanish (7-12) Endorsement (p. 579)

## Dual Endorsement Programs Offered

Candidates may elect to complete a second endorsement as part of their secondary education program. These dual endorsements require two semesters of clinical practice (student teaching) and result in two teaching

endorsements on the Nebraska teaching certificate. The following dual endorsements are available.

- Deaf/Hard of Hearing (7-12) Endorsement (p. 581)
- Special Education (7-12) Endorsement (p. 582)

## Supplemental Endorsements Offered

Supplemental endorsements are content areas which can be added to a Nebraska teaching certificate in the presence of other earned endorsements. A supplemental endorsement cannot stand alone on an initial teaching certificate. The following supplemental endorsements are available.

- English as a Second Language (7-12) Endorsement (p. 583)
- Coaching (7-12) Endorsement (p. 583)
- Information Technology (PK-12) (p. 583) Endorsement (p. 583)

For more information and a complete listing of program requirements visit the College of Education, Health, and Human Sciences website (<https://www.unomaha.edu/college-of-education/student-services/certification/endorsements.php>)

## Education - Early Childhood Inclusive, Bachelor of Science

The early childhood inclusive education major is designed for students seeking Nebraska certification to teach in Birth - age 3 or age 3 through third grade in elementary schools. This major allows students to learn more about early childhood education policy, social-cultural understanding and the well-being of infants and toddlers.

### Potential Career Opportunities/settings:

- Preschool Teacher or Preschool Special Educator
- Infant/Toddler teacher
- Kindergarten – Grade 3 Teacher
- Special Education Teacher (Kindergarten – Grade 3)
- Early intervention home visitor
- Head Start family educator

## Education - Elementary Education, Bachelor of Science

The elementary education major is designed for students seeking Nebraska certification to teach in K-6 elementary schools. This major allows students to explore developmental issues of children, learning theory, elementary school content, and teaching methods. One of the strengths of the preparation program is the field experiences with local school districts.

### Potential Career Opportunities/settings:

- Public School systems
- Private School systems

## Education - Secondary Education, Bachelor of Science

The secondary education major is designed for students seeking Nebraska certification to teach in secondary content areas in grades 7-12, or in PK-12 settings in the areas of Art, Music, or Physical Education. This major allows students to explore developmental issues of children, learning theory, secondary content area(s), and teaching methods. One of the strengths of the preparation program is the field experiences with local school districts.

### Potential Career Opportunities/settings:

- Public School systems
- Private School systems

## Education – School Library concentration, Bachelor of Science

UNO's College of Education, Health, and Human Sciences offers two undergraduate degree programs in Elementary Education and Secondary Education with School Library concentrations. This program allows candidates to acquire an elementary or secondary teaching certificate with a school library concentration.

### Potential Career Opportunities/settings:

- Special libraries
- Public libraries

## Education - Library Science, Bachelor of Science

UNO's College of Education, Health, and Human Sciences offers an undergraduate degree in Library Science that provides credentials and continuing education for those seeking employment in 21st Century library and information agencies.

### Potential Career Opportunities/settings:

- Special libraries
- Public libraries
- Academic libraries
- Information Management

### TED 1010 INTRODUCTION TO EDUCATION (3 credits)

The course will provide an introduction to the education profession through career exploration and initial exposure to the dynamics of PK-12 classroom teaching. The course will provide an overview of ethics and professionalism, pre-service preparation, societal influences, classroom practices, and the governance structures which impact teachers and schools. The course has a required field experience.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### TED 1100 INQUIRY-BASED THINKING IN STEM (3 credits)

This course provides students with hands-on science content experiences that model the inquiry-based thinking used in science, technology, engineering and mathematics careers. Students will undertake interdisciplinary science modules to understand prairie ecosystems and to study how living things (such as animals, plants, and microbes) interact with non-living things (such as water, soil, and energy) within a dynamic system. Students will study the prairie at UNO's Glacier Creek Preserve facility from an interdisciplinary perspective, investigating the geology, biology and chemistry of the prairie environment, while using information science to analyze data and model prairie systems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Natural/Physical Science General Education course

### TED 2050 INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE (3 credits)

This course offers teacher candidates an introduction to the linguistic, social, political, and cultural factors that impact the teaching of English Language Learners (ELLs) entering the United States school system. As dedicated practitioners, reflective scholars, and responsible citizens, undergraduate students will study best practices for ELLs in the mainstream classroom that promotes language and cultural understanding among students and teachers.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### TED 2060 EQUITY, LANGUAGE, AND CULTURAL LITERACY (3 credits)

This course explores the relationship among equity, language, and cultural literacy and its implications for programming and advocacy within school and community contexts. As dedicated practitioners, reflective scholars, and responsible citizens, undergraduate students study the impact these relationships have for historically underrepresented groups in the United States.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### TED 2100 EDUCATIONAL FOUNDATIONS (3 credits)

The course will provide prospective teacher candidates with the philosophical, ethical, historical, and social foundations that will enable them to understand their role as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. Also, the prospective teacher candidates will study and understand the national and state standards relevant to P-12 education and to teacher preparation in the USA. Each prospective candidate will acquire competency in using educational technologies such as Internet based course delivery systems, database software, and digital portfolios.

**Prerequisite(s)/Corequisite(s):** 2.50 GPA

**Distribution:** Writing in the Discipline Single Course

### TED 2160 INTRODUCTION TO LIBRARY SERVICES (3 credits)

This course introduces students to the discipline and profession of library and information science and to the wide array of information organizations whose purpose is to gather, organize, and transfer information to patrons in a diverse society.

### TED 2200 HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (3 credits)

This course is designed to increase multicultural knowledge and positively impact the diversity disposition of prospective teacher candidates. It is also designed to help them become more aware of ways to motivate and positively impact the youths they will encounter in their future classrooms. Prospective teacher candidates will examine existing attitudes toward various groups by race, ethnicity, age, gender, disability, and social class with the goal of becoming dedicated practitioners, reflective scholars, and responsible citizens who can meet their professional responsibilities.

**Prerequisite(s)/Corequisite(s):** 2.50 GPA

**Distribution:** U.S. Diversity General Education course

### TED 2250 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (3 credits)

This course provides an overview of early childhood education from theoretical, historical, and contemporary perspectives. Particular emphasis in the course is placed on key approaches to early childhood education, research on how children learn, and developmentally appropriate practice for children in the birth-to-age-five range. Observations are required as part of the course and will be conducted outside of class time.

### TED 2300 HUMAN GROWTH AND LEARNING (3 credits)

This course will examine human growth and learning from conception through adolescence. It will focus on how current educational practices and theories of development and learning impact and influence each other. The course includes field-based and laboratory experiences for the students.

**Prerequisite(s)/Corequisite(s):** Admission to Teacher Preparation. Not open to non-degree graduate students.

### TED 2310 FAMILY-CENTERED PARTNERSHIPS (3 credits)

This course will examine the purposes and methods for developing family-centered partnerships for young children. Candidates will develop the skills necessary for the planning, designing, implementing, and evaluating effective family engagement in early childhood settings. Candidates will also explore characteristics of diverse families by engaging in service learning and exploring diverse settings in the community.

**Prerequisite(s)/Corequisite(s):** TED 2250

**TED 2350 PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION (3 credits)**

The purpose of this course is to provide theoretical and empirical bases for observing and understanding children in play; an understanding of cognitive, social, and communicative stages related to developmental theory through play; and opportunity to consider biological, cultural, and environmental influences on children's play and development, as well as, plan play experiences for young children. This course is designed primarily to prepare early childhood inclusive education teachers to develop the knowledge, skills, and dispositions to understand and use play as part of early childhood education and care programming for all young children.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 2360 CHILDREN'S LITERATURE (3 credits)**

This course focuses on children's literature as a significant component of a 21st Century educational environment through the use of multiple literacies, e.g., cultural, information, visual, and digital literacy strategies. An emphasis will be based on research-based literacy strategies and literature that supports culturally relevant teaching.

**Prerequisite(s)/Corequisite(s):** Admission to Teacher Preparation Program

**TED 2370 THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course prepares the early childhood teacher candidate to implement and use the creative and expressive arts in the classroom and to develop and assess conceptual understanding and building the vocabulary of children.

**Prerequisite(s)/Corequisite(s):** Admission to the Early Childhood Inclusive major program and TED 2250. Not open to non-degree graduate students.

**TED 2380 DEVELOPMENT AND LEARNING IN ADOLESCENCE (3 credits)**

This course will examine human growth and learning from early through late adolescence, to help students gain an understanding of the biological, social, and cultural influences on the developing child in the second decade of life. The class will focus on how current educational practices and theories of development and learning impact and influence each other. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Prerequisites of TED 2100 and TED 2200. Not open to non-degree graduate students.

**TED 2390 SOCIOCULTURAL UNDERSTANDINGS OF INFANTS AND TODDLERS (3 credits)**

This course will examine socio-cultural conceptions of infant and toddler-aged children. The influences of culture and social context on parental and center-based goals, beliefs and practices will also be covered.

**Prerequisite(s)/Corequisite(s):** Admission to the Early Childhood Inclusive major program and TED 2250. Not open to non-degree graduate students.

**TED 2400 PLANNING FOR EFFECTIVE TEACHING (6 credits)**

The course provides an initial overview of lesson planning through an introduction to the concepts of standards, objectives, anticipatory sets, instructional strategies, assessments, and closure. The course also introduces culturally responsive teaching practices which are intentionally supportive of English Language Learners, students with disabilities, and students who live in poverty or other difficult circumstances. A practicum completed outside of scheduled class time is required. The practicum includes coaching support for the candidates.

**Prerequisite(s)/Corequisite(s):** ELED, ELED SPED and ECI majors have a prerequisite of TED 2300. SED majors will be permitted only with TED 2380 as a corequisite. Not open to non-degree graduate students.

**TED 2500 DIGITAL CITIZENSHIP (3 credits)**

The course is an introduction to the basic tenets of digital citizenship including legalities, ethics, privacy and security. The course fosters an awareness of digital citizenship as a topic that impacts pedagogy and programming and reflects best practice in all types of learning communities.

**TED 2800 SCIENCE EXPERIMENTATION AND ENGINEERING DESIGN (4 credits)**

Science Experimentation and Engineering Design (SEED) is a general science course that introduces STEM (Science, Technology, Engineering, and Mathematics) concepts and their applications through student-developed experiments using high-altitude balloon platforms. The Scientific Method and Engineering Design Process are central to the students' experiences and work in this course, as the course models the interdisciplinary connectedness of academic fields. Students will study and work in active, experiential learning environments through all phases of the near-space experiments: conceptualization, design, launch, data analysis, and reporting. (Cross-listed with STEM 2800).

**Distribution:** Natural/Physical Sci General Education lecture&lab

**TED 3000 SPECIAL PROJECTS (1-3 credits)**

This course allows offerings with a broad (PK-12) multigrade application. Study is often field-based and is conducted as a short course, seminar, or special project.

**TED 3050 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context. As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 8055).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

**TED 3350 TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS (6 credits)**

This course provides an introduction to reading theories, foundational principles such as phonemic awareness, phonics, vocabulary, comprehension, fluency, effective instructional practices, and reading assessment and evaluation as they relate to improving K-6 student learning. It includes consideration of emergent and content area literacy, and students' learning needs and cultures.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisites of TED 4330 and TED 4340, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3550 SECONDARY CLASSROOM MANAGEMENT (3 credits)**

This is a general methods course required of all candidates preparing to teach at the secondary level. Candidates will apply educational sequence competencies in understanding the characteristics of effective teachers by learning how to apply the three components of effective pedagogy: 1) use of instructional strategies, 2) use of classroom management strategies, and 3) effective classroom curriculum design. Candidates will also examine the changing role of the secondary school and selected professional issues in secondary education and be able to apply key ideas of classroom management. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the third in a series of four required practicum experiences prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisite TED 3690, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3690 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 8695).

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisite TED 3550. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3750 TEACHING GRAMMAR IN CONTEXT (3 credits)**

This course is an analysis of the integration of grammar throughout the writing process and the most effective contexts for and means for teaching grammar. The emphasis is on the application in the secondary school English classroom, on the development of teaching materials for the classroom, and on appropriate methodology for grammar instruction.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 3760 ADULT SERVICES, PROGRAMMING, AND OUTREACH IN LIBRARIES (3 credits)**

This course examines best practices related to serving adult populations in 21st Century libraries and information agencies. Candidates will examine the characteristics of diverse adult populations and design resources, programming, and services to meet their personal and professional needs.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 4000 SPECIAL METHODS IN THE CONTENT AREA (3 credits)**

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 8006).

**Prerequisite(s)/Corequisite(s):** TED 3690 and TED 3550. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing).

**TED 4120 READING & WRITING IN ELEMENTARY CONTENT AREAS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading and writing in the content areas (science, social studies, math, art, music). Candidates will learn about teaching practices that engage elementary students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 4220 FINAL PRACTICUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

TED 4220 is an in-school guided practicum taken at the end of ECE program coursework. Candidates must demonstrate competencies related to performance in pre-kindergarten education. This is the last practicum course prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** Completion of ELEM/ECE undergraduate courses: TED 2250, TED 2310, TED 4250, TED 4260, TED 4280, TED 4290. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4250 GUIDANCE OF YOUNG CHILDREN (3 credits)**

This course will provide an overview of social and emotional development of the young child and an investigation of effective and appropriate guidance techniques as they relate to ages three to eight. Candidates will explore relationship-based approaches to teaching children and building caring and trusting classroom communities.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 (EDUC 2010), 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4260 LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course is designed for teacher candidates who are preparing to teach children from three to eight years of age, with particular emphasis on the language and literacy development of the young child and appropriate curriculum. Particular attention will be given to the role of the teacher as a dedicated practitioner in the early learning environment.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 or EDUC 2010. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4290 INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION (3 credits)**

This course is designed to educate teacher candidates about developing early mathematics and science foundations in young children (ages 3-8) with emphasis on inquiry-based teaching, learning, and assessing strategies.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 or EDUC 2010. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4310 ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER (3 credits)**

TED 4310 studies assessment and classroom management principles, effective practices, and assessment and classroom management processes through the elementary curriculum. A practicum completed outside of scheduled class time is required.

**Prerequisite(s)/Corequisite(s):** TED 3350, TED 4330 and TED 4340; Co-requisites: TED 4320 and TED 4350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4320 TEACHING OF SOCIAL STUDIES: ELEMENTARY (3 credits)**

This course is designed to prepare elementary teacher candidates with an introduction to the issues and methods related to teaching social studies to elementary students. An in-school guided practicum is associated with this course. Candidates must demonstrate instructional and professional competencies related to performance in PK-6 classrooms. This is the final practicum experience prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** TED 3350, TED 4330 and TED 4340; co-requisite TED 4350, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4330 TEACHING OF MATHEMATICS: ELEMENTARY (3 credits)**

This course is designed to prepare elementary teacher candidates as mathematics education professionals at the elementary level. The course utilizes "hands-on" discussion and laboratory oriented activities where participants actively practice instructional topics and techniques related to the learning of mathematics at the elementary level. The course will further prepare pre-service elementary teachers to be dedicated practitioners, reflective scholars, and responsible citizens, who can meet the instructional challenges of their profession, as it relates to the student learning of mathematics in a modern and changing world.

**Prerequisite(s)/Corequisite(s):** MTCH 2000 and MTCH 2010; Co-requisite TED 4340 and TED 3350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4340 TEACHING OF SCIENCE: ELEMENTARY (3 credits)**

This course is designed to give the undergraduate elementary education candidate a survey of the content of science in the elementary and middle school and a study of the methods and techniques of teaching science.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; Co-requisite TED 4330 and 3350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4350 TEACHING OF READING AND LANGUAGE ARTS (6 credits)**

This course is designed to prepare elementary teacher candidates as educators of reading and the other language arts. Teacher candidates will implement appropriate strategies and assessments in a practicum experience that demonstrate knowledge and dispositions appropriate for teaching reading and language arts to all students. This course will prepare pre-service elementary teacher candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** TED 3350, 4330 and 4340; co-requisite of TED 4320, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4370 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 8376).

**Prerequisite(s)/Corequisite(s):** TED 2300 or EDUC 2010 or TED 2380.

**TED 4570 LIBRARY SCIENCE CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their public, academic and special libraries.

**Prerequisite(s)/Corequisite(s):** There are no specific course prerequisites for the Capstone Practicum but students must be in the final two semesters of their Library Science Education Program.

**TED 4590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course provides foundational knowledge about tools and technologies for use with all types of educational scenarios. Course content will include information about many different types of learners and literacies and will explore instructional tools and strategies that enhance dissemination of digital information and digital instruction.

**TED 4600 CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (12 credits)**

A supervised teaching experience under the direction of university faculty/supervisor and a classroom teacher in the candidate's teaching area.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work, have a minimum cumulative GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing), and be accepted into Clinical Practice.

**TED 4610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing extends throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 4630 INSERVICE STUDENT TEACHING: ELEMENTARY AND SECONDARY (3 credits)**

Designed as an additional student teaching experience for in service teachers and students seeking certain additional certificates. Candidates must successfully complete an intermediate level field experience prior to student teaching.

**Prerequisite(s)/Corequisite(s):** Permission. Application is made in the Office of Student Services.

**TED 4640 K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY (12 credits)**

A supervised teaching experience designed for students seeking certification in art, music, physical education, and library media in the K-12 preparatory program.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work and obtain a minimum overall (cumulative) consistent GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing) and be accepted into student teaching.

**TED 4644 CLINICAL PRACTICE ORIENTATION (0 credits)**

This experience provides an introduction to clinical practice.

**Prerequisite(s)/Corequisite(s):** Candidates must have complete all course work, obtained a minimum overall (cumulative) consistent GPA of 2.75, and been accepted into Clinical Practice.

**TED 4650 CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (6 credits)**

A supervised teaching experience under the direction of university faculty/supervisor and a cooperating teacher in the candidate's teaching area.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work, have a minimum cumulative GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing) and be accepted into Clinical Practice. Co-requisite of the course SPED 4700.

**TED 4660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**TED 4700 EDUCATION CAPSTONE (3-6 credits)**

This course is designed to provide individual and experiential learning in a supervised setting of a selected educational environment outside of the traditional P-12 classroom setting. The candidate will be introduced to the educational practices and roles in an environment that allows for integration of educational theory and practice.

**Prerequisite(s)/Corequisite(s):** Completion of, or current enrollment in, Professional Education Core courses, GPA of 2.5, no grade below a C in required courses, and permission of Teacher Education Department Chair.

**TED 4710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 4720 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 8726).

**TED 4740 MANAGEMENT OF INFORMATION RESOURCES IN LIBRARIES (3 credits)**

This course addresses basic theory and best practice in collection management, descriptive and subject cataloging, and classification of information resources using national standards and resources. Course will address the theories, concepts and activities integral to proactive collection development in 21st Century libraries. Candidates will demonstrate understanding of the legal and ethical aspects of the collection and organization of information resources by appropriately applying the standards of their discipline to ensure access to information and ideas for all patrons.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 4760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 4800 LEADERSHIP AND MANAGEMENT IN LIBRARIES (3 credits)**

The course introduces concepts for effective leadership and management for 21st Century libraries of all kinds (special, public, academic, and school). Candidates will be introduced to vocabulary, philosophies, and processes involved in administration of libraries in support of ensuring quality service to all library patrons. Candidates will be introduced to professional ethics and principles and will be made aware of best practices in management of library services and facilities.

**Distribution:** Writing in the Discipline Single Course

**TED 4810 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 8816).

**TED 4850 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 8856).

## Education - Early Childhood Inclusive, Bachelor of Science

**University General Education Requirements**

(41 credit hours not including 6 hours from the major that count as Gen Ed)

Code	Title	Credits
<b>Fundamental Academic Skills</b>		
ENGL 1150/1154	ENGLISH COMPOSITION I	3
ENGL 1160/1164	ENGLISH COMPOSITION II	3
Writing in the Discipline <sup>1</sup>		3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	ARGUMENTATION AND DEBATE	
Select one of the following		3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
MATH 1130	QUANTITATIVE LITERACY	

MATH 1220	COLLEGE ALGEBRA	
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	
STAT 1100	DATA LITERACY AND VISUALIZATION	
<b>Distribution Requirements</b>		
Natural Science (from 2 disciplines and at least one lab)		7
Social Science (from 2 disciplines)		9
Humanities/Fine Arts (from 2 disciplines)		9
<b>Diversity Requirements</b>		
US Diversity <sup>1</sup>		3
Global Diversity		3

<sup>1</sup> These requirements will be met in the major.

Code	Title	Credits
<b>Program Requirements</b>		
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
<b>Early Childhood Inclusive Major Courses</b>		
TED 2300	HUMAN GROWTH AND LEARNING	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Designated Writing in the Discipline Course</b>		
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	3
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3
TED 2350	PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
TED 2360	CHILDREN'S LITERATURE	3
TED 2370	THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION	3
TED 2390	SOCIOCULTURAL UNDERSTANDINGS OF INFANTS AND TODDLERS	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4820	EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY	1
TED 4250	GUIDANCE OF YOUNG CHILDREN	3
TED 4260	LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION	3
TED 4290	INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION	3
SPED 4830	ASSESSMENT IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
SPED 4860	RESPONSIVE AND REFLECTIVE TEACHING IN EARLY CHILDHOOD	3
Select one of the following areas of emphasis:		12
Age 3 - Grade 3 Emphasis:		
TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	
Birth - Age 3 Emphasis:		
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	

SPED 4710	INTERACTIONS AND COLLABORATION	
SPED 4850	HEALTH AND WELL-BEING OF INFANTS AND TODDLERS	
SPED 4870	PRACTICUM WITH INFANTS AND TODDLERS	
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12

Code	Title	Credits
<b>Total Credits</b>		<b>120</b>

**Early Childhood Inclusive Education, Birth-3 Years Concentration****Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts		3
Social Science		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	3
Natural/Physical Science		3
Social Science		3
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Join a student organization. Consider Student Council for Exceptional Children.		
Make a plan to take the Praxis Core		
MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for Fall semester		
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Social Science		3
Natural/Physical Science with Lab		4-5
Humanities and Fine Arts with Global Diversity		3
Advising appointment for spring: Sept. - Oct.		
Apply to Educator Preparation Program October 1 deadline		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>16-17</b>

**Spring**

TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3

TED 2370	THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION	3
TED 2390	SOCIOCULTURAL UNDERSTANDINGS OF INFANTS AND TODDLERS	3
Advising appointment for fall: February - March		

**Credits 12****Junior****Fall**

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 2350	PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
TED 2360	CHILDREN'S LITERATURE	3
Elective to Degree		4
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits 16****Spring**

SPED 4850	HEALTH AND WELL-BEING OF INFANTS AND TODDLERS	3
SPED 4870	PRACTICUM WITH INFANTS AND TODDLERS	3
SPED 4820	EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY	1
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
Advising appointment for fall: February - March		

**Credits 13****Summer**

SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3

**Credits 6****Senior****Fall**

TED 4250	GUIDANCE OF YOUNG CHILDREN	3
TED 4260	LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION	3
TED 4290	INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION	3
SPED 4860	RESPONSIVE AND REFLECTIVE TEACHING IN EARLY CHILDHOOD	3
SPED 4830	ASSESSMENT IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
Take Praxis II - EYC #5024		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

**Credits 15****Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

2 Placements:

1. Birth - Age 3
2. Age 3 - Grad 3

Apply for Graduation	
<b>Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>120-121</b>

### Early Childhood Inclusive Education, PK-3rd Concentration

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Social Science		3
Natural/Physical Science no lab		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4
Social Science		3
Humanities and Fine Arts		3-5
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Join a student organization. Consider Student Council for Exceptional Children.		
Make a plan to take the Praxis Core		
MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for Fall semester		
<b>Credits</b>		<b>16-18</b>

#### Sophomore

Fall		Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Advising appointment for spring: Sept. - Oct.		
Apply to Educator Preparation Program October 1 deadline		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>15</b>

#### Spring

TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2370	THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION	3
TED 2390	SOCIOCULTURAL UNDERSTANDINGS OF INFANTS AND TODDLERS	3
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3

Advising appointment for fall: February - March	
<b>Credits</b>	<b>15</b>

#### Junior

##### Fall

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 2350	PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
TED 2360	CHILDREN'S LITERATURE	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
Elective to Degree		1

Advising appointment for spring: Sept. - Oct.

MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

<b>Credits</b>	<b>16</b>
----------------	-----------

##### Spring

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
SPED 4820	EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY	1
Elective to degree		3

Advising appointment for fall: February - March

<b>Credits</b>	<b>16</b>
----------------	-----------

#### Senior

##### Fall

TED 4250	GUIDANCE OF YOUNG CHILDREN	3
TED 4260	LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION	3
TED 4290	INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION	3
SPED 4860	RESPONSIVE AND REFLECTIVE TEACHING IN EARLY CHILDHOOD	3
SPED 4820	EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY	1

Take Praxis II - EYC #5024

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

<b>Credits</b>	<b>13</b>
----------------	-----------

##### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for Graduation

<b>Credits</b>	<b>12</b>
----------------	-----------

<b>Total Credits</b>	<b>118-120</b>
----------------------	----------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### **GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Education - Elementary Education, Bachelor of Science

Candidates completing the elementary education program are eligible for initial teacher certification and endorsement to teach in K-6 classrooms. The program of study is divided into five areas: General Education, Professional Education Sequence, Related Content Courses, Elementary Professional requirements, and a concentration area. The concentrations enhance the knowledge, skills, and marketability of the prospective teacher.

### Contact

212 Roskens Hall  
6001 Dodge Street  
Omaha, NE 68182-0163  
402.554.3666

Website (<http://www.unomaha.edu/college-of-education/teacher-education/undergraduate/elementary-education.php>)

### Requirements

#### **Courses Required for Major (Core Curriculum)**

Code	Title	Credits
<b>Related Content Courses</b>		
Candidates must complete coursework in the following related content courses:		
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
<b>Professional Education Sequence</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2300	HUMAN GROWTH AND LEARNING	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

#### **Elementary Professional Requirements**

Candidate for a degree or teaching endorsement must complete the following Elementary Professional requirements:

SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
TED 2360	CHILDREN'S LITERATURE	3
TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12

#### **Concentration Area**

Select a concentration area 12-17

#### **Optional Endorsement**

A candidate in elementary education may elect to complete an additional endorsement program, instead of or in addition to a concentration.

#### **English as a Second Language Concentration**

Code	Title	Credits
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 3050	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3

**Total Credits 12**

#### **Family and Community (non-certification education option)**

Code	Title	Credits
<b>Introduction to Professional Education Core (2.5 cumulative GPA required)</b>		<b>45</b>
TED 2100	EDUCATIONAL FOUNDATIONS	
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	
TED 2300 or PSYC 3520	HUMAN GROWTH AND LEARNING CHILD PSYCHOLOGY	
TED 2500	DIGITAL CITIZENSHIP	
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	
TED 2360	CHILDREN'S LITERATURE	
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	
TED 2310	FAMILY-CENTERED PARTNERSHIPS	
TED 2350	PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION	
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	

SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
SPED 4800	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
or COUN 2020	INTRODUCTION TO COUNSELING THEORY AND PSYCHOTHERAPY	
TED 4700	EDUCATION CAPSTONE	
<b>Family and Community Concentration</b>		
Select five from the following:		15
COUN 2020	INTRODUCTION TO COUNSELING THEORY AND PSYCHOTHERAPY	
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	
HEKI 3090	APPLIED NUTRITION	
PHHB 3310	INJURY PREVENTION IN PUBLIC HEALTH	
PHHB 4650	GLOBAL HEALTH	
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
CMST 2010	INTERPERSONAL COMMUNICATION	
or CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	
CMST 4160	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	
SOWK 1500	SOCIAL WORK AND CIVIC ENGAGEMENT	
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	
<b>Total Credits</b>		<b>60</b>

**Inclusive Practices Concentration**

Code	Title	Credits
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>12</b>

**School Librarian Concentration**

Code	Title	Credits
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
<b>Total Credits</b>		<b>12</b>

**STEM Concentration**

Code	Title	Credits
BIOL 1020	PRINCIPLES OF BIOLOGY	4
Select one of the following sets of lab courses:		4-5

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 1010 & CHEM 1014	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY and CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY	
Select one of the following sets of lab courses:		4
TED 2800	SCIENCE EXPERIMENTATION AND ENGINEERING DESIGN	
PHYS 1030 & PHYS 1034	PHYSICS OF EVERYDAY LIFE and PHYSICS OF EVERYDAY LIFE LABORATORY	
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	
Select one of the following:		3
GEOL 1010	ENVIRONMENTAL GEOLOGY	
GEOL 1100	EARTH SYSTEM SCIENCE	
TED 1100	INQUIRY-BASED THINKING IN STEM	
<b>Total Credits</b>		<b>15-16</b>

**Early Childhood**

Code	Title	Credits
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	3
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3
TED 2370	THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION	3
TED 4250	GUIDANCE OF YOUNG CHILDREN	3
TED 4260	LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION	3
TED 4290	INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION	3
TED 4220	FINAL PRACTICUM IN EARLY CHILDHOOD EDUCATION	3
<b>Total Credits</b>		<b>21</b>

**Deaf/Hard of Hearing**

Code	Title	Credits
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 1110	AMERICAN SIGN LANGUAGE I	3
SPED 1114	AMERICAN SIGN LANGUAGE I LAB	1
SPED 1120	AMERICAN SIGN LANGUAGE II	3
SPED 1124	AMERICAN SIGN LANGUAGE II LAB	1
SPED 2110	AMERICAN SIGN LANGUAGE III	3
SPED 2114	AMERICAN SIGN LANGUAGE III LAB	1
SPED 2120	AMERICAN SIGN LANGUAGE IV	3
SPED 2124	AMERICAN SIGN LANGUAGE IV LAB	1
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
SPED 3110	AMERICAN SIGN LANGUAGE V	3
SPED 3114	AMERICAN SIGN LANGUAGE V LAB	1
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4240	TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	5
CDIS 4330	AURAL REHABILITATION	3

SPED 4350	TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING	4
CDIS 4370	BASIC AUDIOLOGY	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION <sup>1</sup>	12
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>62</b>

### English as a Second Language

Code	Title	Credits
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 3050	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
<b>Total Credits</b>		<b>15</b>

### Special Education

Code	Title	Credits
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> SPED 4720 Competency in sign language is required for student teaching.

<sup>2</sup> SPED 4650 for 7-12 only.

### English as a Second Language

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Social Science		3

Natural/Physical Science	3
Attend Welcome Week events; other campus events	
Advising appointment for spring: Sept. - Oct.	
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year	

**Credits 15**

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4-5
Social Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
MUST establish 2.5+ NU GPA (by end of summer courses) in order to enroll in TED 2100 & TED 2200 for fall semester		
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		

**Credits 16-17**

#### Sophomore

##### Fall

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Elective for Degree		2
Advising appointment for spring: Sept. - Oct.		
Apply to Educator Preparation Program October 1 deadline		
Identify professional organization to get involved with. Begin resume development.		

**Credits 17**

##### Spring

TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2360	CHILDREN'S LITERATURE	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 3050	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
Advising appointment for fall: February - March		

**Credits 15**

#### Junior

##### Fall

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
Elective for Degree		3

Advising appointment for spring: Sept. - Oct.

MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

**Credits 15**

**Spring**

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
Summer optional- TED 4120 Reading & Writing in Elementary Content Area		
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>

**Senior**

<b>Fall</b>		
TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Take Praxis II- EECIA #5017		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120-121</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

**Family and Community (non-certification education option)****Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1220 or MATH 1530 or MATH 1120 or MATH 1130	COLLEGE ALGEBRA or INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS or INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or QUANTITATIVE LITERACY	3
Social Science		3
Humanities and Fine Arts		3
Attend welcome events; other campus events		
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
TED 2250	INTRODUCTION TO EARLY CHILDHOOD EDUCATION	3
Social Science		3
Natural/Physical Science with Lab		4
Global Diversity		3
Advising appointment for fall: February - March		
Join student group		
Given number of elective hours needed, explore adding minor to degree; this is a chance for a student to customize their program of study to their career goals.		
<b>Credits</b>		<b>16</b>

**Sophomore**

<b>Fall</b>		
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Natural/Physical Science without Lab		4
Social Science		3
Advising appointment for spring: Sept. - Oct.		
Gain employment or volunteer work with populations that serve children, families, youth, individuals with disabilities, etc. in the community/nonprofit sector.		
Apply to Family & Community, non-teacher certification program by fall deadline; Oct. 1.		
<b>Credits</b>		<b>16</b>

**Spring**

TED 2300	HUMAN GROWTH AND LEARNING	3
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
TED 2360	CHILDREN'S LITERATURE	3

Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>
<b>Summer</b>		
Humanities and Fine Arts		3
Elective #1 to reach 120 credit hours		3
Advising appointment for fall: February – March.		
<b>Credits</b>		<b>6</b>
<b>Junior</b>		
<b>Fall</b>		
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 2350	PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION	3
Family & Community Core course. Pick from approved list. #1 of 5 <sup>1</sup>		3
Elective #2 to reach 120 credit hours		3
Advising appointment for spring: Sept. - Oct.		
Visit Academic & Career Development Center for resume/cover letter building and editing		
Begin to identify where you would like your community internship to be.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 2500	DIGITAL CITIZENSHIP	3
Family & Community Core course. Pick from approved list. #2 of 5 <sup>1</sup>		3
Family & Community Core course. Pick from approved list. #3 of 5 <sup>1</sup>		3
Elective #3 to reach 120 credit hours		3
Elective #4 to reach 120 credit hours		2
Advising appointment for fall: February – March		
IF applying to graduate school, prepare to apply to graduate schools in summer prior to senior year: Take GRE exam junior summer, write personal statement, update resume, get application process organized, and think about who would write letters of recommendation.		
<b>Credits</b>		<b>14</b>
<b>Senior</b>		
<b>Fall</b>		
SPED 4800 or COUN 2020	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH or INTRODUCTION TO COUNSELING THEORY AND PSYCHOTHERAPY	3
Family & Community Core course. Pick from approved list. #4 of 5 <sup>1</sup>		3
Elective #5 to reach 120 credit hours		3
Elective #6 to reach 120 credit hours		3
Advising appointment for spring: Sept. - Oct.		
Submit internship application by September 15. Must have internship finalized and internship forms signed and submitted to advising office (Roskens Hall 204) by November 1st.		
Attend internship orientation in late November/early December.		

IF applying to a graduate program, prepare to submit graduate school applications by December or prior to university deadline. Ask for letters of recommendation in October.

<b>Credits</b>		<b>12</b>
<b>Spring</b>		
TED 4700	EDUCATION CAPSTONE	6
Family & Community Core course. Pick from approved list. #5 of 5 <sup>1</sup>		3
Elective #7 reach 120 credit hours		3
Apply for graduation by deadline.		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> Family & Community Core Classes (pick 5 from list) : HEKI 2400, HEKI 3090, PHHB 4650, PHHB 3310, ACCT 2000, CMST 2010 or CMST 2410, CMST 4150, CMST 4160, SOWK 1500, PA 3500, COUN 2020

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

The BS in Elementary Education – Family & Community Concentration does not lead to teacher certification. Students in the Teacher Education Department have the flexibility to earn an education degree without pursuing teacher certification. Students will complete 120 credit hours of coursework including a capstone course with 270-hour internship (TED 4700 Education Capstone). Flexibility exists for minor programs and elective credits. For list of approved Family & Community concentration courses, view the current degree worksheet and program website here: <https://www.unomaha.edu/college-of-education/student-services/certification/non-cert-education.php>

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>  
\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 cumulative and major GPA

**Graduation Requirements:** Students must have a cumulative and major GPA of at least 2.5, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

#### Inclusive Practices

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3

Social Science	3
Natural/Physical Science	3
Attend Welcome Week events; other campus events	
Advising appointment for spring: Sept. - Oct.	
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year	

**Credits 15**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4
Social Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts		3

MUST establish 2.5+ NU GPA (by end of summer courses) in order to enroll in TED 2100 & TED 2200 for fall semester

Advising appointment for fall: February - March

Join a student organization. Consider joining Student Council for Exceptional Children.

Make a plan to take the Praxis Core

**Credits 16**

### Sophomore

#### Fall

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3

Advising appointment for spring: Sept. - Oct.

Apply to Educator Preparation Program October 1 deadline

Identify professional organization to get involved with. Begin resume development

**Credits 15**

### Spring

TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2360	CHILDREN'S LITERATURE	3
Elective for Degree		2

May take elective over summer

Advising appointment for fall: February - March

**Credits 11**

### Junior

#### Fall

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3

Advising appointment for spring: Sept. - Oct.

MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program

**Credits 15**

### Spring

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3

Advising appointment for fall: February - March

**Credits 15**

### Summer

SPED 4710	INTERACTIONS AND COLLABORATION	3
Elective required for degree		2

**Credits 5**

### Senior

#### Fall

TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3

Take Praxis II- EECIA #5017

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

**Credits 15**

### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for graduation

**Credits 12**

**Total Credits 119**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## School Librarian

### Freshman

		Credits
Fall		
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Social Science		3
Natural/Physical Science		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4-5
Social Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
MUST establish 2.5+ NU GPA (by the end of summer courses) in order to enroll in TED 2100 & TED 2200 for fall semester		
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>16-17</b>

### Sophomore

Fall		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Advising appointment for spring: Sept. - Oct.		
Apply to Educator Preparation Program October 1 deadline		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>15</b>

### Spring

TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2360	CHILDREN'S LITERATURE	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 4660	YOUNG ADULT LITERATURE	3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>

### Junior

#### Fall

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
Elective for Degree		3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits 15**

#### Spring

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3

Summer optional- TED 4590 Teaching & Learning in Digital Environment to lighten course load	
Advising appointment for fall: February - March	

**Credits 18**

### Senior

#### Fall

TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6

Elective for Degree		2
Take Praxis II- EECIA #5017		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

**Credits 14**

#### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for graduation	
----------------------	--

**Credits 12**

**Total Credits 120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate

degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### **GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

### **STEM**

#### **Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Social Science		3
Natural/Physical Science		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

#### **Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4
Social Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
MUST establish 2.5+ NU GPA (by the end of summer courses) in order to enroll in TED 2100 & TED 2200 for fall semester		
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>16</b>

#### **Sophomore**

<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
CHEM Concentration Course		4-5
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Advising appointment for spring: Sept. - Oct.		
Apply to Educator Preparation Program October 1 deadline		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>16-17</b>

#### **Spring**

TED 2300	HUMAN GROWTH AND LEARNING	3
----------	---------------------------	---

MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
TED 2360	CHILDREN'S LITERATURE	3
STEM Concentration Course <sup>1</sup>		4
Elective for Degree		2
Advising appointment for fall: February - March		

**Credits 15**

#### **Junior**

##### **Fall**

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
STEM Concentration Course <sup>1</sup>		4
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits 16**

##### **Spring**

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
STEM Concentration Course <sup>1</sup>		3
Summer optional- STEM Concentration Course and elective can be taken in Summer.		

**Credits 15**

#### **Senior**

##### **Fall**

TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Take Praxis II- EECIA #5017		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

**Credits 15**

##### **Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		

**Credits 12**

**Total Credits 120-121**

- <sup>1</sup> STEM Selection Area:  
 Biology Selection - BIOL 1020 - ENGL1150 placement by the English Placement and Proficiency Exam (EPPE), grade of C- or better in English 1050 or 1100, ACT English subscore of 20 or higher, or permission of the department  
 Chemistry Selection - CHEM 1140 & CHEM 1144 - MATH 1220 or equivalent within last two years (C- or better); or ACT Math subscore of at least 23 within last two years; or Accuplacer score of at least 4 within last two years. CHEM 1144 concurrent or prior with C- or better  
 Physics Selection - TED 2800 or PHYS 1030 & PHYS 1034 (High School algebra or equivalent) or PHYS 1350 & PHYS 1354 (High School algebra or equivalent)  
 Geology Selection - GEOL 1010 or GEOL 1100 or TED 1110

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Education - Library Science, Bachelor of Science

The library science program is designed to prepare candidates for employment in 21st century public, academic and special libraries, and information agencies. The library science courses engage candidates in classroom, field site, and service experiences that support the development of the personal, professional and technical skills and dispositions required to work effectively with patrons in today's diverse communities.

### Contact

212 Roskens Hall  
 6001 Dodge Street  
 Omaha, NE 68182-0163  
 402.554.3666

Website (<https://www.unomaha.edu/college-of-education/teacher-education/undergraduate/library-science.php>)

### Courses Required for Major (Core Curriculum)

All majors in the library science program must complete the university general education requirements.

Code	Title	Credits
<b>Required Library Science Course Work</b>		
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3
TED 2360	CHILDREN'S LITERATURE	3
TED 2500	DIGITAL CITIZENSHIP	3
TED 3760	ADULT SERVICES, PROGRAMMING, AND OUTREACH IN LIBRARIES	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
TED 4710	RESEARCH AND INQUIRY	3
TED 4740	MANAGEMENT OF INFORMATION RESOURCES IN LIBRARIES	3
TED 4800	LEADERSHIP AND MANAGEMENT IN LIBRARIES	3
TED 4570	LIBRARY SCIENCE CAPSTONE	3

#### Electives

Select 27 credits of electives distributed over the following areas:

Technology – three credit hours
Literacy – 12 credit hours
Human Relations – 12 credit hours

Individuals must also complete an approved minor plus elective courses sufficient to reach the minimum of 120 credit hours needed for graduation.

**Total Credits** **57**

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science		3
Humanities and Fine Arts		3
US Diversity		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits** **15**

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
Quantative Literacy		3
Social Science		3
Humanities and Fine Arts		3
Global Diversity		3
Advising appointment for fall: February - March		
Join a student organization		

**Credits** **15**

#### Sophomore

Fall		
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3

TED 2500	DIGITAL CITIZENSHIP	3
Natural/Physical Science with Lab		4
Social Science		3
Humanities and Fine Arts		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
TED 2360	CHILDREN'S LITERATURE	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
Natural/Physical Science		3
Minor Course		3
Literacy Elective		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
TED 4660	YOUNG ADULT LITERATURE	3
TED 4710	RESEARCH AND INQUIRY	3
Minor Course		3
Human Relation Elective		3
Literacy Elective		3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 3760	ADULT SERVICES, PROGRAMMING, AND OUTREACH IN LIBRARIES	3
TED 4740	MANAGEMENT OF INFORMATION RESOURCES IN LIBRARIES	3
Minor Course		3
Literacy Elective		3
Human Relations Elective		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4800	LEADERSHIP AND MANAGEMENT IN LIBRARIES	3
Human Relations Elective		3
Elective		3
Technology Elective		3
Minor Course		3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4570	LIBRARY SCIENCE CAPSTONE	3
Human Relations Elective		3
Minor Course		3
Elective		3
Elective		3
Apply for graduation		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>121</b>

This roadmap is a suggest, \* plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.5 minimum NU GPA

## Education - Secondary Education, Bachelor of Science

The program in secondary education is designed to prepare candidates to meet Nebraska requirements for a related (5-9, 6-12 or 7-12) level teaching certificate or a PK-12 teaching certificate. The coursework for a Secondary Education Endorsement is divided into four areas: General Education, Endorsement Content, Professional Education Sequence, and Secondary Professional requirements. Secondary candidates must select one of the approved endorsement areas.

### Requirements

A candidate for a degree and/or teaching endorsement in grades 6-12 or 7-12 must complete the following course requirements:

Code	Title	Credits
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Total Credits</b>		<b>21</b>

### Courses Required for Major (Core Curriculum)

Code	Title	Credits
<b>Professional Education Sequence</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
----------	---	---

**Total Credits 15**

A candidate for a degree and/or teaching endorsement in grades K-12 must complete the following course requirements:

Code	Title	Credits
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
TED 4650	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL <sup>1</sup>	6

Methods within their content area

**Total Credits 21**

<sup>1</sup> Must take with SPED 4700.

### Inclusive Practices

Code	Title	Credits
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3

**Total Credits 12**

### Middle Level 4-9

Candidates are required to complete two teaching content areas as part of the middle grades endorsement program. Candidates must select their two content subjects from the areas of: mathematics, science, social studies, and language arts. **One of the choices must be either mathematics or science.** All content areas will be a minimum of 24 credit hours each. (See an academic adviser for a listing of the required courses for each teaching content area.) Each content area will also include a course in methods for that particular discipline. Clinical Practice is required and will be completed in a middle grades setting.

Code	Title	Credits
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 4660	YOUNG ADULT LITERATURE	3
TED 4370	TEACHING AT THE MIDDLE LEVEL	3
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3

**Total Credits 15**

### School Librarian

Code	Title	Credits
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3
TED 2360	CHILDREN'S LITERATURE	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3

**Total Credits 15**

### Youth & Training Concentration

Code	Title	Credits
<b>Introduction to Professional Education Core (2.5 cumulative GPA required)</b>		<b>30</b>

TED 2100	EDUCATIONAL FOUNDATIONS	
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	
TED 2300 or PSYC 3540	HUMAN GROWTH AND LEARNING ADOLESCENT PSYCHOLOGY	
TED 2500	DIGITAL CITIZENSHIP	
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
SPED 4800	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
or SPED 4650	TRANSITION PLANNING	
TED 4700	EDUCATION CAPSTONE	6

### Youth and Training Concentration

Select nine from the following: 27

TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	
PHHB 2070	DRUG AWARENESS	
PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	
PHHB 3310	INJURY PREVENTION IN PUBLIC HEALTH	
HEKI 3090	APPLIED NUTRITION	
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	
CRCJ 3370	JUVENILE DELINQUENCY AND JUVENILE JUSTICE	
SOWK 1500	SOCIAL WORK AND CIVIC ENGAGEMENT	
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
CMST 2010 or CMST 2410	INTERPERSONAL COMMUNICATION SMALL GROUP COMMUNICATION AND LEADERSHIP	
CMST 3520	INTERVIEWING	
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	
CMST 4160	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	
PSYC 4640	PERSONNEL PSYCHOLOGY	

**Total Credits 63**

### Endorsements Offered

Candidates seeking 5-9, 6-12, 7-12 or PK-12 certification must complete one of the endorsements below.

- Art (PK-12) Endorsement (p. 558)
- Biology (7-12) Endorsement (p. 559)
- Business, Marketing, Information Technology (BMIT) (6-12) Endorsement (p. 560)
- Chemistry (7-12) Endorsement (p. 561)

- Secondary English (7-12) with ESL Supplemental Endorsement (p. 564)
- Secondary English (7-12) with Additional Subject Endorsement (p. 565)
- World Language - French (7-12) Endorsement (p. 565)
- World Language - German (7-12) Endorsement (p. 567)
- Language Arts/English (7-12) Endorsement (p. 563)
- Mathematics (6-12) Endorsement (p. 568)
- Middle Level (5-9) Endorsement (p. 569)
- Music (PK-12) Endorsement (p. 572)
- Physics (7-12) Endorsement (p. 572)
- Physical Education (PK-12) Endorsement (p. 573)
- Physical Education (7-12) and Health (7-12) Endorsement (p. 575)
- Science (7-12) Endorsement (p. 576)
- Social Science (7-12) Endorsement (p. 578)
- World Language - Spanish (7-12) Endorsement (p. 579)

## Dual Endorsement Programs Offered

Candidates may elect to complete a second endorsement as part of their secondary education program. These dual endorsements require two semesters of clinical practice (student teaching) and result in two teaching endorsements on the Nebraska teaching certificate. The following dual endorsements are available.

- Deaf/Hard of Hearing (7-12) Endorsement (p. 581)

## Supplemental Endorsements Offered

Supplemental endorsements are content areas which can be added to a Nebraska teaching certificate in the presence of other earned endorsements. A supplemental endorsement cannot stand alone on an initial teaching certificate. The following supplemental endorsements are available.

- Coaching (7-12) Endorsement (p. 583)
- English as a Second Language (7-12) Endorsement (p. 583)
- Information Technology (PK-12) Endorsement (p. 583)

## Middle Level Math and Social Science

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1220	COLLEGE ALGEBRA	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
HIST 1000	WORLD CIVILIZATIONS I	3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	3
HIST 1110	AMERICAN HISTORY TO 1865	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3

MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for fall semester

Advising appointment for fall: February - March	
Apply to Educator Preparation Program June 1 deadline	
Join a student organization	
Make a plan to take the Praxis Core	

Credits		15
<b>Sophomore</b>		
<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
MATH 1330	TRIGONOMETRY	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
Natural/Physical Science with Lab		4
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		

Credits		16
<b>Spring</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
MATH 1950	CALCULUS I	5
Advising appointment for fall: February - March		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

Credits		17
<b>Junior</b>		
<b>Fall</b>		
TED 4370	TEACHING AT THE MIDDLE LEVEL	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
MATH 3850	HISTORY OF MATHEMATICS	3
Natural/Physical Science without lab		3
Social Science		3
Advising appointment for spring: Sept. - Oct.		

Credits		18
<b>Spring</b>		
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
Advising appointment for fall: February - March		

Credits		15
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (MATH)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SOCIAL SCIENCE)	3

SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
STAT 1100 or STAT 1530	DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Social Science		3
Take Praxis II-Middle Level Mathematics #5169, Middle Level Social Sciences #5089		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>123</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Middle Level Science and Social Science

### Freshman

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1200	QUANTITATIVE LITERACY	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
HIST 1000	WORLD CIVILIZATIONS I	3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

**Credits** **15**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	3
HIST 1110	AMERICAN HISTORY TO 1865	3
Social Science		3
MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for fall semester		
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>15</b>

### Sophomore

#### Fall

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
Humanities/ Fine Arts (not HIST)		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
Apply to EPP program by Oct. 1 deadline		
<b>Credits</b>		<b>17</b>

### Spring

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
Advising appointment for fall: February - March		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>15</b>

### Junior

#### Fall

TED 4370	TEACHING AT THE MIDDLE LEVEL	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
PHYS 1030 & PHYS 1034	PHYSICS OF EVERYDAY LIFE and PHYSICS OF EVERYDAY LIFE LABORATORY	4
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>

**Spring**

TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	4
Advising appointment for fall: February - March		
<b>Credits</b>		<b>13</b>

**Senior**

<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SCIENCE)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SOCIAL SCIENCE)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
Social Science		3
Take Praxis II-Middle Level Science #5435, Middle Level Social Sciences #5089		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>18</b>

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:****University Degree Requirements:**

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:**

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

**Youth and Training Concentration****Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1220 or MATH 1530 or MATH 1120 or MATH 1130	COLLEGE ALGEBRA or INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS or INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or QUANTITATIVE LITERACY	3
Social Science		3
Humanities and Fine Arts		3
Attend welcome events; other campus events		
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
Social Science		3
Natural/Physical Science with Lab		4
Global Diversity		3
Advising appointment for fall: February - March		
Join student group		
Given number of elective hours needed, explore adding minor to degree; this is a chance for a student to customize their program of study to their career goals.		
<b>Credits</b>		<b>16</b>

**Sophomore**

<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Humanities and Fine Arts		3
Natural/Physical Science without lab		3
Social Science		3
Advising appointment for spring: Sept. - Oct.		
Gain employment or volunteer work with populations that serve youth, families, adults, individuals with disabilities, etc. in the community/nonprofit sector.		
Apply to Youth & Training, non-teacher certification program by fall deadline; Oct. 1.		
<b>Credits</b>		<b>15</b>

**Spring**

TED 2300	HUMAN GROWTH AND LEARNING	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
Humanities and Fine Arts		3
Elective #1		3
Youth & Training Core course. Pick from approved list. #1 of 9		3
Advising appointment for fall: February - March.		
<b>Credits</b>		<b>15</b>

**Summer**

Youth & Training Core course. Pick from approved list. #2 of 9	3
Elective #2	3

**Credits** **6**

**Junior****Fall**

SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
-----------	--	---

Youth & Training Core course. Pick from approved list. #3 of 9	3
Youth & Training Core course. Pick from approved list. #4 of 9	3
Youth & Training Core course. Pick from approved list. #5 of 9	3
Elective #3	3

Advising appointment for spring: Sept. - Oct.

Visit Academic & Career Development Center for resume/cover letter building and editing

Begin to identify where you would like your community internship to be.

**Credits** **15**

**Spring**

TED 2500	DIGITAL CITIZENSHIP	3
Youth & Training Core course. Pick from approved list. #6 of 9		3
Youth & Training Core course. Pick from approved list. #7 of 9		3
Elective #4		3
Elective #5		3

Advising appointment for fall: February – March

IF applying to graduate school, prepare to apply to graduate schools in summer prior to senior year: Take GRE exam junior summer, write personal statement, update resume, get application process organized, and think about who would write letters of recommendation.

**Credits** **15**

**Senior****Fall**

SPED 4800	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	3
-----------	--	---

Youth & Training Core course. Pick from approved list. #8 of 9	3
Elective #6	3
Elective #7	3

Advising appointment for spring: Sept. - Oct.

Submit internship application by September 15. Must have internship finalized and internship forms signed and submitted to advising office (Roskens Hall 204) by November 1st.

Attend internship orientation in late November/early December.

IF applying to a graduate program, prepare to submit graduate school applications by December or prior to university deadline. Ask for letters of recommendation in October.

**Credits** **12**

**Spring**

TED 4700	EDUCATION CAPSTONE	6
Youth & Training Core course. Pick from approved list. #9 of 9		3
Elective #8		3
Apply for graduation by deadline.		

**Credits** **12**

**Total Credits** **121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:** The BS in Secondary Education – Youth & Training Concentration does not lead to teacher certification. Students in the Teacher Education Department have the flexibility to earn an education degree without pursuing teacher certification. Students will complete 120 credit hours of coursework including a capstone course with 270-hour internship. Flexibility exists for minor programs and elective credits. For list of approved Youth & Training concentration courses, view the current degree worksheet and program website here: <https://www.unomaha.edu/college-of-education/student-services/certification/non-cert-education.php>

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 cumulative and major GPA

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** Students must have a cumulative and major GPA of at least 2.5, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

## Art (PK-12) Endorsement

Code	Title	Credits
ART 1100	FOUNDATION: DRAWING	3
ART 1110	FOUNDATION: 3D DESIGN	3
ART 1210	FOUNDATION: 2-D DESIGN	3
ART 1220	FOUNDATION: DIGITAL MEDIA	3
ART 1810	WATERCOLOR I	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ART 2100	LIFE DRAWING I	3
ART 3300	ELEMENTARY ART METHODS	3
ART 3310	ELEMENTARY SCULPTURE	3
or ART 3330	ART IN PUBLIC PLACES	
ART 4020	PROFESSIONAL STUDIO PRACTICES	3
ART 3370	TECHNOLOGY IN ARTS EDUCATION	3
ART 3410	ELEMENTARY PAINTING	3
ART 3610	ELEMENTARY CERAMICS	3
ART 4300	SECONDARY ART METHODS	3
ART 4350	TRENDING TOPICS IN ART EDUCATION	3
Select one of the following:		3
ART 3510	ELEMENTARY PRINTMAKING	

or ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
ART 3520	PHOTOGRAPHIC DIGITAL PRINTMAKING	
Select one of the following:		3
ART 4890	MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968)	
or ART 4900	CONTEMPORARY ART HISTORY SINCE 1968	
ART History elective		3
<b>Total Credits</b>		<b>57</b>

## Biology (7-12) Endorsement

Code	Title	Credits
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
or BIOL 3340	ECOLOGY	
BIOL 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS	3
BIOL 4230	EVOLUTION	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY	5
<b>Total Credits</b>		<b>46</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
BIOL 1450	BIOLOGY I	5
Social Science		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

	Credits	14
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
BIOL 1750	BIOLOGY II	5
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		

### Sophomore

Fall		Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3

CHEM 1140	FUNDAMENTALS OF COLLEGE CHEMISTRY	4
CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	1
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
Social Science		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		

	Credits	15
<b>Spring</b>		
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
BIOL 2140	GENETICS	4
CHEM 2210	FUNDAMENTALS OF ORGANIC CHEMISTRY	4
CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	1
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Apply to Educator Preparation Program March 1 or June 1 deadline		

	Credits	15
<b>Junior</b>		
<b>Fall</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
BIOL 4230	EVOLUTION	3
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
or BIOL 3340	or ECOLOGY	
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

	Credits	15
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
BIOL 3830	BIOLOGY OF PATHOGENIC MICROORGANISMS	3
PHYS 1050	INTRODUCTION TO PHYSICS	4
PHYS 1054	INTRODUCTION TO PHYSICS LABORATORY	1
Advising appointment for fall: February - March		

	Credits	14
<b>Summer</b>		
Social Science		3
Electives Required for Degree*		5
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
^May be taken in summers or other semesters before Clinical Practice. Talk to your advisor about how many credit hours of electives you need for your degree.		

	Credits	8
--	---------	---

**Senior****Fall**

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Humanities/Fine Arts (Global Diversity)		3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Take Praxis II- Biology: Content Knowledge #5235		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

<b>Credits</b>	<b>13</b>
----------------	-----------

**Spring**

Clinical Practice	12
Apply for graduation	

<b>Credits</b>	<b>12</b>
----------------	-----------

<b>Total Credits</b>	<b>120</b>
----------------------	------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on the 2021-2022 catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Business, Marketing, Information Technology (BMIT) (6-12) Endorsement

Code	Title	Credits
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
MGMT 1500	INTRODUCTION TO BUSINESS	3
MGMT 3490	MANAGEMENT	3

MKT 3310	PRINCIPLES OF MARKETING	3
MKT 3200	BUSINESS COMMUNICATIONS	3
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	3
TED 4850	COORDINATION TECHNIQUES IN WORK-BASED LEARNING	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
Select three of the following five courses		9
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
MGMT 4030	HUMAN RESOURCE MANAGEMENT	
MGMT 4040	ORGANIZATIONAL BEHAVIOR	
MKT 3100	PROFESSIONAL SELLING	
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	

<b>Total Credits</b>	<b>48</b>
----------------------	-----------

**Freshman****Fall**

ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
MGMT 1500	INTRODUCTION TO BUSINESS	3
Humanities and Fine Arts		3
Humanities and Fine Arts		3

Attend Welcome Week events; other campus events
---

Advising appointment for spring: Sept. - Oct.
---

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year
---

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1370 or MATH 1930	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS or CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3-4

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Humanities and Fine Arts with Global Diversity		3

MATH 1930 additional pre-requisites
-------------------------------------

MUST establish 2.5+ NU GPA in order to enroll in TED 2100 for fall semester
---

Advising appointment for fall: February - March
---

Join a student organization
-----------------------------

Make a plan to take the Praxis Core
-------------------------------------

<b>Credits</b>	<b>15-16</b>
----------------	--------------

**Sophomore****Fall**

TED 2100	EDUCATIONAL FOUNDATIONS	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
MKT 3200	BUSINESS COMMUNICATIONS	3
Natural/Physical Science with Lab		4-5

Advising appointment for spring: Sept. - Oct.
---

Identify professional organization to get involved with. Begin resume development.

<b>Credits</b>		<b>16-17</b>
<b>Spring</b>		
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
MGMT 3490	MANAGEMENT	3
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
MKT 3310	PRINCIPLES OF MARKETING	3
Apply to Educator Preparation Program March 1 or June 1 deadline.		
Advising appointment for fall: February - March		

<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
TED 4850	COORDINATION TECHNIQUES IN WORK-BASED LEARNING	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
Choose from required options: Choice #1 (of 3) <sup>1</sup>		3
Choose from required options: Choice #2 (of 3) <sup>1</sup>		3
Advising appointment for fall: February - March		
Class times and pre requisites will vary by the student's choice.		

<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (BUSINESS)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (INFORMATION TECHNOLOGY)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
Choose from required options: Choice #3 (of 3) <sup>1</sup>		3
*Elective		2
*Elective - May need elective depending on which math course and natural science taken. Please discuss this with your academic advisor. This can be taken any semester, including summers, BEFORE Clinical Practice		
Take Praxis II- Business Education: Content Knowledge #5101		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

**Credits** **17**

## Spring

Clinical Practice	12
Apply for graduation	

<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120-122</b>

<sup>1</sup> Selection Area: Chose three of the five options (9 credit hours) ENTR 3710, MGMT 4030, SCMT 3410, MGMT 4040, or MKT 3100

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

## Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on the 2021-2022 University of Nebraska undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** Cumulative 2.5 GPA for Educator Preparation Program initial acceptance, cumulative 2.75 GPA for formal admission and graduation.

#Professional education course: a grade of C or higher is required to pass the class.

**Graduation Requirements:** Students must have a cumulative GPA of at least 2.75, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

# Chemistry (7-12) Endorsement

<b>Code</b>	<b>Title</b>	<b>Credits</b>
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	4

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
<b>Total Credits</b>		<b>52</b>

**Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1950	CALCULUS I	5
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
Social Science		3

\*Student must test into MATH 1950 Calculus I based off of ACT Math scores or Accuplacer exam, or bring transfer credit for MATH 1320 & 1330 or MATH 1340. These additional math courses may be required before MATH 1950 if the student does not test into it.

Attend Welcome Week events; other campus events

Advising appointment for spring: Sept. - Oct.

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

**Credits** **15**

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1960	CALCULUS II	5
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core

**Credits** **15**

**Sophomore**

<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
Elective for Degree		2
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>14</b>

**Spring**

TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
----------	---	---

CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
Advising appointment for fall: February - March		
Apply to Educator Preparation Program March 1 or June 1 deadline		
<b>Credits</b>		<b>15</b>

**Junior****Fall**

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
CHEM 3350 & CHEM 3354	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY I LABORATORY	4
Humanities and Fine Arts		3

Advising appointment for spring: Sept. - Oct.

MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

**Credits** **16**

**Spring**

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
*Social Science		3

\*May be taken in the summer to lighten course load

Advising appointment for fall: February - March

**Credits** **17**

**Senior****Fall**

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Social Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts with Global Diversity		3

Take Praxis II- Chemistry: Content Knowledge #5245

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

**Credits** **16**

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		

**Credits** **12**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual

sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Language Arts/English (7-12) Endorsement

Code	Title	Credits
JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
JMC 2150	NEWS WRITING AND REPORTING	3
CMST 2010	INTERPERSONAL COMMUNICATION	3
CMST 2120	ARGUMENTATION AND DEBATE	3
THEA 1010	THEATRE APPRECIATION	3
THEA 1300	ACTING I	3
TED 3750	TEACHING GRAMMAR IN CONTEXT	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
ENGL 2110	INTRODUCTION TO CREATIVE NONFICTION WRITING	3
or ENGL 3130	AMERICAN NONFICTION	
Select one of the following		3
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 4340	SHAKESPEARE	
ENGL 2450	AMERICAN LITERATURE I	3
or ENGL 2460	AMERICAN LITERATURE II	
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	3
or ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE (Great Works of American Literature or Great Works of British Literature)	3
ENGL 4750	COMPOSITION THEORY & PEDAGOGY	3

or ENGL 4730	CONTEMPORARY RHETORIC	
Select from ENGL course above or one of the following		3
ENGL 4240	TEACHING LATINO LITERATURE	
ENGL 4860	THE MODERN FAMILIAR ESSAY	
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE (Teaching Native American Literature)	

**Total Credits 49**

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
THEA 1010	THEATRE APPRECIATION	3
CMST 2010	INTERPERSONAL COMMUNICATION	3
Quantitative Literacy		3
Natural/Physical Science		3
MUST establish 2.5+ NU GPA in order to enroll in TED 2200 for spring semester		
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits 15**

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
THEA 1300	ACTING I	3
Natural/Physical Science with Lab		4
Social Science		3
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		

**Credits 16**

#### Sophomore

Fall		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	3
or ENGL 2320		
or ENGL 4340	or INTRODUCTION TO BRITISH LITERATURE II	
	or SHAKESPEARE	
CMST 2120	ARGUMENTATION AND DEBATE	3
Social Science with Global Diversity		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
Apply to Educator Preparation Program October 1 deadline		

**Credits 15**

#### Spring

JMC 2100	MEDIA WRITING LABORATORY	3
JMC 2104	MEDIA WRITING LECTURE	1
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	3
or ENGL 2420	or CRITICAL APPROACHES TO LANGUAGE STUDIES	
ENGL 2450	AMERICAN LITERATURE I	3
or ENGL 2460	or AMERICAN LITERATURE II	

ENGL 2110 or ENGL 3130	INTRODUCTION TO CREATIVE NONFICTION WRITING or AMERICAN NONFICTION	3
Elective		3
Advising appointment for fall: February - March		
JMC 2100 & 2104 must be taken together at the same time.		
<b>Credits</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
JMC 2150	NEWS WRITING AND REPORTING	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov. 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 3750	TEACHING GRAMMAR IN CONTEXT	3
TED 4660	YOUNG ADULT LITERATURE	3
ENGL 4750 or ENGL 4730	COMPOSITION THEORY & PEDAGOGY or CONTEMPORARY RHETORIC	3
Elective		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>18</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE	3
ENGL Elective: choose one ENGL from above or ENGL 4240, ENGL 4860, OR ENGL 4960		3
Elective		3
Take Praxis II Content Exam- Language Arts # 5039		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>122</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Secondary English (7-12) with ESL Supplemental Endorsement

Code	Title	Credits
ENGL 4750 or ENGL 4730	COMPOSITION THEORY & PEDAGOGY CONTEMPORARY RHETORIC	3
ENGL 4860	THE MODERN FAMILIAR ESSAY	3
TED 3750	TEACHING GRAMMAR IN CONTEXT	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
Select one of the following:		3
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 4340	SHAKESPEARE	
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL 2450 or ENGL 2460	AMERICAN LITERATURE I AMERICAN LITERATURE II	3
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE (Great Works of American Literature or Great Works of British Literature)	3
Select two of the following, one course must be 4000 level:		6
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES	
ENGL 3150	FORM AND STYLE IN CREATIVE NONFICTION	
ENGL 3280	IRISH LITERATURE I	
ENGL 3290	IRISH LITERATURE II	
ENGL 3400	JUNIOR TOPICS IN BRITISH/IRISH/ ANGLOPHONE LITERATURE	
ENGL 4230	Latino Literature	
ENGL 4240	TEACHING LATINO LITERATURE	

ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	
ENGL 4260	WOMEN OF COLOR WRITERS	
Select one of the following electives:		3
ENGL 2250	THE SHORT STORY	
ENGL/BLST 2260	BLACK SHORT STORY	
ENGL 2280	INTRODUCTION TO LANGUAGE	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	
ENGL ELECTIVE - Choose one from the selected above courses		3
<b>English as a Second Language:</b>		
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
LLS 1000 or LLS 1010	LATIN AMERICA: AN INTRODUCTION INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 3050	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
<b>Total Credits</b>		<b>54</b>

## Secondary English (7-12) with Additional Subject Endorsement

Code	Title	Credits
ENGL 4750 or ENGL 4730	COMPOSITION THEORY & PEDAGOGY CONTEMPORARY RHETORIC	3
ENGL 4860	THE MODERN FAMILIAR ESSAY	3
TED 3750	TEACHING GRAMMAR IN CONTEXT	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
Select one of the following:		3
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	
ENGL 4340	SHAKESPEARE	
ENGL 2410 or ENGL 2420	CRITICAL APPROACHES TO LITERATURE CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL 2450 or ENGL 2460	AMERICAN LITERATURE I AMERICAN LITERATURE II	3
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE (Great Works of American Literature or Great Works of British Literature)	3
Select two of the following, one must be 4000 level:		6
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES	
ENGL 3150	FORM AND STYLE IN CREATIVE NONFICTION	
ENGL 3280	IRISH LITERATURE I	
ENGL 3290	IRISH LITERATURE II	

ENGL 3400	JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE	
ENGL 4230	Latino Literature	
ENGL 4240	TEACHING LATINO LITERATURE	
ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	
ENGL 4260	WOMEN OF COLOR WRITERS	
Select one of the following electives:		3
ENGL 2250	THE SHORT STORY	
ENGL/BLST 2260	BLACK SHORT STORY	
ENGL 2280	INTRODUCTION TO LANGUAGE	
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE	
ENGL 2490	LATINO/A LITERATURE	
ENGL/WGST 4250	WOMEN'S STUDIES IN LITERATURE	
ENGL Elective- Choose one from the selected above courses		3
<b>Total Credits</b>		<b>39</b>

## Secondary English (7-12) with Inclusive Practices Endorsement

Code	Title	Credits
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>12</b>

## World Language - French (7-12) Endorsement

Code	Title	Credits
FREN 3030	FRENCH CONVERSATION	3
FREN 3040	FRENCH GRAMMAR AND COMPOSITION	3
FREN 3060	READINGS IN FRENCH	3
FREN 4030	ADVANCED FRENCH CONVERSATION	3
FREN 4040	ADVANCED FRENCH COMPOSITION AND STYLISTICS	3
Select one of the following:		3
FREN 3050	INTRODUCTION TO TRANSLATION	
FREN 3160	INTRODUCTION TO FRENCH LITERATURE	
FREN 4150	CONTEMPORARY FRENCH NOVEL	
FREN 4170	CONTEMPORARY FRENCH THEATER	
FREN 4860	MODERN FRENCH WOMEN AUTHORS	
FREN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
FREN 3020 or FREN 4970	SPECIAL TOPICS IN FRENCH PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	3
FREN 3370 or FREN 4960	FRENCH CIVILIZATION PRO-SEMINAR: CULTURE AND SOCIETY	3
<b>Required French Electives</b>		

Select 6 hours of FREN 3000/4000-level courses	6
--	---

<b>Total Credits</b>	<b>30</b>
----------------------	-----------

**Freshman**

<b>Fall</b>	<b>Credits</b>
-------------	----------------

ENGL 1150	ENGLISH COMPOSITION I	3
-----------	-----------------------	---

FREN 1110	ELEMENTARY FRENCH I	5
-----------	---------------------	---

Quantitative Literacy	3
-----------------------	---

Social Science	3
----------------	---

MUST establish 2.5+ NU GPA in order to enroll in TED 2200 for spring semester

Attend Welcome Week events; other campus events

Advising appointment for spring: Sept. - Oct.

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

<b>Credits</b>	<b>14</b>
----------------	-----------

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
-----------	------------------------	---

CMST 1110	PUBLIC SPEAKING FUNDS	3
-----------	-----------------------	---

Natural/Physical Science with Lab	4
-----------------------------------	---

FREN 1120	ELEMENTARY FRENCH II	5
-----------	----------------------	---

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core

<b>Credits</b>	<b>15</b>
----------------	-----------

**Sophomore****Fall**

TED 2100	EDUCATIONAL FOUNDATIONS	3
----------	-------------------------	---

FREN 2110	INTERMEDIATE FRENCH I	3
-----------	-----------------------	---

TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
----------	--	---

Social Science	3
----------------	---

Humanities and Fine Arts with Global Diversity	3
--	---

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

Apply to Educator Preparation Program October 1 deadline

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

FREN 2120	INTERMEDIATE FRENCH II	3
-----------	------------------------	---

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
----------	---	---

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
----------	---------------------------------	---

Humanities and Fine Arts	3
--------------------------	---

Elective for Degree	1
---------------------	---

Advising appointment for fall: February - March

MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

<b>Credits</b>	<b>16</b>
----------------	-----------

**Junior****Fall**

FREN 3030	FRENCH CONVERSATION	3
-----------	---------------------	---

FREN 3040	FRENCH GRAMMAR AND COMPOSITION	3
-----------	--------------------------------	---

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
----------	--------------------------------	---

TED 3690	LITERACY AND LEARNING	3
----------	-----------------------	---

FREN Literature and Film: choose one from options <sup>1</sup>	3
--	---

Natural/Physical Science	3
--------------------------	---

Advising appointment for spring: Sept. - Oct.

<b>Credits</b>	<b>18</b>
----------------	-----------

**Spring**

FREN 4030	ADVANCED FRENCH CONVERSATION	3
-----------	------------------------------	---

FREN 3020 or FREN 4970	SPECIAL TOPICS IN FRENCH or PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	3
---------------------------	--	---

FREN 3370 or FREN 4960	FRENCH CIVILIZATION or PRO-SEMINAR: CULTURE AND SOCIETY	3
---------------------------	--	---

FREN 3060	READINGS IN FRENCH	3
-----------	--------------------	---

Social Science	3
----------------	---

Advising appointment for fall: February - March

<b>Credits</b>	<b>15</b>
----------------	-----------

**Senior****Fall**

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
----------	-------------------------------------	---

SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
-----------	---	---

FREN 4040	ADVANCED FRENCH COMPOSITION AND STYLISTICS	3
-----------	--	---

FREN Elective 3000/4000 level	3
-------------------------------	---

FREN Elective 3000/4000 level	3
-------------------------------	---

Take Praxis II- World Language- French # 5174

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

<b>Credits</b>	<b>15</b>
----------------	-----------

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for graduation

<b>Credits</b>	<b>12</b>
----------------	-----------

<b>Total Credits</b>	<b>120</b>
----------------------	------------

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## World Language - German (7-12) Endorsement

Code	Title	Credits
GERM 3030	GERMAN CONVERSATION	3
GERM 3040	GERMAN GRAMMAR & COMPOSITION	3
GERM 3060	READINGS IN GERMAN	3
GERM 4040	ADVANCED COMPOSITION AND STYLISTICS	3
Select one of the following:		3
GERM 3650	INTRODUCTION TO GERMAN FILM	
GERM 4150	INTRODUCTION TO GERMAN LITERATURE	
GERM 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
Select two of the following:		6
GERM 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	
GERM 3580	GERMAN FOR PROFESSIONAL LIFE	
GERM 4210	TRANSLATING GERMAN	
Select one:		3
GERM 3250	CONTEMPORARY CULTURE IN GERMAN SPEAKING COUNTRIES	
GERM 3370	GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD	
GERM 3380	GERMAN HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT	
GERM 4960	PRO-SEMINAR: SOCIETY AND CULTURE	
<b>Required German Electives</b>		
Select 6 hours of GERM 3000/4000-level courses.		6
<b>Total Credits</b>		<b>30</b>

### Freshman

Fall	Credits
ENGL 1150 ENGLISH COMPOSITION I	3
Quantitative Literacy	3
GERM 1110 ELEMENTARY GERMAN I	5
Social Science	3
MUST establish 2.5+ NU GPA in order to enroll in TED 2200 for spring semester	
Attend Welcome Week events; other campus events	
Advising appointment for spring: Sept. - Oct.	
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year	
<b>Credits</b>	<b>14</b>

### Spring

ENGL 1160 ENGLISH COMPOSITION II	3
CMST 1110 PUBLIC SPEAKING FUNDS	3
GERM 1120 ELEMENTARY GERMAN II	5

Natural/Physical Science with Lab	4
Advising appointment for fall: February - March	
Join a student organization	
Make a plan to take the Praxis Core	

**Credits 15**

### Summer

Humanities and Fine Arts	3
Social Science	3

**Credits 6**

### Sophomore

#### Fall

TED 2100 EDUCATIONAL FOUNDATIONS	3
GERM 2110 INTERMEDIATE GERMAN I	3
TED 2200 HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3

Natural/Physical Science without lab	3
Social Science	3

Advising appointment for spring: Sept. - Oct.  
Identify professional organization to get involved with. Begin resume development.

Apply to Educator Preparation Program October 1 deadline

**Credits 15**

### Spring

GERM 2120 INTERMEDIATE GERMAN II	3
TED 2380 DEVELOPMENT AND LEARNING IN ADOLESCENCE	3

TED 2400 PLANNING FOR EFFECTIVE TEACHING	6
--	---

Humanities and Fine Arts	3
--------------------------	---

Advising appointment for fall: February - March  
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

**Credits 15**

### Summer

GERM 3040 GERMAN GRAMMAR & COMPOSITION	3
GERM 3250 CONTEMPORARY CULTURE IN GERMAN SPEAKING COUNTRIES	3
or GERM 3370 or GERM 3380	or GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD
	or GERMAN HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT

**Credits 6**

### Junior

#### Fall

GERM 4040 ADVANCED COMPOSITION AND STYLISTICS	3
GERM 3650 INTRODUCTION TO GERMAN FILM	3
GERM 3030 GERMAN CONVERSATION	3
TED 3550 SECONDARY CLASSROOM MANAGEMENT	3
TED 3690 LITERACY AND LEARNING	3

Advising appointment for spring: Sept. - Oct.

**Credits 15**

### Spring

GERM 3060 READINGS IN GERMAN	3
GERM 4040 ADVANCED COMPOSITION AND STYLISTICS	3

GERM 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	3
GERM 3580 or GERM 4210	GERMAN FOR PROFESSIONAL LIFE or TRANSLATING GERMAN	3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>12</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
GERM Elective 3000/4000 level		3
GERM Elective 3000/4000 level		3
Take Praxis II- EECIA #5017		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>12</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>122</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Mathematics (6-12) Endorsement

Code	Title	Credits
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 3640	MODERN GEOMETRY	3
MATH 3850	HISTORY OF MATHEMATICS	3
MATH 4030	MODERN ALGEBRA	3
MATH 2200	MATHEMATICAL COMPUTING I	3
MATH 3200	MATHEMATICAL COMPUTING II	3
or STAT 4410	INTRODUCTION TO DATA SCIENCE	
MATH/CSCI 4560	NUMBER THEORY & CRYPTOGRAPHY	3
or MATH 3230	INTRODUCTION TO ANALYSIS	
MATH/CSCI 3100	APPLIED COMBINATORICS	3
or MATH 2350	DIFFERENTIAL EQUATIONS	
STAT 3000	STATISTICAL METHODS I	3
or MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I	
<b>Total Credits</b>		<b>41</b>

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1950	CALCULUS I	5
Social Science		3
Humanities and Fine Arts		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits** **14**

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1960	CALCULUS II	5
Natural/Physical Science with Lab		4-5
If wanting to take CSCI 1400 in the fall, then take CSCI 1200 for Natural Science credit.		
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
MUST establish 2.5+ NU GPA in order to enroll in TED 2100 for fall semester		

**Credits** **15-16**

#### Sophomore

Fall		Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
MATH 2200	MATHEMATICAL COMPUTING I	3
or CIST 1400	or INTRODUCTION TO COMPUTER SCIENCE I	
Social Science		3

Must have taken CSCI 1200 prior for Natural Science or elective credit.

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

**Credits** **16**

### Spring

TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
MATH 3850	HISTORY OF MATHEMATICS	3
MATH 4560 or MATH 3230	NUMBER THEORY & CRYPTOGRAPHY or INTRODUCTION TO ANALYSIS	3
Humanities and Fine Arts		3
Social Science		3
Elective for Degree		3
May be taken over the summer, amount of credits depends on previous courses- please talk to your advisor.		
Advising appointment for fall: February - March		
Apply to Educator Preparation Program by March 1 or June 1 deadline.		

**Credits** **18**

### Junior Fall

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MATH 4030	MODERN ALGEBRA	3
MATH 2350 or MATH 3100	DIFFERENTIAL EQUATIONS or APPLIED COMBINATORICS	3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits** **15**

### Spring

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Natural/Physical Science without lab		3
Advising appointment for fall: February - March		

**Credits** **12**

### Senior Fall

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
MATH 3640	MODERN GEOMETRY	3
STAT 3000 or MATH 4740	STATISTICAL METHODS I or INTRODUCTION TO PROBABILITY AND STATISTICS I	3
MATH 3200 or STAT 4410	MATHEMATICAL COMPUTING II or INTRODUCTION TO DATA SCIENCE	3
Humanities and Fine Arts with Global Diversity		3
Elective for Degree		3
Take Praxis II- Math Content Knowledge #5161		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		

**Credits** **18**

### Spring

Clinical Practice	12
Apply for graduation	

**Credits** **12**

**Total Credits** **120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information found in this document is based on the 2021-2022 catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Middle Level (5-9) Endorsement

Candidates are required to complete two teaching content areas as part of the middle grades endorsement program. Candidates must select their two content subjects from the areas of: mathematics, science, social studies, and language arts. **One of the choices must be either mathematics or science.** All content areas will be a minimum of 24 credit hours each. (See an academic adviser for a listing of the required courses for each teaching content area.) Each content area will also include a course in methods for that particular discipline. Clinical Practice is required and will be completed in a middle grades setting.

Code	Title	Credits
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 4660	YOUNG ADULT LITERATURE	3
TED 4370	TEACHING AT THE MIDDLE LEVEL	3
TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
<b>Total Credits</b>		<b>15</b>

## Middle Level Math and Social Science

### Freshman

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1220	COLLEGE ALGEBRA	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
HIST 1000	WORLD CIVILIZATIONS I	3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	3
HIST 1110	AMERICAN HISTORY TO 1865	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for fall semester		
Advising appointment for fall: February - March		
Apply to Educator Preparation Program June 1 deadline		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>15</b>

### Sophomore

<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
MATH 1330	TRIGONOMETRY	3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	3
Natural/Physical Science with Lab		4
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
<b>Credits</b>		<b>16</b>

### Spring

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
MATH 1950	CALCULUS I	5
Advising appointment for fall: February - March		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>17</b>

### Junior

<b>Fall</b>		
TED 4370	TEACHING AT THE MIDDLE LEVEL	3

MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
MATH 3850	HISTORY OF MATHEMATICS	3
Natural/Physical Science without lab		3
Social Science		3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>18</b>

### Spring

TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>

### Senior

<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (MATH)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SOCIAL SCIENCE)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
STAT 1100 or STAT 1530	DATA LITERACY AND VISUALIZATION or ELEMENTARY STATISTICS	3
Social Science		3
Take Praxis II-Middle Level Mathematics #5169, Middle Level Social Sciences #5089		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>

### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>123</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found

at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Middle Level Science and Social Science

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
MATH 1200	QUANTITATIVE LITERACY	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
HIST 1000	WORLD CIVILIZATIONS I	3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits 15**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
PSCI 3040	GOVERNMENT AND POLITICS OF NEBRASKA	3
HIST 1110	AMERICAN HISTORY TO 1865	3
Social Science		3

MUST establish 2.5+ NU GPA in order to enroll in TED 2100 and TED 2200 for fall semester

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core

**Credits 15**

### Sophomore

Fall		Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	5
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
Humanities/ Fine Arts (not HIST)		3

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

Apply to EPP program by Oct. 1 deadline

Credits		17
<b>Spring</b>		
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
Advising appointment for fall: February - March		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits 15**

### Junior

#### Fall

TED 4370	TEACHING AT THE MIDDLE LEVEL	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
PHYS 1030 & PHYS 1034	PHYSICS OF EVERYDAY LIFE and PHYSICS OF EVERYDAY LIFE LABORATORY	4
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
Advising appointment for spring: Sept. - Oct.		

**Credits 15**

#### Spring

TED 4120	READING & WRITING IN ELEMENTARY CONTENT AREAS	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	4
Advising appointment for fall: February - March		

**Credits 13**

### Senior

#### Fall

TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SCIENCE)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SOCIAL SCIENCE)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
Social Science		3

Take Praxis II-Middle Level Science #5435, Middle Level Social Sciences #5089

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

**Credits 18**

#### Spring

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		

**Credits 12**

**Total Credits 120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

##### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

##### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Music (P-12) Endorsement

Contact the School of Music (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/music/>) for Music Education

## Physics (7-12) Endorsement

Code	Title	Credits
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
PHYS 2130	MODERN PHYSICS	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS	3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
PHYS 3450 & PHYS 3504	CLASSICAL MECHANICS and EXPERIMENTAL PHYSICS I	4
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5

MATH 1970	CALCULUS III	4
<b>Total Credits</b>		<b>56</b>

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
MATH 1950	CALCULUS I	5
Social Science		3

Student must test into MATH 1950 Calculus one based off of AP Math scores or Accuplacer exam, or bring transfer credit for MATH 1320 & 1330 or MATH 1340. These additional math courses may be required before MATH 1950 if the student does not test into it.

Advising appointment for spring: Sept. - Oct.

Attend welcome week events.

	<b>Credits</b>	<b>15</b>
--	----------------	-----------

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	5
CMST 1110	PUBLIC SPEAKING FUNDS	3
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core MUST establish 2.5+ NU GPA (by the end of summer courses) in order to enroll in TED 2100 and TED 2200 for fall semester

Begin resume development.

	<b>Credits</b>	<b>16</b>
--	----------------	-----------

#### Summer

PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
		4

MATH 1970	CALCULUS III	4
-----------	--------------	---

	<b>Credits</b>	<b>13</b>
--	----------------	-----------

#### Sophomore

Fall		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS	3
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
Humanities and Fine Arts		3

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

Apply to Educator Preparation Program for October 1 deadline

	<b>Credits</b>	<b>15</b>
--	----------------	-----------

#### Spring

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4

Advising appointment for fall: February - March  
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

<b>Credits</b>		<b>13</b>
<b>Junior</b>		
<b>Fall</b>		
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
PHYS 2130	MODERN PHYSICS	4
Social Science		3
Humanities and Fine Arts		3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
PHYS 3450 & PHYS 3504	CLASSICAL MECHANICS and EXPERIMENTAL PHYSICS I	4
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Advising appointment for fall: February - March		
<b>Credits</b>		<b>14</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Take Praxis II- Physics: Content Knowledge #5265		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>126</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on the 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found

at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** Cumulative 2.5 GPA for Educator Preparation Program initial acceptance, cumulative 2.75 GPA for formal admission and graduation.

#Professional education course: a grade of C or higher is required to pass the class.

**Graduation Requirements:** Students must have a cumulative GPA of at least 2.75, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

## Physical Education (P-6, 7-12) Endorsement

<b>Code</b>	<b>Title</b>	<b>Credits</b>
KINS 1800	FITNESS FOR LIVING	3
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
KINS 2310	TEACHING GAMES 1	3
KINS 2320	TEACHING GAMES 2	3
KINS 2330	OUTDOOR/ADVENTURE ACTIVITIES	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
KINS 2800	MOTOR LEARNING	3
PHHB 3030	FIRST AID	3
KINS 3060	METHODS OF PRESCHOOL AND PRIMARY SCHOOL PHYSICAL EDUCATION	3
KINS 3300	TEACHING DANCE IN THE SCHOOLS	3
KINS 3350	TEACHING & CURRICULUM DEVELOPMENT IN ELEMENTARY PHYSICAL EDUCATION	3
KINS 4000	TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION	3
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
BMCH 4630 or KINS 4100	BIOMECHANICS APPLIED KINESIOLOGY	3
KINS 4930 or HEKI 2100	MEASUREMENT AND EVALUATION IN KINESIOLOGY STATISTICS IN HEALTH AND KINESIOLOGY	3
KINS 4940	PHYSIOLOGY OF EXERCISE	3
PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	1
Physical Education Activity Courses: Select one credit from any: 111 or 112.		1
<b>Total Credits</b>		<b>53</b>

#### Freshman

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
Humanities and Fine Arts		3
Social Science		3
Social Science with Global Diversity		3

Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
Natural/Physical Science		3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>15</b>
<b>Summer</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
<b>Credits</b>		<b>6</b>
<b>Sophomore</b>		
<b>Fall</b>		
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
KINS 2310	TEACHING GAMES 1	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
KINS 1800	FITNESS FOR LIVING	3
Apply to Educator Preparation Program by Oct. 1 deadline		
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
KINS 2320	TEACHING GAMES 2	3
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
Advising appointment for fall: February - March		
Identify professional organization to get involved with. Begin resume development.		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>14</b>
<b>Summer</b>		
KINS 2800	MOTOR LEARNING	3
PHHB 3030	FIRST AID (OR CPR Certification)	3
<b>Credits</b>		<b>6</b>
<b>Junior</b>		
<b>Fall</b>		
KINS 3060	METHODS OF PRESCHOOL AND PRIMARY SCHOOL PHYSICAL EDUCATION	3
KINS 3300	TEACHING DANCE IN THE SCHOOLS	3
Natural/ Physical Science with lab		4
PEA 111A-Z		1

Advising appointment for spring: Sept. - Oct. SPRING		
<b>Credits</b>		<b>11</b>
<b>Spring</b>		
KINS 2330	OUTDOOR/ADVENTURE ACTIVITIES	3
KINS 3350	TEACHING & CURRICULUM DEVELOPMENT IN ELEMENTARY PHYSICAL EDUCATION	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
KINS 4940	PHYSIOLOGY OF EXERCISE	3
Social Science		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
KINS 4100	APPLIED KINESIOLOGY	3
or BMCH 4630	or BIOMECHANICS	
KINS 4000	TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION	3
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	1
Apply for Clinical Practice at beginning of fall semester		
Advising appointment for spring: Sept. - Oct.		
Take Praxis II- Physical Education: Content Knowledge # 5091		
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
TED 4640	K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY	12
Apply for graduation		
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 MINIMUM NU GPA

## Physical Education (7-12) and Health (7-12) Endorsement

Candidates seeking secondary education teacher certification with endorsements in physical education (7-12) and health education (7-12), must complete the university general education requirements, the professional education sequence, and the following endorsement area requirements.

### Requirements

Code	Title	Credits
<b>Professional Education Sequence</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
<b>Physical Education (7-12) Endorsement</b>		
KINS 1800	FITNESS FOR LIVING	3
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
KINS 2310	TEACHING GAMES 1	3
KINS 2320	TEACHING GAMES 2	3
KINS 2330	OUTDOOR/ADVENTURE ACTIVITIES	3
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
KINS 2800	MOTOR LEARNING	3
KINS 3300	TEACHING DANCE IN THE SCHOOLS	3
KINS 4000	TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION	3
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
PHHB 3030	FIRST AID	3
BMCH 4630	BIOMECHANICS	3
or KINS 4100	APPLIED KINESIOLOGY	
KINS 4940	PHYSIOLOGY OF EXERCISE	3
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	1
Select 1 credit hour from: PEA 111A - PEA 111Z or PEA 112A - PEA 112S		1
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
<b>Total Credits</b>		<b>77</b>

### Health Education 7-12 Endorsement

The health education program is designed to prepare candidates for health education positions in secondary schools. The following hours are required for this endorsement:

Code	Title	Credits
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
PHHB 2070	DRUG AWARENESS	3
PHHB 2310	HEALTHFUL LIVING	3
PHHB 2850	STRESS MANAGEMENT	3
PHHB 3030	FIRST AID	3
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
PHHB 4000	METHODS AND MATERIALS IN HEALTH EDUCATION	3
PHHB 4060	SCHOOL HEALTH PROGRAMS	3
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
<b>Total Credits</b>		<b>37</b>

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
Humanities and Fine Arts		3
Social Science with Global Diversity		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		
Credits		15

Spring		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
PHHB 2070	DRUG AWARENESS	3
Natural/Physical Science without lab		3
Humanities and Fine Arts		3
Credits		15

### Summer

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		
<b>Credits</b>		<b>6</b>

### Sophomore

Fall		
KINS 1800	FITNESS FOR LIVING	3
KINS 2430	FOUNDATIONS IN KINESIOLOGY	3
KINS 2310	TEACHING GAMES 1	3
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	4
Apply to Educator Preparation Program by Oct. 1 deadline		
Advising appointment for spring: Sept. - Oct.		
Credits		13

**Spring**

KINS 2320	TEACHING GAMES 2	3
KINS 2220	THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING	2
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
Social Science		3
Advising appointment for fall: February - March		
Identify professional organization to get involved with. Begin resume development.		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		

**Credits** **17**

**Summer**

KINS 2800	MOTOR LEARNING	3
PHHB 3030	FIRST AID	3
PHHB 2310	HEALTHFUL LIVING	3
PHHB 2850	STRESS MANAGEMENT	3

**Credits** **12**

**Junior****Fall**

KINS 3300	TEACHING DANCE IN THE SCHOOLS	3
Natural/ Physical Science with lab		4
PEA 111A-Z		1
PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
Advising appointment for spring: Sept. - Oct.		

**Credits** **17**

**Spring**

KINS 2330	OUTDOOR/ADVENTURE ACTIVITIES	3
PHHB 4000	METHODS AND MATERIALS IN HEALTH EDUCATION	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
KINS 4940	PHYSIOLOGY OF EXERCISE	3
Advising appointment for fall: February - March		

**Credits** **12**

**Summer**

KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
Humanities and Fine Arts		3

**Credits** **6**

**Senior****Fall**

KINS 4000	TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION	3
HEKI 2100	STATISTICS IN HEALTH AND KINESIOLOGY	3
KINS 4100 or BMCH 4630	APPLIED KINESIOLOGY or BIOMECHANICS	3
PHHB 4060	SCHOOL HEALTH PROGRAMS	3
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	3

PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	1
Apply for Clinical Practice at beginning of fall semester		
Advising appointment for spring: Sept. - Oct.		
Take Praxis II- Physical Education: Content Knowledge # 5091 and Health Education # 5551		

**Credits** **16**

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
Apply for graduation		

**Credits** **12**

**Total Credits** **141**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 MINIMUM NU GPA

## Science (7-12) Endorsement

Code	Title	Credits
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	5
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	5

PHYS 1350	PRINCIPLES OF ASTRONOMY	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
GEOL 1100 & GEOL 1104	EARTH SYSTEM SCIENCE and EARTH SYSTEM SCIENCE LAB	4
MATH 1220	COLLEGE ALGEBRA	3

**Total Credits 47**

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220 or MATH 1320	COLLEGE ALGEBRA or PRE-CALCULUS ALGEBRA	3
BIOL 1450	BIOLOGY I	5
Social Science		3

Attend Welcome Week events; other campus events

Advising appointment for spring: Sept. - Oct.

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

Consider taking MATH 1320:Pre-Calc Algebra instead of MATH 1220 College Algebra to satisfy pre-requisites of endorsement coursework

**Credits 14**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
BIOL 1750	BIOLOGY II	5
MATH 1320	PRE-CALCULUS ALGEBRA	3

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core

MUST establish 2.5+ NU GPA (by the end of summer courses) in order to enroll in TED 2100 for fall semester

**Credits 14**

### Summer

Humanities and Fine Arts	3
Social Science	3

**Credits 6**

### Sophomore

Fall		Credits
TED 2100	EDUCATIONAL FOUNDATIONS	3
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	5
Humanities and Fine Arts with Global Diversity		3

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

**Credits 15**

### Spring

TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	5
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4

Social Science	3
----------------	---

Advising appointment for fall: February - March

Apply to Educator Preparation Program for March 1 or June 1 deadline

**Credits 15**

### Junior

#### Fall

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
PHYS 1350	PRINCIPLES OF ASTRONOMY	3
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4

Advising appointment for spring: Sept. - Oct.

MUST pass PRAXIS Core by Nov. 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

**Credits 16**

#### Spring

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5

Advising appointment for fall: February - March

**Credits 11**

### Summer

BIOL 3340	ECOLOGY	4
-----------	---------	---

**Credits 4**

### Senior

#### Fall

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
GEOL 1100 & GEOL 1104	EARTH SYSTEM SCIENCE and EARTH SYSTEM SCIENCE LAB	4
Humanities and Fine Arts		3

Take Praxis II- General Science: Content Knowledge #5435

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

**Credits 13**

#### Spring

Clinical Practice	12
-------------------	----

Apply for graduation

**Credits 12**

**Total Credits 120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for

the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information in this document is based off of the 2021-2022 catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

**GPA Requirements:** Cumulative 2.5 GPA for Educator Preparation Program initial acceptance, cumulative 2.75 GPA for formal admission and graduation.

**Graduation Requirements:** Students must have a cumulative GPA of at least 2.75, no grade lower than "C" in required courses, and no incomplete in required courses to be recommended for graduation.

## Social Science (7-12) Endorsement

Code	Title	Credits
HIST 1000	WORLD CIVILIZATIONS I	3
HIST 1010	WORLD CIVILIZATIONS II	3
HIST 1110	AMERICAN HISTORY TO 1865	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
Select 9 hours: HIST 3000/4000-level (3-hours must be in American History)		9
Anthropology		3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	
Select one of the following:		3
ANTH 3260	WORLD CULTURES AND PEOPLES	
ANTH 3910	INTRODUCTION TO PHYSICAL ANTHROPOLOGY	
or ANTH 4210	CULTURAL ANTHROPOLOGY	
Economics		
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
or ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
Geography (Select a minimum of 6 credits)		6
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY (Required )	
Select one of the following:		
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
GEOG/ECON 3130	ECONOMIC GEOGRAPHY	
Political Science (Select a minimum of 6 credits)		6
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT (Required)	
Select one of the following:		
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT	
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	
Psychology (Select a minimum of 6 credits)		6
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I (Required )	
Select one of the following:		

PSYC 3510	EDUCATIONAL PSYCHOLOGY	
PSYC 3540	ADOLESCENT PSYCHOLOGY	
Sociology (Select a minimum of 6 credits)		6
SOC 1010	INTRODUCTORY SOCIOLOGY (Required )	
Select one of the following:		
SOC 2100	SOCIAL PROBLEMS	
SOC 3840	WORLD POPULATION AND SOCIAL ISSUES	
Select one	Social Science Elective in ECON, GEOG, PSCI	3

**Total Credits 60**

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA	3
HIST 1000	WORLD CIVILIZATIONS I	3
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY	3
Natural/Physical Science		3
MUST establish 2.5+ NU GPA in order to enroll in TED 2200 for spring semester		
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits 15**

### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Natural/Physical Science with Lab		4
HIST 1010	WORLD CIVILIZATIONS II	3
Advising appointment for fall: February - March		
Join a student organization		
Make a plan to take the Praxis Core		4

**Credits 20**

### Sophomore

Fall		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
Humanities and Fine Arts (not HIST)		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
Apply to Educator Preparation Program October 1 deadline		

**Credits 15**

### Spring

SOC 1010	INTRODUCTORY SOCIOLOGY	3
----------	------------------------	---

ECON 2400	PRINCIPLES OF ECONOMICS FOR EDUCATORS	3
ANTH 3260 or ANTH 3910 or ANTH 4210	WORLD CULTURES AND PEOPLES or INTRODUCTION TO PHYSICAL ANTHROPOLOGY or CULTURAL ANTHROPOLOGY	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
Advising appointment for fall: February - March		
HIST 1110	AMERICAN HISTORY TO 1865	3
<b>Credits</b>		<b>15</b>

**Junior****Fall**

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
PSCI 2310 or PSCI 2500	INTRODUCTION TO POLITICAL THOUGHT or INTRODUCTION TO COMPARATIVE POLITICS	3
HIST 3000-4000 level		3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>15</b>

**Spring**

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
PSYC 3510 or PSYC 3540	EDUCATIONAL PSYCHOLOGY or ADOLESCENT PSYCHOLOGY	3
HIST 3000-4000 level		3
Choose one course (3 credits) from ECON, GEOG, OR PSCI		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>15</b>

**Senior****Fall**

TED 4000	SPECIAL METHODS IN THE CONTENT AREA (SOCIAL STUDIES)	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
ECON 2200 or ECON 2220	PRINCIPLES OF ECONOMICS (MICRO) or PRINCIPLES OF ECONOMICS (MACRO)	3
SOC 2100 or SOC 3840	SOCIAL PROBLEMS or WORLD POPULATION AND SOCIAL ISSUES	3
GEOG 1020 or GEOG 1050 or GEOG 3130	INTRODUCTION TO HUMAN GEOGRAPHY or HUMAN-ENVIRONMENT GEOGRAPHY or ECONOMIC GEOGRAPHY	3
HIST 3000-4000 level (must be American History)		
Take Praxis II- Social Science # 5081		
Advising appointment for spring: Sept. - Oct.		
Apply for clinical practice at beginning of fall term.		
<b>Credits</b>		<b>15</b>

**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for graduation

<b>Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>122</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## World Language - Spanish (7-12) Endorsement

Code	Title	Credits
SPAN 3060	READINGS IN SPANISH	3
SPAN 4030	ADVANCED SPANISH CONVERSATION	3
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS	3
Select One		3
SPAN 3010	SPANISH FOR HERITAGE SPEAKERS I	
SPAN 3030	SPANISH CONVERSATION	
Select one of the following:		3
SPAN 3020	SPANISH FOR HERITAGE SPEAKERS II	
SPAN 3040	SPANISH GRAMMAR AND COMPOSITION	
Select one of the following:		3
SPAN 3170	SURVEY OF SPANISH LITERATURE I	
SPAN 3180	SURVEY OF SPANISH LITERATURE II	
SPAN 4170	INTRODUCTION TO LATIN AMERICAN LITERATURES	
SPAN 4950	PRO-SEMINAR: LITERATURE AND/OR FILM	
Select one of the following:		3
SPAN 3410	SPANISH CIVILIZATION	
SPAN 3420	LATIN AMERICAN CIVILIZATION	
SPAN 4960	PRO-SEMINAR: CULTURE AND SOCIETY	

Select one of the following: 3

SPAN 4220	THE STRUCTURE OF SPANISH	
SPAN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	

Select one of the following 3

SPAN 3510	SPANISH PHONETICS AND PHONOLOGY	
SPAN 4220	THE STRUCTURE OF SPANISH	
SPAN 4970	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (Spanish Linguistics Course)	
SPAN 4080	INTRODUCTION TO HISPANIC LINGUISTICS	

**Elective** **SPAN 3000/4000** 3**Total Credits** 30**Freshman****Fall** **Credits**

ENGL 1150	ENGLISH COMPOSITION I	3
Quantitative Literacy		3
SPAN 1110	ELEMENTARY SPANISH I	5
Social Science		3

MUST establish 2.5+ NU GPA in order to enroll in TED 2200 for spring semester

Attend Welcome Week events; other campus events

Advising appointment for spring: Sept. - Oct.

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

**Credits** 14**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
SPAN 1120	ELEMENTARY SPANISH II	5
Natural/Physical Science with Lab		4

Advising appointment for fall: February - March

Join a student organization

Make a plan to take the Praxis Core

**Credits** 15**Summer**

SPAN 2110	INTERMEDIATE SPANISH I	3
Humanities and Fine Arts		3

**Credits** 6**Sophomore****Fall**

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
SPAN 2120	INTERMEDIATE SPANISH II	3
Social Science		3

Advising appointment for spring: Sept. - Oct.

Identify professional organization to get involved with. Begin resume development.

Apply to Educator Preparation Program October 1 deadline

**Credits** 12**Spring**

SPAN 3030 or SPAN 3010	SPANISH CONVERSATION or SPANISH FOR HERITAGE SPEAKERS I	3
---------------------------	--	---

SPAN 3040 or SPAN 3020	SPANISH GRAMMAR AND COMPOSITION or SPANISH FOR HERITAGE SPEAKERS II	3
---------------------------	--	---

SPAN 3060	READINGS IN SPANISH	3
-----------	---------------------	---

Humanities and Fine Arts 3

Social Science 3

Advising appointment for fall: February - March

MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.

SPAN 3010 Spanish for Heritage Speakers I must be taken prior to SPAN 3020 Spanish for Heritage Speakers II. These classes are designed for native speakers of Spanish. However, SPAN 3030 &amp; 3040 can be taken together at the same time and are not for native speakers of Spanish.

**Credits** 15**Junior****Fall**

TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
SPAN 4030	ADVANCED SPANISH CONVERSATION	3
SPAN 4040	ADVANCED COMPOSITION AND STYLISTICS	3

Advising appointment for spring: Sept. - Oct.

**Credits** 15**Spring**

TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
SPAN Literature and Film option		3
SPAN Culture and Society option		3
SPAN Linguistics and Language option		3

Advising appointment for fall: February - March

**Credits** 15**Summer**

Natural/Physical Science		3
--------------------------	--	---

**Credits** 3**Senior****Fall**

TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3

SPAN Linguistics and Language option 3

SPAN elective, 3000 or 4000 level 3

Elective 1

Take Praxis II- World Language – Spanish #5195

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice (student teaching) at beginning of fall term.

**Credits** 13**Spring**

TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
----------	--	----

Apply for graduation	
<b>Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Deaf/Hard of Hearing (7-12) Endorsement

Code	Title	Credits
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 1110	AMERICAN SIGN LANGUAGE I	3
SPED 1114	AMERICAN SIGN LANGUAGE I LAB	1
SPED 1120	AMERICAN SIGN LANGUAGE II	3
SPED 1124	AMERICAN SIGN LANGUAGE II LAB	1
SPED 2110	AMERICAN SIGN LANGUAGE III	3
SPED 2114	AMERICAN SIGN LANGUAGE III LAB	1
SPED 2120	AMERICAN SIGN LANGUAGE IV	3
SPED 2124	AMERICAN SIGN LANGUAGE IV LAB	1
SPED 3110	AMERICAN SIGN LANGUAGE V	3
SPED 3114	AMERICAN SIGN LANGUAGE V LAB	1
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4240	TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	5
CDIS 4330	AURAL REHABILITATION	3
SPED 4350	TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING	4
CDIS 4370	BASIC AUDIOLOGY	3

SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>56</b>

### Elementary Education with Deaf/Hard of Hearing Dual Endorsement

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
SPED 1110 & SPED 1114	AMERICAN SIGN LANGUAGE I and AMERICAN SIGN LANGUAGE I LAB	4
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
Attend Welcome Week events; other campus events		
MUST establish 2.5+ NU GPA for TED 2100 & TED 2200 for spring semester		
Advising appointment for spring: Sept. - Oct.		
Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year		

**Credits 16**

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
SPED 1120 & SPED 1124	AMERICAN SIGN LANGUAGE II and AMERICAN SIGN LANGUAGE II LAB	4
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Social Science- CDIS 1400 Communication Disorders recommended		3
Apply to Educator Preparation Program for June 1 deadline		
Advising appointment for fall: February - March		
Join a student organization. Consider Student Council for Exceptional Children or Allies for Sign Language.		
Make a plan to take the Praxis Core		

**Credits 16**

#### Sophomore

##### Fall

TED 2300	HUMAN GROWTH AND LEARNING	3
SPED 2110 & SPED 2114	AMERICAN SIGN LANGUAGE III and AMERICAN SIGN LANGUAGE III LAB	4
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
Humanities and Fine Arts		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development		

**Credits 16**

##### Spring

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
----------	---------------------------------	---

SPED 2120 & SPED 2124	AMERICAN SIGN LANGUAGE IV and AMERICAN SIGN LANGUAGE IV LAB	4
TED 2360	CHILDREN'S LITERATURE	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
Advising appointment for fall: February - March		
MUST pass PRAXIS Core by May 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program		
<b>Credits</b>		<b>16</b>
<b>Summer</b>		
SPED 3110	AMERICAN SIGN LANGUAGE V	3
SPED 3114	AMERICAN SIGN LANGUAGE V LAB	1
HEKI 2400	HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER	3
<b>Credits</b>		<b>7</b>
<b>Junior</b>		
<b>Fall</b>		
TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
SPED 4350 or SPED 4240	TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING or TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	4-5
SPED 4370	BASIC AUDIOLOGY	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
Natural/Physical Science		3
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>16-17</b>
<b>Senior</b>		
<b>Fall</b>		
TED 4310	ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER	3
TED 4320	TEACHING OF SOCIAL STUDIES: ELEMENTARY	3
TED 4350	TEACHING OF READING AND LANGUAGE ARTS	6
CDIS 4330	AURAL REHABILITATION	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
Advising appointment for spring: Sept. - Oct.		
<b>Credits</b>		<b>18</b>
<b>Spring</b>		
SPED 4350 or SPED 4240	TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING or TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	4-5
Natural/Physical Science with Lab		4

Humanities and Fine Arts with Global Diversity		3
Social Science		3
Take Praxis II- EECIA #5017		
Take Praxis II- SPED DHH #5272		
Advising appointment for fall: February - March		
Apply for clinical practice at beginning of spring term.		
<b>5th Year Senior</b>		
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
TED 4650	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	6
Apply for graduation		
<b>Credits</b>		<b>26-27</b>
<b>Total Credits</b>		<b>146-148</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:** 2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 MINIMUM NU GPA

## Special Education (7-12) Endorsement

Code	Title	Credits
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3

SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4650	TRANSITION PLANNING	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>39</b>

## English as a Second Language (7-12) Endorsement

Code	Title	Credits
TED 2050	INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE	3
TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
TED 3050	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
LLS 1000 or LLS 1010	LATIN AMERICA: AN INTRODUCTION INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES	3

15 Hours

## Coaching (7-12) Endorsement

Code	Title	Credits
KINS 3010	SCIENTIFIC PRINCIPLES OF COACHING	3
PHHB 3030	FIRST AID	3
KINS 3040	PREVENTION AND CARE OF ATHLETIC INJURIES	3
KINS 3480	ORGANIZATION AND ADMINISTRATION OF ATHLETICS	3
KINS 4980	COACHING PRACTICUM	1
Select one Coaching Methods Courses from the following:		3
KINS 3720	SOCCER COACHING THEORY & PRACTICE	
KINS 3730	SOFTBALL COACHING THEORY AND PRACTICE	
KINS 3740	VOLLEYBALL COACHING THEORY AND PRACTICE	
KINS 3750	WRESTLING COACHING THEORY AND PRACTICE	
KINS 3760	BASEBALL COACHING THEORY AND PRACTICE	
KINS 3770	FOOTBALL COACHING THEORY AND PRACTICE	
KINS 3780	TRACK AND FIELD COACHING THEORY AND PRACTICE	
KINS 3790	BASKETBALL COACHING THEORY AND PRACTICE	
KINS 3800	HOCKEY COACHING THEORY	

**Total Credits** **16**

## Information Technology (PK-12) Endorsement

Code	Title	Credits
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CYBR 2600	SYSTEM ADMINISTRATION	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
Select one of the following:		3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	
CSCI 2850	PROGRAMMING ON THE INTERNET	
<b>Total Credits</b>		<b>18</b>

## Special Education and Communication Disorders

The mission of the Special Education and Communication Disorders department is to prepare dedicated practitioners, reflective scholars, and responsible citizens who are unique in their ability to facilitate, design, implement, and evaluate programs for individuals with disabilities. This is accomplished by creating opportunities for the acquisition and maintenance of knowledge, skills, and dispositions as prescribed by the Council for Exceptional Children, the Council on Academic Accreditation in Audiology and Speech-Language Pathology (for graduate program only), and state and federal regulations.

Undergraduate candidates follow a course of study with accompanying practical experiences that are grounded in theory, research, evidence-based practice, and experience. Our candidates develop essential interpersonal skills that make them valued members of collaborative, interdisciplinary teams in a variety of settings. Thus, each program of study is designed to promote problem solving skills that enable candidates to continue to broaden their skills and enhance their expertise throughout their professional career. These skills facilitate the recognition and integration of professional ethics with the individual needs and values of the communities they serve.

### Accreditation

The Special Education and Communication Disorders programs are accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Nebraska State Department for Education.

The undergraduate degree in communication disorders provides the fundamental prerequisite knowledge necessary for pursuing a graduate degree. The graduate degree is the minimal requirement for employment as a speech-language pathologist in Nebraska. The speech-language pathology graduate program provides candidates with the opportunity to acquire and maintain the knowledge, skills, and dispositions as prescribed by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CFCC), by the Nebraska Department of Education, by Nebraska Health and Human Services, and the National Council for Accreditation of Teacher Education (NCATE).

### Contact

512 Roskens Hall  
6005 Dodge Street  
Omaha, NE 68182-0054  
402.554.2201

Website (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/>)

### Students interested in becoming special education teachers must formally apply for admission to the Educator Preparation Program (EPP).

In order to be formally admitted to a program in special education and remain in good standing, a candidate must maintain an overall GPA of 2.75 or better. No grade below a "C" will be accepted in any professional education course, or any course in the specialization area.

- Application instructions (p. 535) for the Educator Preparation Program.

### Requirements for Formal Admission to Communication Disorders Undergraduate Program:

Candidates interested in becoming speech-language pathologists (SLPs) or audiologists must apply for admission to the pre-professional preparation program. Application for admission and acceptance into the pre-professional program is required for continuation in preparation to become a Speech-Language Pathologist.

Minimum Requirements must be met prior to applying to the undergraduate Communication Disorders Pre-Professional Program:

- Admission to UNO and the College of Education, Health, and Human Sciences.
- Completion of the university General Education Fundamental Skills requirements (ENGL 1150, ENGL 1160, MATH 1220, CMST 1110 or CMST 2120), with a grade of "C-" or higher.
- Completion of the college requirements TED 2100 AND CDIS 4550 with a grade of "C" or higher.
- Minimum cumulative University of Nebraska system gpa of 3.0.
- Meet or exceed the minimum score requirements on all sections of the Praxis I – CORE Academic Skills for Educators Test. These are reading-156, writing-162, and mathematics-150.
- Completion of the following communication disorders courses: SPED 1500, CDIS 1400, CDIS 4380, and CDIS 4420 with a minimum gpa average of 3.0 with no grade lower than "C".

### Application Procedures

Candidates meeting the above criteria must formally apply for admission to the pre-professional preparation program. Formal admission policies can be found on the website. (<https://www.unomaha.edu/college-of-education/special-education-communication-disorders/undergraduate/speech-language-pathology.php>) Deadline for applying is June 1.

Candidates planning to transfer to the communication disorders program from another college within UNO must meet all of the conditions and formally apply for admission to the communication disorders program.

### Degrees Offered

- Education, Bachelor of Science (p. 589)

### Programs

- Deaf/Hard Hearing (p. 593)
- Early Childhood Inclusive (p. 541)
- Special Education Dual Endorsement with Elementary Education or Secondary Education (p. 584)
- Special Education (p. 589)
- Communication Disorders (Pre-Professional Program)

### Writing in the Discipline

For Writing in the Discipline, Special Education majors complete TED 2100, Communication Disorders majors complete CDIS 3200, students in the Sign

Language Interpreting concentration complete ENGL 2400, and students in the Deaf/Hard of Hearing endorsement complete TED 2100.

## Education - Special Education Dual Endorsement with Elementary Education or Secondary Education, Bachelor of Science

This program is designed for candidates preparing for careers serving children and youth with disabilities. This program is part of the educator preparation program at either the elementary or secondary level. In the educator preparation program candidates must complete a dual endorsement in special education and elementary or secondary education. The preparation meets or exceeds the Council for Exceptional Children (CEC) initial level special educator preparation standards for special education teachers.

Code	Title	Credits
<b>Elementary (K-6) Requirements</b>		
Elementary (K-6) candidates are required to take the following special education courses in addition to the course work required for elementary education:		
<b>Courses Required for Major (core curriculum)</b>		
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
OR		
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION	12
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>48</b>

Code	Title	Credits
<b>Secondary (7-12) Requirements</b>		
Secondary (7-12) candidates are required to take the following special education courses in additional to the coursework required for secondary education:		
<b>Courses Required for Major (Core Curriculum)</b>		
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3

SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4650	TRANSITION PLANNING	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	6
OR		
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION	12
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>51</b>

## Contact

512 Roskens Hall  
6005 Dodge Street  
Omaha, NE 68182-0054  
402.554.2201

Department Website (<https://www.unomaha.edu/college-of-education/special-education-communication-disorders/>)

Academic Advising and Field Experiences Website (<https://www.unomaha.edu/college-of-education/student-services/>)

## Education - Special Education, Bachelor of Science

The BSED degree certificate in Special Education allows UNO to recommend graduates for Nebraska licensure in special education.

### Potential Career Opportunities/settings:

- Public School systems
- Private School systems

### SPED 1110 AMERICAN SIGN LANGUAGE I (3 credits)

This is the beginning course in a five course series teaching American Sign Language. Candidates will be introduced to use of body language/mime, basic sentence types, manual alphabet, manual numbers/number systems, basic vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** co-requisite SPED 1114

### SPED 1114 AMERICAN SIGN LANGUAGE I LAB (1 credit)

This is the co-requisite lab course for SPED 1110, American Sign Language I. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 1110

### SPED 1120 AMERICAN SIGN LANGUAGE II (3 credits)

This is the second course in a five course series teaching American Sign Language. Candidates will continue to develop the use of body language/mime, basic sentence types, manual alphabet, manual numbers/number systems, and intermediate vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 1124; SPED 1110 and SPED 1114 with a grade of C or higher.

### SPED 1124 AMERICAN SIGN LANGUAGE II LAB (1 credit)

This is the co-requisite lab course for SPED 1120, American Sign Language II. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** SPED 1110 and SPED 1114 with a grade of C or higher; Co-requisite: SPED 1120.

### SPED 1500 INTRODUCTION TO SPECIAL EDUCATION (3 credits)

This course is designed to help students explore issues and perspectives related to children, adolescents, and young adults with a variety of ability and disability experiences. It provides an introduction to the historical factors, legislation, terminology, etiology, characteristics that are commonly encountered when addressing the needs of diverse students with disabilities ranging from mild, moderate to severe.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

### SPED 2100 PROFESSIONALISM & ETHICS OF INTERPRETING (3 credits)

This survey course provides an introduction to the profession and ethics of sign language interpreting. The student learns what is expected of an interpreter (roles, functions, responsibilities) and applies this knowledge to a variety of settings. Information about the history of the profession, professional organizations, and settings where interpreters work is presented. Students will be introduced to Demand/Control Schema as a foundation for assessment ethical scenarios.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA and/or special permission from the instructor.

### SPED 2110 AMERICAN SIGN LANGUAGE III (3 credits)

This is the third course in a five course series teaching American Sign Language (ASL). Candidates will continue to develop the use of body language/mime, sentence types, and advanced-intermediate vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1120 and SPED 1124 with a grade of C or higher; co-requisite: SPED 2114.

### SPED 2114 AMERICAN SIGN LANGUAGE III LAB (1 credit)

This is the co-requisite lab course for SPED 2110, American Sign Language III. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1120 and SPED 1124 with a grade of C or higher; co-requisite: SPED 2110.

### SPED 2120 AMERICAN SIGN LANGUAGE IV (3 credits)

This is the fourth course in a five course series teaching American Sign Language (ASL). Candidates will continue to develop the use of body language/mime, sentence types, and advanced vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2110 and SPED 2114 with a grade of C or higher; co-requisite: SPED 2124.

### SPED 2124 AMERICAN SIGN LANGUAGE IV LAB (1 credit)

This is the co-requisite lab course for SPED 2120, American Sign Language IV. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Co-requisite SPED 2120, minimum , cumulative 2.75 GPA, SPED 2110 and SPED 2114 with a grade of C or higher, or comparable coursework and/or demonstrated proficiency.

### SPED 2200 HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS (3 credits)

This is an introductory course which surveys historical, psychological, and sociological aspects of deafness. This course introduces students to aspects of Deaf Culture and the Deaf Community. It will also examine current issues and trends and future directions in the education of children who are deaf or hard of hearing. Basic concepts, theories, research, and philosophical debates are explored through assigned readings, independent work, and classroom activities.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA.

**Distribution:** U.S. Diversity General Education course

**SPED 2300 SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS (3 credits)**

This course provides an overview of special education policy and law with an emphasis on components of individual education programs (IEPs), the special education referral process, and preparing for IEP meetings. Content knowledge will include IEP components and their function. Students will apply this knowledge to IEP component writing and development practice.  
**Prerequisite(s)/Corequisite(s):** SPED 1500

**SPED 3000 SPECIAL STUDIES (1-3 credits)**

This course is designed to allow candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities is mutually agreed upon by the candidate and instructor.

**Prerequisite(s)/Corequisite(s):** Permission by instructor

**SPED 3020 DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS (3 credits)**

This is a course on formal and informal assessment for Special Education. Candidates will learn how to collect assessment data to be used for data based decision making.

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400, Co-requisite SPED 4640 & SPED 4000 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 3100 ENGLISH/ASL COMPARATIVE LINGUISTICS (3 credits)**

This course offers a study of the fundamental concepts of linguistics and its application to the study of American Sign Language. Candidates will compare and contrasting English and American Sign Language structure. Focus will be on the fundamental areas of linguistic inquiry, which include phonology, morphology, syntax, semantics, and the use of language. Using current research, candidates will begin to think critically about the structure of ASL and its recognition as a language. Candidates will be expected to translate between English and signed languages to deepen understanding the study of linguistics. A video will supplement the textbook by providing examples of signs/concepts discussed in the course.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2120 ASL IV or comparable course work, or demonstrated proficiency.

**SPED 3110 AMERICAN SIGN LANGUAGE V (3 credits)**

This is the fifth course in a series teaching American Sign Language. Focus will be on cognitive processing, fingerspelling and communicating personal experiences. Students will develop translations between English and ASL to demonstrate knowledge and understanding of both languages. This course is one of many that prepares candidates to be dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2120 and SPED 2124 with a grade of C or higher; co-requisite: SPED 3114.

**SPED 3114 AMERICAN SIGN LANGUAGE V LAB (1 credit)**

This is the fifth lab course in a series teaching American Sign Language. The lab course will focus on aspects of receptive and expressive fingerspelling, numeral incorporation and classifiers of ASL. Students will demonstrate conversational skills incorporating ASL representative, descriptive and instrumental classifiers. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative 2.5 GPA and SPED 2120, SPED 2124, or permission of instructor. Not open to non-degree graduate students.

**SPED 3120 ACADEMIC INTERPRETING (3 credits)**

In this course candidates will focus on skills required for interpreting in a variety of academic settings. Candidates will learn to produce appropriate and equivalent interpreted messages between signed and spoken communication. Candidates will observe and analyze spoken and signed language used in the classroom and in extracurricular activities. Candidates will understand the interpreter's role as part of the educational team and how that impacts their work with students. Also included will be review and deeper exploration of communication styles, modes and language used by children.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 3130 COMMUNITY INTERPRETING (3 credits)**

In this course students will learn skills in producing equivalent ASL and/or English messages in both consecutive and simultaneous interpreting. Students will interpret for adults and children moving from monologues to dialogues developing fluency, speed and accuracy. Students will continue to develop their English vocabulary, ASL vocabulary, interpreting analysis skills and strategies for team interpreting within the genres of medical and mental health, employment and vocational settings, social services, business and insurance.

**Prerequisite(s)/Corequisite(s):** GPA 2.75 or better and SPED 3110, or special permission from the instructor.

**SPED 3140 DISCOURSE ANALYSIS AND SOCIOLINGUISTICS FOR INTERPRETERS (3 credits)**

During the course students will analyze language use in spoken English and American Sign Language (ASL) so that features of language use rise to the level of explicit awareness. Students collect, transcribe, and analyze various speech activities while reading and discussing theoretical notions underlying language use.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2110 and SPED 2114 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 3150 COGNITIVE PROCESSING IN ASL AND ENGLISH (3 credits)**

This course presents practice of cognitive skills used in the process of interpreting. Skills include visualization, prediction, listening, memory, abstracting, closure, dual tasking, and processing time. Integration and application of these skills will lead to a self-monitoring process that will allow for self-assessment and commentaries on work performed. This course will prepare candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative 2.75 GPA, and SPED 2110 and SPED 2114 or instructor permission. Not open to non-degree graduate students.

**SPED 3800 DIFFERENTIATION AND INCLUSIVE PRACTICES (3 credits)**

This course is designed to examine characteristics of students with various learning needs and how to apply principles of Universal Design for Learning (UDL) to meet their needs in an inclusive environment. This course will expand the special education content knowledge of general education teachers so they can meet the needs of all students by planning lessons using the UDL framework. The purpose of this course is for general education teacher candidates to gain content knowledge about special education policies and procedures to utilize various educational, emotional, and social accommodations necessary to provide unique and effective educational or alternative responses for students with various learning needs.

**Prerequisite(s)/Corequisite(s):** TED 2400 or EDUC 2520; Minimum 2.75 GPA. Not open to non-degree graduate students.

**SPED 4000 PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This practicum will examine special education methods, techniques and strategies used with children and youth with disabilities in a variety of K-12 school settings. Classroom practice and application of instructional planning and implementation, assessment techniques and behavior management will be emphasized. Collaboration and consultation models will also be included in this experience.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 & EDUC 2520 or SPED 1500 & TED 2400; GPA 2.75 or higher. Co-requisites: SPED 3020 & SPED 4640. Not open to non-degree graduate students.

**SPED 4010 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health.

The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, COUN 8016, SPED 8016).

**Prerequisite(s)/Corequisite(s):** SPED 1500 or EDUC 2510, TED 2300, Minimum 2.75 GPA. Not open to non-degree graduate students.

**SPED 4040 WORKSHOP IN SPECIAL EDUCATION OR SPEECH-LANGUAGE PATHOLOGY (1-6 credits)**

The purpose of this course is to provide workshops or special seminars in the area of special education and communication disorders. This course will prepare graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with SPED 8046).

**SPED 4110 SIGNED ENGLISH AND OTHER SYSTEMS (3 credits)**

This course examines the communication methods and modes used in educational settings with people who are deaf or hard of hearing. Candidates will gain understanding and specific skills in the Auditory-Verbal approach, Total Communication, Signing Exact English, Cued Speech, Conceptually Accurate Signed English, and Oral Transliteration. Information will be shared about the latest technology and resources available to aid communication in the classroom.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor.

**SPED 4150 READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES (3 credits)**

This course is designed to provide preservice teacher candidates skills and strategies for instructing students with high incidence disabilities that struggle to acquire literacy skills. Emphasis is placed on diagnosis and assessment of specific reading and writing difficulties to determine effective instructional strategies. Instructional strategies will address modifications directed at teaching oral language, reading, writing, and spelling skills.

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing). Not open to non-degree graduate students.

**SPED 4180 INTERPRETING IN SPECIALIZED SETTINGS (3 credits)**

This course focuses on interpreting/transliterating for special populations in a variety of specialized settings. Video relay, Deaf-Blind, Mental Health, Legal, Religious, Multi-cultural and Theatrical settings are among the specialized settings in which interpreting students will participate in additional training.

**Prerequisite(s)/Corequisite(s):** GPA 2.75 or better and SPED 3110 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 4220 TEACHING SPEECH TO THE DEAF/HARD OF HEARING (3 credits)**

This course will provide an investigation of the speech skills of the deaf/hard of hearing child, preschool through high school. Current theories and practices in teaching speech will be examined. This course will also present methods for assessing speech problems in deaf/hard of hearing children, making the necessary adaptations and modifications, and integrating technology.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; EDUC 2510 or SPED 1500 or permission of the instructor.

**SPED 4230 LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS (3 credits)**

This course is designed to introduce the candidate to the nature and structure of language, current theories of language, normal first and second language development, language disorders, multicultural issues in language assessment, and contemporary classroom management of language deficits. The topics will be examined from an educational perspective to enhance the teachers knowledge of language and to facilitate classroom management of language deficits exhibited by exceptional children in grades pre-K through 12. (Cross-listed with SPED 8236).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1500 or ECI major; TED 2300 or TED 2380 or permission of the instructor

**SPED 4240 TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING (5 credits)**

This course is designed for candidates seeking to be teachers of the Deaf/Hard of Hearing or sign language interpreters. It will examine specific programs, methods, and techniques employed in fostering literacy and signacy with D/HH children from primary through secondary levels. Current theories and practices in reading and language arts instruction will be examined. This course will also present methods for assessing reading and writing, differentiating instruction, integrating technology, and collaborating with families.

**Prerequisite(s)/Corequisite(s):** D/HH Endorsement: minimum 2.75 GPA; SPED 2110; EDUC 2510 or SPED 1500; TED 2400. Sign Language Interpreting Concentration: minimum 2.75 GPA; SPED 2110; or permission of the instructor.

**SPED 4280 TEACHING AMERICAN SIGN LANGUAGE AS A WORLD LANGUAGE (3 credits)**

This course provides a hands-on experience in the design and implementation of ASL instruction and curriculum. The course will address methods, materials, program evaluation, and teaching approaches for preparing professional instructors of ASL.

**Prerequisite(s)/Corequisite(s):** Min 2.75 GPA & proficiency in ASL. Prof shown by one of the following: complete ASL I-V courses, personal interview w/instructor, or a min level of 3 on ASL Proficiency Interview or Sign Comm Proficiency Interview. Not open to non-degree grad students.

**SPED 4310 VOICE-TO-SIGN (3 credits)**

This course begins consecutively interpreting monologues from the source language (English) to the target language (ASL). Students will listen to entire English monologues, process them, analyze them, and then choose appropriate ASL to match the message. The course provides instruction on refining and enhancing voice-to-sign skills, specifically simultaneously producing equivalent ASL messages from spoken English source messages. Students will learn to sign simultaneously and consecutively when viewing video or listening to audio of native English speakers from a variety of settings.

**Prerequisite(s)/Corequisite(s):** Minimum GPA 2.75 or better, and SPED 3110 or special permission from the instructor.

**SPED 4320 SIGN-TO-VOICE (3 credits)**

This course provides instruction on refining and enhancing sign-to-voice skills, specifically simultaneous sign-to-voice transliterating and interpreting. Students will learn to voice simultaneously and consecutively when viewing video of native signers who use a variety of signing modalities to communicate. Students will develop the ability to produce an equivalent English message from ASL source messages.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor.

**SPED 4350 TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING (4 credits)**

This course will describe, investigate, and put into practice instructional strategies employed in developing knowledge and concepts in social studies, science, and mathematics. The scope of the course will be preschool through high school. Curricula and materials used with K-12 students who are deaf or hard of hearing will be reviewed and evaluated.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; EDUC 2510 or SPED 1500; TED 2400 or permission of the instructor.

**SPED 4640 METHODS AND MATERIALS IN SPECIAL EDUCATION (3 credits)**

This course is designed to describe the various instructional methods that have been used successfully in supporting students with disabilities in a variety of settings. This course is also intended to provide pre-service and in-service candidates with knowledge and evidence-based teaching strategies essential for modifying the learning environment and individualizing instruction for students with disabilities. In addition, teaching methods will focus on academic curriculum lesson planning, development of IEPs, selection of instructional methods and materials, and universal design for learning (UDL). (Cross-listed with SPED 8646).

**Prerequisite(s)/Corequisite(s):** SPED 1500, TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing); Co-requisite courses SPED 3020 & SPED 4000. Not open to non-degree graduate students.

**SPED 4650 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living. (Cross-listed with SPED 8656)

**Prerequisite(s)/Corequisite(s):** SPED 1500. Not open to non-degree graduate students.

**SPED 4700 CLINICAL PRACTICE IN SPECIAL EDUCATION (6 credits)**

This course provides candidates with experience teaching students with exceptionalities. Observation, participation, and actual teaching in an individually selected placement will be a part of the candidate's involvement in this course. This course is intended for candidates who are completing a dual endorsement program (special education and another endorsement).

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75 and completion of all required coursework in special education. Co-Requisite: TED 4650. Not open to non-degree graduate students.

**SPED 4710 INTERACTIONS AND COLLABORATION (3 credits)**

This course is offered to investigate the building blocks of collaboration. Effective interpersonal communication and collaboration skills are presented as the foundation necessary to build relationships among school personnel, families and community members. (Cross-listed with SPED 8716).

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 4720 CLINICAL PRACTICE IN SPECIAL EDUCATION (12 credits)**

This course provides candidates with a practical experience teaching students with disabilities. Observation, participation, and actual teaching in an individually selected placement will be a part of the candidate's involvement in this course.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of all required course work in special education.

**SPED 4724 SPECIAL EDUCATION CLINICAL TEACHING ORIENTATION (0 credits)**

This course is the special education clinical teaching orientation that is paired with the Clinical Teaching in Special Education course.

**Prerequisite(s)/Corequisite(s):** GPA = 2.75 or better, Completion of all required course work in special education. Co-requisite SPED 4720 or SPED 4730

**SPED 4730 ADVANCED CLINICAL PRACTICE IN SPECIAL EDUCATION (3 credits)**

A second semester of special education clinical practice experience in a placement working with exceptional children. Observation, participation and actual teaching will be part of the candidate's experience.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75; SPED 4720 and permission

**SPED 4740 EDUCATIONAL INTERPRETING PRACTICUM AND SEMINAR (6 credits)**

The practicum candidate will work with a mentor to begin developing professional relationships while developing the ability to interpret simultaneously signed and spoken messages. Candidates will also share experiences in seminars with an instructor where discussion will focus on linguistic issues in interpretation, ethical dilemmas, and situational concerns.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of SPED 3120, SPED 3130, SPED 4180, and SPED 4240

**SPED 4760 COMMUNITY INTERPRETING PRACTICUM AND SEMINAR (6 credits)**

The practicum candidate will work with a mentor in various community settings to begin developing professional relationships while developing the ability to interpret simultaneously signed and spoken messages. Candidates will also share experiences in seminars with an instructor where discussion will focus on linguistic issues in interpretation, ethical dilemmas, and situational concerns.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of SPED 3120, SPED 3130, SPED 4180, and SPED 4240. Not open to non-degree graduate students.

**SPED 4800 SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH (3 credits)**

This course is designed to prepare teacher candidates and graduate candidates with the understanding of the psychological, biological and environmental factors that affect the social-emotional development of children and adolescents. Emphasis is placed on the interaction of these factors for children with exceptional learning needs and the implications for the learning environment. (Cross-listed with SPED 8806).

**Prerequisite(s)/Corequisite(s):** SPED 1500 or EDUC 2510, TED 2300, Minimum 2.75 GPA

**SPED 4810 BEHAVIOR INTERVENTIONS AND SUPPORTS (3 credits)**

This course introduces a variety of practical interventions that teachers may use to support the positive classroom behavior of all students within a tiered model. Universal, targeted, and individualized strategies are presented. (Cross-listed with SPED 8816).

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 4820 EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY (1 credit)**

The purpose of this course is to provide an overview of the history and perspectives of key developmental theories, laws, and policies related to inclusive early childhood education. Particular attention will be paid to culturally responsive approaches to ECIE, local, state, federal, and global policy, professional roles, ethics, and advocacy. Emphasis is on current research, theory, and evidence-based practice.

**Prerequisite(s)/Corequisite(s):** TED 2250. Not open to non-degree graduate students.

**SPED 4830 ASSESSMENT IN EARLY CHILDHOOD INCLUSIVE EDUCATION (3 credits)**

This course is designed to help students develop skills for effective and culturally responsive assessment and evaluation of infants, toddlers, and young children. Such assessment is vital for understanding developmental needs of young children, planning appropriate curriculum and interventions, identifying children's special needs, evaluating early childhood programs, and providing accountability information to funders and stakeholders.

**Prerequisite(s)/Corequisite(s):** Admission to Educator Preparation program, TED 2250. Not open to non-degree graduate students.

**SPED 4850 HEALTH AND WELL-BEING OF INFANTS AND TODDLERS (3 credits)**

This course is designed to help students gain knowledge and skills that will enable them to promote the healthy development of infants and young children. There will be an emphasis on effective and culturally responsive collaboration with families and caregivers.

**Prerequisite(s)/Corequisite(s):** Admission to the Educator Preparation program and TED 2250. Not open to non-degree graduate students.

**SPED 4860 RESPONSIVE AND REFLECTIVE TEACHING IN EARLY CHILDHOOD (3 credits)**

This course will prepare early childhood inclusive education majors to plan and deliver supports to a diverse array of young children (birth to age 8) and their families. Candidates will be trained in evidence-based practices used for promoting language, problem-solving, motor skills, adaptive behavior, play, and social/emotional growth in young children. There is an emphasis on anti-bias approaches to education, as well as educators' reflections upon their practices.

**Prerequisite(s)/Corequisite(s):** Admission to the Educator Preparation program, TED 2250. Not open to non-degree graduate students.

**SPED 4870 PRACTICUM WITH INFANTS AND TODDLERS (3 credits)**

This advanced practicum is a guided experience for candidates pursuing an emphasis in the area of Early Childhood Inclusive Education (ECIE) birth through age 3. Candidates will be required to demonstrate competencies related to promoting the development of infants and toddlers, and the skills and confidence of their families/caregivers. This is the last practicum course prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** Completion of ECIE undergraduate courses: TED 2250, TED 2350, SPED 4230, TED 4250, SPED 4830, SPED 4860; GPA 2.75 or higher. Co-requisites: TED 4210 and SPED 4850. Not open to non-degree graduate students.

## Education - Special Education, Bachelor of Science

This program is designed for candidates preparing for careers serving children and youth with disabilities. This program prepares candidates to be special education teachers at the elementary or secondary level. The preparation meets or exceeds the Council for Exceptional Children (CEC) initial level special educator preparation standards for special education teachers.

**Other Information****Praxis II Content Test**

All educator preparation candidates are required to receive a passing score on the Praxis II content test in each endorsement area of their preparation prior to being awarded initial teacher certification through the Nebraska Department of Education (NDE).

This link (<http://www.ets.org/praxis/ne/requirements/>) will take you to the ETS website page for the Nebraska Department of Education requirements. The page lists the Nebraska requirements for each endorsement area.

**Student Organizations**

Student Council for Exceptional Children (SCEC) is an organization that is dedicated to improving the educational success of individuals with disabilities. The student chapter is associated with the International Council for Exceptional Children. For more information contact Dr. Lisa Epp at [lepp@unomaha.edu](mailto:lepp@unomaha.edu) or Dr. Beth Leader-Janssen at [eleaderjanssen@unomaha.edu](mailto:eleaderjanssen@unomaha.edu).

**Contact**

512 Roskens Hall  
6005 Dodge Street  
Omaha, NE 68182-0054  
402.554.2201

Website (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/>)

**Elementary (K-6) Requirements**

Elementary (K-6) candidates are required to take the following special education courses:

Code	Title	Credits
<b>Courses Required for Major (Core Curriculum)</b>		
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION	12
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Required Related Coursework</b>		
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
<b>Educator Preparation Program Required Courses</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2300	HUMAN GROWTH AND LEARNING	3

TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
<b>Total Credits</b>		<b>78</b>

## Secondary (7-12) Requirements

Secondary (7-12) candidates are required to take the following special education courses:

Code	Title	Credits
<b>Courses Required for Major (Core Curriculum)</b>		
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED/COUN 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4650	TRANSITION PLANNING	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION	12
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3

### Required Related Coursework

KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT	3
TED 3690	LITERACY AND LEARNING	3
TED 4660	YOUNG ADULT LITERATURE	3

### Educator Preparation Program Required Courses

TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
TED 2300	HUMAN GROWTH AND LEARNING	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6

**Total Credits** **78**

For more information and a complete listing of program requirements visit the website (<https://www.unomaha.edu/college-of-education-health-and-human-sciences/special-education-communication-disorders/undergraduate/special-education.php>)

## Sign Language Interpreter

Code	Title	Credits
<b>Related Coursework (9 hours)</b>		
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 2500	LIFESPAN PSYCHOLOGY	3
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3

## ASL Development Requirements (26 credits)

SPED 1110 & SPED 1114	AMERICAN SIGN LANGUAGE I and AMERICAN SIGN LANGUAGE I LAB	4
SPED 1120 & SPED 1124	AMERICAN SIGN LANGUAGE II and AMERICAN SIGN LANGUAGE II LAB	4
SPED 2110 & SPED 2114	AMERICAN SIGN LANGUAGE III and AMERICAN SIGN LANGUAGE III LAB	4
SPED 2120 & SPED 2124	AMERICAN SIGN LANGUAGE IV and AMERICAN SIGN LANGUAGE IV LAB	4
SPED 3110 & SPED 3114	AMERICAN SIGN LANGUAGE V and AMERICAN SIGN LANGUAGE V LAB	4
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
SPED 3100	ENGLISH/ASL COMPARATIVE LINGUISTICS	3

## Interpreting Development Requirements (44 credits)

SPED 2100	PROFESSIONALISM & ETHICS OF INTERPRETING	3
SPED 3120	ACADEMIC INTERPRETING	3
SPED 3130	COMMUNITY INTERPRETING	3
SPED 3140	DISCOURSE ANALYSIS AND SOCIOLINGUISTICS FOR INTERPRETERS	3
SPED 3150	COGNITIVE PROCESSING IN ASL AND ENGLISH	3
SPED 4180	INTERPRETING IN SPECIALIZED SETTINGS	3
SPED 4310	VOICE-TO-SIGN	3
SPED 4320	SIGN-TO-VOICE	3
SPED 4110	SIGNED ENGLISH AND OTHER SYSTEMS	3
SPED 4240	TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	5
SPED 4740	EDUCATIONAL INTERPRETING PRACTICUM AND SEMINAR	6
SPED 4760	COMMUNITY INTERPRETING PRACTICUM AND SEMINAR	6

**Total Credits** **79**

## Grade requirements in Sign Language Interpreting program

Grade of "C-" or better required in General Education Courses and electives. "C" or better is required in Related Coursework, ASL Development and Interpreting Development. The advanced writing course also requires a "C" or better.

## GPA requirements in Sign Language Interpreting Program

Students must maintain a 2.5 minimum GPA to remain in the major. Once students pass ASL 2, SPED 1120/SPED 1124, a 2.5 GPA is required to meet course prerequisites.

## Education - Special Education Bachelor of Science

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1120 or MATH 1220	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING or COLLEGE ALGEBRA	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Social Science		3

Attend Welcome Week events; other campus events

Advising appointment for spring: Sept. - Oct.

Note: ENGL 1150, ENGL 1160, CMST 1110 or 2120, and approved math (Quantitative Literacy) course should be taken and passed in the first academic year

<b>Credits</b>		<b>12</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
Natural/Physical Science with Lab		4-5
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
Humanities and Fine Arts		3
Humanities and Fine Arts		3
Advising appointment for fall: February - March		
Join a student organization. Consider joining Student Council for Exceptional Children.		
Make a plan to take the Praxis Core		
MUST establish 2.5+ NU GPA (by end of summer courses) in order to enroll in TED 2100 & TED 2200 for fall semester		
<b>Credits</b>		<b>16-17</b>
<b>Sophomore</b>		
<b>Fall</b>		
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS	3
Social Science		3
Humanities and Fine Arts with Global Diversity		3
Elective for Degree		3
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development.		
Apply to Educator Preparation Program Oct. 1 deadline		
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
TED 2300	HUMAN GROWTH AND LEARNING	3
MTCH 2000	MATHEMATICS FOR ELEMENTARY TEACHERS I	3
Natural/Physical Science		3
*Elective for Degree		3
*May be taken any summer or semester before clinical practice		
Advising appointment for fall: February - March		
Elective for Degree		2
<b>Credits</b>		<b>14</b>
<b>Junior</b>		
<b>Fall</b>		
TED 2400	PLANNING FOR EFFECTIVE TEACHING	6
MTCH 2010	MATHEMATICS FOR ELEMENTARY TEACHERS II	3
SPED 2300	SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS	3
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	3
SPED 4230	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
Advising appointment for spring: Sept. - Oct.		
MUST pass PRAXIS Core by Nov 30th and have 2.75 minimum NU GPA to progress in Educator Preparation Program.		
<b>Credits</b>		<b>18</b>

**Spring**

SPED 3020	DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS	3
SPED 4640	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 4000	PRACTICUM IN SPECIAL EDUCATION	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3

Advising appointment for fall: February - March

**Credits** **15**

**Senior****Fall**

TED 3350	TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS	6
TED 4330	TEACHING OF MATHEMATICS: ELEMENTARY	3
TED 4340	TEACHING OF SCIENCE: ELEMENTARY	3
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3

Take Praxis II- SPED #5354

Advising appointment for spring: Sept. - Oct.

Apply for clinical practice at beginning of fall term.

**Credits** **18**

**Spring**

SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION	12
-----------	--	----

Apply for graduation

**Credits** **12**

**Total Credits** **120-121**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Sign Language Interpreter

Road Map designed to start in odd year (2021, 2023, etc.). Road Map will be different if starting in even year (2022, 2024, etc.)

### Freshman

Fall		Credits
Odd		
ENGL 1150	ENGLISH COMPOSITION I	3
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
SPED 2100	PROFESSIONALISM & ETHICS OF INTERPRETING	3
SPED 1110	AMERICAN SIGN LANGUAGE I	3
SPED 1114	AMERICAN SIGN LANGUAGE I LAB	1
Quantitative Literacy		3
Attend Welcome Week events; other campus events		
Advising appointment for spring: Sept. - Oct.		
Join a student group, such as Allies for Sign Language		
<b>Credits</b>		<b>16</b>

### Spring

Even		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
SPED 1120	AMERICAN SIGN LANGUAGE II	3
SPED 1124	AMERICAN SIGN LANGUAGE II LAB	1
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Humanities and Fine Arts with Global Diversity		3
Advising appointment for fall: February - March		
<b>Credits</b>		<b>16</b>

### Sophomore

Fall		
Even		
SPED 2110	AMERICAN SIGN LANGUAGE III	3
SPED 2114	AMERICAN SIGN LANGUAGE III LAB	1
Humanities and Fine Arts		3
Social Science		3
Natural/Physical Science with Lab		4
Advising appointment for spring: Sept. - Oct.		
Identify professional organization to get involved with. Begin resume development		
<b>Credits</b>		<b>14</b>

### Spring

Odd		
SPED 2120	AMERICAN SIGN LANGUAGE IV	3
SPED 2124	AMERICAN SIGN LANGUAGE IV LAB	1
PSYC 2500	LIFESPAN PSYCHOLOGY	3
ENGL 2400	ADVANCED COMPOSITION	3
or ENGL 3050	or WRITING FOR THE WORKPLACE	
or WRWS 1500	or INTRODUCTION TO CREATIVE WRITING	
Elective		3
<b>Credits</b>		<b>13</b>

### Summer

Odd		
SPED 3110	AMERICAN SIGN LANGUAGE V	3
SPED 3114	AMERICAN SIGN LANGUAGE V LAB	1

SPED 4110	SIGNED ENGLISH AND OTHER SYSTEMS	3
Advising appointment for fall: February - March		

**Credits** **7**

### Junior

#### Fall

##### Odd

SPED 4180	INTERPRETING IN SPECIALIZED SETTINGS	3
SPED 4310	VOICE-TO-SIGN	3
Humanities and Fine Arts		3
Natural/Physical Science		3
Advising appointment for spring: Sept. - Oct.		

**Credits** **12**

#### Spring

Even		
SPED 3130	COMMUNITY INTERPRETING	3
SPED 4240	TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	5
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
SPED 3140	DISCOURSE ANALYSIS AND SOCIOLINGUISTICS FOR INTERPRETERS	3
Elective		1
Advising appointment for fall: February - March		

**Credits** **15**

### Senior

#### Fall

SPED 3120	ACADEMIC INTERPRETING	3
SPED 4740	EDUCATIONAL INTERPRETING PRACTICUM AND SEMINAR	6
SPED 3150	COGNITIVE PROCESSING IN ASL AND ENGLISH	3
Social Science		3
Advising appointment for spring: Sept. - Oct.		

**Credits** **15**

#### Spring

Odd		
SPED 3100	ENGLISH/ASL COMPARATIVE LINGUISTICS	3
SPED 4320	SIGN-TO-VOICE	3
SPED 4760	COMMUNITY INTERPRETING PRACTICUM AND SEMINAR	6
Apply for graduation		

**Credits** **12**

**Total Credits** **120**

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate

degree), you need to take 30 hours each year. Information based on 2021-2022 University of Nebraska at Omaha undergraduate catalog.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### **GPA Requirements:**

2.5 minimum GPA to remain in College of Education, 2.5 minimum GPA to apply to Educator Preparation Program, 2.75 minimum GPA to progress in Educator Preparation Program

# Professional education course: a grade of C or higher is required to pass the class

**Graduation Requirements:** 2.75 minimum NU GPA

## Education - Deaf/Hard of Hearing Program

This program is designed for candidates preparing for careers serving individuals who are deaf/hard of hearing. This program is part of the educator preparation program. Candidates must complete a dual endorsement program with the deaf/hard of hearing and a major in elementary or secondary education. The preparation meets the standards of the Council for Exceptional Children (CEC) for teachers of the deaf/hard of hearing.

### Additional Information

#### **Praxis II Content Test**

All educator preparation candidates are required to receive a passing score on the Praxis II content test in each endorsement area of their preparation prior to being awarded initial teacher certification through the Nebraska Department of Education (NDE). This link (<http://www.ets.org/praxis/ne/requirements/>) will take you to the ETS website page for the Nebraska Department of Education requirements. The page lists the Nebraska requirements for each endorsement area.

### Student Organizations

Allies for Sign Language is an organization that unites members and the Deaf / Hard of Hearing community for fellowship, friendship, and academic achievement. Allies for Sign Language promotes further the understanding of Deaf culture throughout the world. Several academic, volunteer, and social activities related to the current trends and issues in D/HH education and sign language interpreting are organized each semester for UNO students and members of the signing community. For more information, contact Dr. Julie Delkamiller [jdelkamiller@unomaha.edu](mailto:jdelkamiller@unomaha.edu) or Mr. Jonathan Scherling, [jscherling@unomaha.edu](mailto:jscherling@unomaha.edu).

### Contact

512 Roskens Hall  
6005 Dodge Street  
Omaha, NE 68182-0054  
402.554.2201

Website (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/>)

## Requirements

### Required courses for the Deaf/Hard of Hearing Endorsement:

Code	Title	Credits
SPED 1110	AMERICAN SIGN LANGUAGE I	3
SPED 1114	AMERICAN SIGN LANGUAGE I LAB	1
SPED 1120	AMERICAN SIGN LANGUAGE II	3
SPED 1124	AMERICAN SIGN LANGUAGE II LAB	1
SPED 2110	AMERICAN SIGN LANGUAGE III	3
SPED 2114	AMERICAN SIGN LANGUAGE III LAB	1
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
SPED 2120	AMERICAN SIGN LANGUAGE IV	3
SPED 2124	AMERICAN SIGN LANGUAGE IV LAB	1
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS	3
SPED 3110	AMERICAN SIGN LANGUAGE V	3
SPED 3114	AMERICAN SIGN LANGUAGE V LAB	1
SPED 4150	READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES	3
SPED 4240	TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING	5
CDIS 4330	AURAL REHABILITATION	3
SPED 4350	TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING	4
CDIS 4370	BASIC AUDIOLOGY	3
SPED 4650	TRANSITION PLANNING <sup>1</sup>	3
SPED 4710	INTERACTIONS AND COLLABORATION	3
SPED 4720	CLINICAL PRACTICE IN SPECIAL EDUCATION <sup>2</sup>	12
or SPED 4700	CLINICAL PRACTICE IN SPECIAL EDUCATION	
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Total Credits</b>		<b>65</b>

<sup>1</sup> SPED 4650 For 7-12 only.

<sup>2</sup> SPED 4720 is required for clinical practice.

## Communication Disorders

The undergraduate degree in communication disorders provides the fundamental, prerequisite knowledge necessary for pursuing a graduate degree. The graduate degree is the minimal requirement for employment as a speech-language pathologist in Nebraska.

### Other Information

Majors in communication disorders must maintain an overall cumulative GPA of 3.0 or better. No courses taken on a Credit/No Credit basis will be accepted for the purpose of fulfilling any of the required content, professional, or major speech-language pathology coursework. A minimum grade of "C" must be earned in all professional courses required for the Communication Disorders major. All grades of incomplete and any grades below "C" in these specific requirements must be removed. Candidates are responsible for contacting their advisor regarding said grades.

Essential skills and abilities for communication disorders majors must be demonstrated throughout the program. These include adequate vision, hearing, speech, spoken and written language, behavior/social skills, and critical thinking skills.

All candidates accepted into the communication disorders program must complete a background check. The background check must be conducted in the time frame and by the vendor determined by the College of Education, Health, and Human Sciences. The candidate is responsible for the cost of the background check.

The undergraduate degree in communication disorders is a pre-professional degree which does not lead to a certificate or endorsement in speech-language pathology to work in Nebraska schools or a license to work in Nebraska health care settings. A master's degree is required for both certification and licensure in Nebraska. Admission to a graduate program is a separate, selective process. Completion of the UNO undergraduate program does not guarantee admission to the UNO graduate program.

## Student Organization

The UNO chapter of the National Student Speech-Language-Hearing Association (NSSLHA) is a pre-professional membership association for candidates interested in the study of communication sciences and disorders. For membership information, contact Mitzi Ritzman, PhD at mritzman@unomaha.edu.

## Contact

512 Roskens Hall  
6005 Dodge Street  
Omaha, NE 68182-0054  
402.554.2201

Website (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/>)

## Requirements

Code	Title	Credits
<b>Content Coursework</b>		
Candidates in speech-language pathology must take the following content coursework:		
BIOL 1020	PRINCIPLES OF BIOLOGY	4
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 1020	INTRODUCTION TO PSYCHOLOGY II	3
Select one of the following:		4-5
PHYS 1110	GENERAL PHYSICS I WITH ALGEBRA	
PHYS 1050	INTRODUCTION TO PHYSICS	
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
Select one of the following:		3
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
STAT 3000	STATISTICAL METHODS I	
<b>Professional Coursework</b>		
Candidates must take the following professional education courses:		
PSYC 2500	LIFESPAN PSYCHOLOGY	3
TED 2100	EDUCATIONAL FOUNDATIONS	3
CDIS 4550	CULTURAL COMPETENCE IN SERVICE DELIVERY	3
<b>Required Major Coursework</b>		
Required courses for the speech-language pathology Major are:		
CDIS 1400	INTRODUCTION TO COMMUNICATION DISORDERS	3
SPED 1500	INTRODUCTION TO SPECIAL EDUCATION	3
CDIS 4380	ANATOMY AND PHYSIOLOGY	3

CDIS 4420	EARLY LANGUAGE DEVELOPMENT IN CHILDREN	3
CDIS 4390	HEARING SCIENCE	3
CDIS 4450	PHONETICS	3
CDIS 4460	LATER LANGUAGE DEVELOPMENT IN CHILDREN	3
CDIS 3200	WRITING FOR THE PROFESSION OF SPEECH-LANGUAGE PATHOLOGY	3
CDIS 4430	ARTICULATION AND PHONOLOGICAL DISORDERS	3
CDIS 4750	INTRODUCTION TO CHILDHOOD LANGUAGE DISORDERS	3
CDIS 4480	RESEARCH METHODS IN COMMUNICATION DISORDERS	3
CDIS 4490	INTRODUCTION TO PROFESSIONAL PRACTICES	3
CDIS 4500	PRINCIPLES OF ASSESSMENT AND INTERVENTION	3
CDIS 4370	BASIC AUDIOLOGY	3
CDIS 4330	AURAL REHABILITATION	3
CDIS 4470	NEUROPHYSIOLOGY OF SPEECH AND LANGUAGE	3

### Elective Coursework

There is a six to nine hour requirement for hours in related elective coursework. Any related elective coursework must have adviser approval. <sup>1</sup> 6-9

SPED 1110 & SPED 1114	AMERICAN SIGN LANGUAGE I and AMERICAN SIGN LANGUAGE I LAB
SPED 1120 & SPED 1124	AMERICAN SIGN LANGUAGE II and AMERICAN SIGN LANGUAGE II LAB
SPED 2110 & SPED 2114	AMERICAN SIGN LANGUAGE III and AMERICAN SIGN LANGUAGE III LAB
SPED 3110 & SPED 3114	AMERICAN SIGN LANGUAGE V and AMERICAN SIGN LANGUAGE V LAB
SPED 2200	HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS
GERO 2000	INTRODUCTION TO GERONTOLOGY
GERO 3070	DEATH AND DYING
PSYC 4020	LEARNING
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS
TED 2500	DIGITAL CITIZENSHIP
Electives required for admission to SLP/EPP Program	
CDIS 4510	BASIC CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY
TED 2360	CHILDREN'S LITERATURE
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS
SPED 4800	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH
SPED 4810	BEHAVIOR INTERVENTIONS AND SUPPORTS

**Total Credits** **80-84**

<sup>1</sup> NOTE: One of these electives may include CDIS 4510. Pre-professional preparation program candidates may apply to take CDIS 4510 in their senior year. Admission is selective and requires application to and permission of instructor.

# College of Engineering

## DESCRIPTION

Lance C. Pèrez, Ph.D., Dean

Sohrab Asgarpour, Ph.D., Associate Dean for Undergraduate Programs

### Engineering Student Services

107 Peter Kiewit Institute

1110 South 67<sup>th</sup> Street  
Omaha, NE 68182  
402.554.3562

**Website:** <https://engineering.unl.edu/>

## ROLE AND MISSION

The College of Engineering improves the lives of every Nebraskan. We pursue this vision through our shared values of Community, Impact, and Inclusion. These values are embedded in and strengthened by the academic ideals of the university, the ethos of Nebraskans, and the principles of the entire Nebraska Engineering Community.

Our mission is to drive economic development in the state and region while solving problems of global importance. The College of Engineering will fulfill this mission through our deep commitment to engineering, computing and construction education, research, and engagement. As the only engineering college in Nebraska, we have a particularly strong mandate to the state to ensure our resources and opportunities are accessible to all Nebraskans.

An essential and distinctive pillar of our mission is the notion of the Complete Engineer®. At its most fundamental, the Complete Engineer® is a commitment by the college to the development of every student, staff member, and faculty member in technical, professional, and personal dimensions. It enables each individual to become the best version of themselves in support of the fulfillment of the college's mission and reinforces the values of Community, Impact, and Inclusion.

## ADMINISTRATIVE STRUCTURE

The College of Engineering is located on three campuses (Lincoln City Campus, Lincoln East Campus, and Scott Campus in Omaha) and has two Dean's Offices, 114 Othmer Hall (OTHM) in Lincoln and 100 Peter Kiewit Institute (PKI) in Omaha. The College is subdivided into units, each under the leadership of a chairperson, department head, or director.

## ADMISSION

### College Entrance Requirements

Students must have high school credit for (one unit is equal to one high school year):

1. Mathematics - 4 units: 2 of algebra, 1 of geometry, and 1 of precalculus and trigonometry
2. English - 4 units
3. Natural sciences - 3 units that must include 1 unit of physics and 1 unit of chemistry (chemistry requirement waived for students in construction management)
4. Foreign language - 2 units of a single foreign language

5. Social studies - 3 units

6. Students having a composite ACT score of 28 or greater (or equivalent SAT score) will be admitted to the College of Engineering even if they lack any one of the following: trigonometry, chemistry, or physics.

A total of 16 units is required for admission.

Students must have an ACT (enhanced) score of 24 or greater (or equivalent SAT). Students who lack entrance requirements may be admitted based on ACT scores, high school rank and credits, or may be admitted to pre-engineering status. Pre-engineering students are advised within the College of Engineering.

Students for whom English is not their language of nurture must meet the minimum English proficiency requirements of the University.

Students who lack entrance units may complete precollege training by Independent Study through the University of Nebraska-Lincoln Office of On-line and Distance Education, in summer courses, or as a part of their first or second semester course loads while in the Academic and Career Development Center at the University of Nebraska Omaha.

Students should consult their advisor, their department chair, or Engineering Student Services if they have questions on current policies.

## Other Admission Requirements

Students who transfer to the University of Nebraska Omaha from other accredited colleges or universities and wish to be admitted to the College of Engineering (COE) must meet COE freshman entrance requirements, have a minimum cumulative GPA of 2.5 and be calculus-ready. Students not meeting all of these requirements must enroll in another University college until they meet COE admission requirements. Students transferring from UNO, UNL, or UNK to the College of Engineering must be in good academic standing with their institution.

The COE accepts courses for transfer from which a C or better grade was received. Although University of Nebraska-Lincoln and University of Nebraska Omaha accept D grades from the University of Nebraska Kearney, Omaha, and -Lincoln, not all majors in the COE accept such low grades. Students must conform to the requirements of their intended major and, in any case, are strongly encouraged to repeat courses with a grade of C- or less.

All transfer students must adopt the curricular requirements of the undergraduate catalog current at the time of transfer to the COE - not that in use when they entered the University of Nebraska Omaha. Upon admission to Nebraska, students wishing to pursue degree programs in the COE will be classified and subject to the policies defined in the subsequent section.

Students who were previously admitted to COE and are returning to the College of Engineering must demonstrate a cumulative GPA of 2.5 in order to be readmitted to COE.

## ADVISING

### Academic Advising

Advisors assigned to students are either part of the Engineering Student Services, located in 107 PKI, or are in the student's major department.

## Student Responsibility

### Application for the Diploma

Each student who expects to receive a diploma must file an application of candidacy for the diploma on-line on MavLINK. Announcements about deadline dates are posted on the University of Nebraska Omaha's (UNO) Academic Calendar webpage, Maverick Weekly email to students, and by an email sent by the UNO Registrar's office.

It is the responsibility of the students to inform the Registrar's Office of their graduation plans including their mailing address and the manner in which they are completing their requirements.

Failure to meet these stipulations may necessitate postponement of graduation until the next semester.

## ACADEMIC PROGRAMS & POLICIES

### Honors Program

#### Honors Societies

These recognize students who excel in scholarship and give promise of being leaders in professional areas. They are branches of national societies and are generally open upon invitation to juniors and seniors: Alpha Epsilon (agricultural engineering), Chi Epsilon (civil engineering), Eta Kappa Nu (electrical engineering), Pi Tau Sigma (mechanical engineering), Sigma Lambda Chi (construction management), Sigma Xi (scientific, all colleges), Tau Alpha Pi (engineering technology), and Tau Beta Pi (all engineering).

### Student Recognition

#### Graduation with Distinction

GPA requirements for engineering students to graduate with levels of distinction are:

Distinction: 3.750-3.849

High Distinction: 3.850-3.949

Highest Distinction: 3.950-4.000

For engineering students to graduate with Distinction, High Distinction, or Highest Distinction, they must meet the GPA levels listed above, and be approved by a majority vote of the faculty in the department offering their respective academic program.

#### Student Standing/Classification/Professional Admission

Professional admission to a student's degree program is a requirement for graduation from that program.

**Pre-Professionally Admitted COE Students.** These are students who have been admitted to the College of Engineering and are in the process of establishing their academic credentials and confirming their choice of major. Transfer students from other colleges and universities or from the Academic and Career Development Center (ACDC) will be classified as pre-professionally admitted for at least one semester (12 credits) while they confirm their career path and establish their academic credentials (see Professional Admission). Most students are in pre-professionally admitted status for one to four semesters. Pre-professionally admitted students may enroll in upper level engineering courses provided they meet the prerequisites, space is available, and no departmental restrictions exist.

**Professionally Admitted COE Students.** These students may register in engineering courses where they meet all prerequisites or have permission. A professionally admitted student who wishes to transfer from one COE major to another must re-apply for Professional Admission to gain professionally admitted status in the new major, subject to the admission criteria of the new major.

Students who are enrolled in the Academic and Career Development Center or in other colleges may enroll in any engineering courses for which they have met the prerequisites. Those with greater than a 2.5 cumulative GPA may register in upper-level engineering courses, but only on a space-available basis in courses where they meet all prerequisites and have permission from the department. These students may retake an engineering course for C-, D, and F removal no more than once, on a space-available basis and with permission. They may repeat courses with a previous withdrawal (W) only once.

Professional Admission must be earned by a student in order to move from pre-professionally admitted status to professionally admitted status within the College of Engineering. Review of the student's academic history is completed by the department of the student's intended major after the student has completed at least 43 credit hours within his or her intended degree program. Additional review criteria are based on the individual degree program and can be found under that major's information in the undergraduate catalog.

A student may be reviewed up to two times for Professional Admission in a single major. If the student is rejected for Professional Admission on the second review, the student will not be allowed to continue in that major. The student may choose to pursue a new College of Engineering major, but will be subject to the review criteria of the new major. If the student is rejected for Professional Admission by the new major, the student will be dismissed from the College of Engineering. Further reviews for Professional Admission will not be allowed and the student will no longer be eligible to enroll in College of Engineering courses.

**College Probation.** A student who receives a cumulative grade point average (GPA) of less than a 2.4 will be placed on college probation. The student will remain on probation until a semester is completed with a cumulative GPA at or above 2.4. Any student with three sequential semesters on college probation will be dismissed from the College of Engineering.

The first semester of probation is defined as the semester in which failure to meet a cumulative or semester GPA threshold, a course failure or withdrawal, or a code of conduct violation occurs.

Completion of the following semester (12 credits) with a semester GPA above 2.4 is required for a student to be removed from the college probation. Students may be placed on college probation (or dismissed) for violation of the UNO Student Code of Conduct at any time. A student cannot graduate from the College of Engineering while on college probation.

**College Dismissal.** A student will be dismissed from the College of Engineering at the end of any semester in which:

- The student has been placed on college probation for three sequential semesters.
- The student is dismissed by UNO.

Students may also be dismissed for violating the University of Nebraska Omaha Student Code of Conduct at any time. College dismissal will cause an administrative change in the student's matriculation to the Academic and Career Development Center or to a college indicated by the student. Students who have been dismissed from the College of Engineering may be readmitted (one time only) provided they have removed all academic deficiencies that led to dismissal.

## General College Policies

These policies are applicable to all students in the College of Engineering.

- Student priority for entrance into classes for which demand exceeds available class space will be based on cumulative GPA. This priority will be applied at the end of early registration (when applicable).
- Students may withdraw from a maximum of four engineering courses. Students may withdraw from any one engineering course a maximum of one time.
- Students may repeat a maximum of three engineering courses. Students may complete any one engineering course a maximum of two times.
- All students must have a College of Engineering advisor's, chairperson's or dean's signature on all worksheets, enrollment and drop-add forms. Any subsequent changes on these forms, or in enrollment from those courses previously approved, must also be approved by an advisor, chairperson or dean.

- At least 30 of the last 36 credits needed for a degree must be registered for and completed at UNO or UNL while identified with the College of Engineering. This means that, practically speaking, the last year of a student's work must be spent in residence. Credit earned during education abroad may be used toward degree requirements if students participate in prior approved programs and register through the University of Nebraska Omaha (see <https://www.unomaha.edu/international-studies-and-programs/study-abroad/index.php> (<https://www.unomaha.edu/international-studies-and-programs/study-abroad/>))
- Effective with the Fall semester 2011, students entering a baccalaureate program in the College of Engineering on the Omaha campus must satisfy the Achievement Centered Education (ACE) requirements of the University of Nebraska-Lincoln as part of their degree requirements.
- Credit/No Credit courses: Students in the College of Engineering must take ENGR 100 Freshman Engineering Seminar, ENGR 200 Sophomore Engineering Seminar, and ENGR 4000 Professional Ethics and Social Responsibilities with the grading option Credit/No Credit. In addition, students may take up to 12 credit hours of courses utilized for ACE 5, 6, 7, 8, or 9 on a Credit/No Credit basis, unless specified otherwise by the degree program. Students in the College of Engineering may not take any other required courses or technical elective courses with the grading option of Credit/No Credit.
- Credits for "Intensive English Program" at UNL and "English as a Second Language" at UNO are not applicable to degree programs in the College of Engineering.
- Students who enroll at UNL, UNO, or UNK under the academic year (Fall, Spring, Summer) of this catalog must fulfill the requirements stated in this University of Nebraska Omaha catalog or in any other University catalog which is published while they are enrolled in the College, provided that the catalog is no more than 10 years old at the time of graduation. A student must, however, meet the graduation requirements from one catalog only. A student may not choose a portion from one catalog and the remainder from another catalog.
- Subject to space availability, any student with a cumulative GPA less than 2.40 may enroll in AREN 1010, CNST 1310, CIVE 112, CONE 1030 and ECEN 2250 providing they have permission from the College of Engineering and their enrollment does not violate course repeat policies of the College of Engineering. Similarly, students who have College of Engineering permission, do not violate College of Engineering course repeat policies, have the appropriate course prerequisites and whose cumulative GPA is above 2.0 may enroll in, MECH 2200, MECH 3240, and ENGR 3000.

## Regulations

The college and its various divisions and departments reserve the right to change the rules governing admission to, instruction in, and graduation from the college or its various divisions.

Such regulations are operative whenever the college authorities deem necessary and apply not only to prospective students but also to those currently enrolled in the college. The college also reserves the right to withdraw courses and to reassign instructors.

Prerequisites for courses offered in the college are effective even if they are not listed in the schedule. A maximum amount of credit that a student may enroll in during any semester is 18 credit hours without the Dean's permission to override the maximum.

**Undergraduate Seminars.** Freshmen engineering students are required to attend ENGR 100, a 0 credit course. The Freshman Engineering Seminar provides information on engineering disciplines, resources and tools available to students at the University of Nebraska Omaha, and opportunities to meet engineering faculty members. Sophomore engineering students are required to attend ENGR 200, a 0 credit course. The Sophomore Engineering Seminar provides information on

career planning, interviewing, resumé preparation, and coop/internship opportunities.

**Design Requirement.** All engineering majors require a minimum of 48 credit hours of engineering topics (engineering topics include subjects in the engineering sciences or engineering design). Engineering design is the process of devising a system, component, or process to meet desired needs. Engineering design work may be done by individual; however, team efforts are encouraged where appropriate. Engineering majors are provided an integrated engineering design experience throughout the curriculum. In addition, all engineering programs include a meaningful major design experience that builds upon the fundamental concepts of mathematics, basic sciences, humanities, social sciences, engineering topics, and communication skills.

## CATALOG TO USE

Students must fulfill the requirements stated in the catalog for the academic year in which they are first admitted into the College of Engineering. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled as a degree-seeking student at Nebraska in the College of Engineering. Students must complete all degree requirements from a single catalog year. The catalog which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

## COLLEGE DEGREE REQUIREMENTS

### Appeals

#### Grade Appeals

In the event of a dispute involving any college policies or grades, the student should appeal to his/her instructor, and appropriate department chair or school director (in that order). If a satisfactory solution is not achieved, the student may appeal his/her case through the College Academic Appeals Committee on his/her campus.

### Academic Amnesty and Appeals

The following policies shall apply for academic amnesty, appeals of course grades, and appeals of academic suspension.

#### Academic Amnesty

A student may remove one or more full semesters of work from degree consideration by applying to the Office of the Dean after either completing a minimum of 15 simultaneous or sequential credit hours with at least a 3.0 grade point average or 30 hours with at least a 2.5 grade point average at the University of Nebraska Omaha following the semester(s) the student wishes to remove. The application will be forwarded to the campus College Academic Appeals Committee for review and approval, if appropriate.

#### Appeals of Academic Suspension

Appeals of academic suspension must be filed in writing with the Office of the Dean within 21 days after official electronic notification/posting of the grades by the Registrar for the semester at the end of which the suspension was invoked. Suspended students who have filed a notice of appeal may apply to the Office of the Dean for a temporary release from suspension pending the final disposition of their appeal by the Academic Appeals Committee of the College of Engineering.

## DEGREES & MAJORS

### Engineering

To meet the need for innovative engineers, the College's programs offer broad education in the physical sciences, social sciences, mathematics, information sciences, and humanities. This education is complemented by study of engineering methods of modeling, analysis, synthesis, and design in students' areas of specialization. In addition to preparing students for careers in engineering, the College's bachelors degree programs provide excellent preparation for graduate study in those fields.

## Construction Management

This profession is allied with architecture, engineering, and business. Construction managers coordinate people, machines, and materials to produce (within the constraints of budget and time) buildings, highways, bridges, dams, and other structures essential to modern society. The College's construction management program provides a solid technical background, develops business knowledge and considers ethical issues of the profession.

## Undergraduate Programs

**Engineering.** The College offers bachelor of science degree programs in each of the following engineering fields: agricultural engineering (Lincoln only), architectural engineering (Omaha only), biological systems engineering (Lincoln only), chemical engineering (Lincoln only), civil engineering, computer engineering, construction engineering, electrical engineering, mechanical engineering (Lincoln only), and software engineering (Lincoln only). Over 85 percent of all the engineering degrees granted in the United States during the last five years were granted in these fields. Students with interests in specialty fields such as aerospace, environmental, or biomedical engineering should seek advice in the Engineering Student Services Center on how to incorporate such emphases into the above degree programs.

**Construction Management.** The College offers a bachelor of science degree program in construction management.

**Dual Degrees.** Students can major in two departments in the college by consulting their advisors (one from each department) and completing all the requirements for the departmental majors.

## ACCREDITATION

The agricultural engineering, biological systems engineering, chemical engineering, civil engineering (Lincoln and Omaha), computer engineering (Lincoln and Omaha), construction engineering (Lincoln and Omaha), electrical engineering (Lincoln and Omaha), and mechanical engineering programs are accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

The construction management program (Lincoln and Omaha) is accredited by the American Council for Construction Education and the Applied and Natural Science Accreditation Commission (ANSAC) of ABET.

## MINORS & AREAS OF SPECIALIZATION OFFERED

College faculty encourage students to minor in a discipline outside the College of Engineering to further develop critical thinking skills, curiosity, understanding of the connections between engineering and the social or natural sciences and fine arts, and sensitivity to ethical issues.

## Policies

1. A minor will not reduce or alter the existing course or degree requirements for students electing to pursue a minor.
2. A student's minor program(s) must be reviewed by an advisor prior to the submission of the senior check to the department chair or head. It is the responsibility of the student to determine that all requirements for the minor are met.
3. The minor(s) must be approved by the cognizant program offering the minor(s).
4. Departments may restrict students in the major(s) from obtaining certain minor(s) at their discretion; see the catalog entry for individual majors for details.

## OTHER

### Dean's List

The College recognizes students for academic achievement during the fall and spring semesters by placement on the College Dean's List. To qualify

for the College of Engineering Dean's List, students must complete 12 credit hours of graded coursework (courses must be started and completed in one semester) by the census date of the grade reports and attain a minimum semester grade point average of 3.500. the following do not qualify as part of the 12 credit hours: Credit/No Credit credit, transfer hours, removals of incompletes, and grade changes submitted after the census grade reports.

## Professional Licensure

The college encourages professional licensure. The majority of the College's engineering seniors take the Fundamentals of Engineering (FE) examination prior to graduation. This examination is administered by the Nebraska Board of Engineers and Architects, a state agency, and the first step in the process of becoming a licensed professional engineer. To become a licensed professional engineer, one must pass the FE exam, have four years of experience, and pass a professional practice examination. Students may take the FE exam in the last semester of their baccalaureate program.

## Practical Training

For a student who anticipates pursuing a career as a practicing engineer, it is strongly recommended that the student engage in an internship or equivalent practical training experience.

## Scholarships and Financial Aid

Each year the College awards scholarships to freshmen and upperclassmen worth more than \$750,000. Scholarship awards are made possible through generous gifts of alumni and friends, as well as local and national organizations. Contact the Office of the Dean or the Office of Scholarships and Financial Aid for information regarding these awards and for other financial assistance.

Application for the University of Nebraska Omaha freshmen scholarships automatically makes you eligible for College of Engineering scholarships, as well as other university awards such as the Regents scholarships. You must submit the UNO application form (due January 15, prior to the beginning of the next academic year) to be eligible.

A significant number of entering students have academic records that qualify them for university-wide scholarship awards. Each year, about 25 percent of the freshman Regent Scholarship recipients are engineering students.

A large number of students are able to find part-time employment in fields related to their interests.

## Technical Societies

The technical student societies help develop a greater personal and professional interest and understanding in engineering, computer science, and construction management. Student branches of the major national technical and scientific societies are sponsored by the academic programs and departments.

**Scott Campus (Omaha).** Acoustical Society of America; American Society of Heating, Refrigeration and Air-conditioning Engineers; Architectural Engineering Institute; Architectural Engineering Student Leadership and Advisory Committee; Associated General Contractors of America; Earthquake Engineering Research Institute; Emerging Green Builders; Illuminating Engineering Society of North America; Mechanical Electrical Specialty Contractors; National Association of Home Builders Student Chapter; American Society of Civil Engineers; American Water Works Association/Water Environment Federation; Engineers Without Borders; Institute for Transportation Engineers; Structural Engineering Association of Nebraska; and Institute of Electrical & Electronics Engineers.

## Life-Long Learning

The education of professionals in engineering and construction management is a continuing process. The groundwork in both technical and nontechnical studies is laid while in college, but education continues after graduation. For a professional, education will continue not only in the

technical areas but in areas that relate to human and social concerns. A professional may expect to take a leadership role in the community and must have a broad awareness of human and social accomplishments, needs, values, and a willingness to take the responsibility for meeting these needs. For these reasons, an integrated program of coursework in the humanities and social sciences is part of the educational requirements.

## College Entrance Requirements

Students must have high school credit for (one unit is equal to one high school year):

1. Mathematics - 4 units: 2 of algebra, 1 of geometry, and 1 of precalculus and trigonometry
2. English - 4 units
3. Natural sciences - 3 units that must include 1 unit of physics and 1 unit of chemistry (chemistry requirement waived for students in construction management)
4. Foreign language - 2 units of a single foreign language
5. Social studies - 3 units
6. Students having a composite ACT score of 28 or greater (or equivalent SAT score) will be admitted to the College of Engineering even if they lack any one of the following: trigonometry, chemistry, or physics.

A total of 16 units is required for admission.

Students must have an ACT (enhanced) score of 24 or greater (or equivalent SAT). Students who lack entrance requirements may be admitted based on ACT scores, high school rank and credits, or may be admitted to pre-engineering status. Pre-engineering students are advised within the College of Engineering.

Students for whom English is not their language of nurture must meet the minimum English proficiency requirements of the University.

Students who lack entrance units may complete precollege training by Independent Study through the University of Nebraska-Lincoln Office of On-line and Distance Education, in summer courses, or as a part of their first or second semester course loads while in the Academic and Career Development Center at the University of Nebraska Omaha.

Students should consult their advisor, their department chair, or Engineering Student Services if they have questions on current policies.

## Other Admission Requirements

Students who transfer to the University of Nebraska Omaha from other accredited colleges or universities and wish to be admitted to the College of Engineering (COE) must meet COE freshman entrance requirements, have a minimum cumulative GPA of 2.5 and be calculus-ready. Students not meeting all of these requirements must enroll in another University college until they meet COE admission requirements. Students transferring from UNO, UNL, or UNK to the College of Engineering must be in good academic standing with their institution.

The COE accepts courses for transfer from which a C or better grade was received. Although University of Nebraska-Lincoln and University of Nebraska Omaha accept D grades from the University of Nebraska Kearney, Omaha, and -Lincoln, not all majors in the COE accept such low grades. Students must conform to the requirements of their intended major and, in any case, are strongly encouraged to repeat courses with a grade of C- or less.

All transfer students must adopt the curricular requirements of the undergraduate catalog current at the time of transfer to the COE - not that in use when they entered the University of Nebraska Omaha. Upon admission to Nebraska, students wishing to pursue degree programs in the

COE will be classified and subject to the policies defined in the subsequent section.

Students who were previously admitted to COE and are returning to the College of Engineering must demonstrate a cumulative GPA of 2.5 in order to be readmitted to COE.

## College of Engineering Programs

### Engineering

#### Architectural Engineering

- B.S. Degree Program (p. 600)

#### Civil Engineering

- B.S. Degree Program (p. 603)

#### Computer Engineering

- B.S. Degree Program (p. 615)

#### Construction Engineering

- B.S. Degree Program (p. 629)

#### Construction Management

- B.S. Degree Program (<https://catalog.unomaha.edu/undergraduate/college-engineering/construction/construction-management-bs/>)

#### Electrical Engineering

- B.S. Degree Program (p. 617)

#### First two years of:

- Agricultural Engineering (p. 623)
- Biological Systems Engineering (p. 624)
- Mechanical Engineering (p. 625)

## Graduate Programs

A variety of graduate programs in engineering and construction management are available. For details on programs leading to masters and doctorate degrees, including the application process, individuals should contact the appropriate department or office of the dean in the College of Engineering. Application forms are available at <http://www.unl.edu/gradstudies> (<http://www.unl.edu/gradstudies/>).

## Minors & Areas of Specializations Offered

College faculty encourage students to minor in a discipline outside the College of Engineering to further develop critical thinking skills, curiosity, understanding of the connections between engineering and the social or natural sciences and fine arts, and sensitivity to ethical issues.

## Policies

1. A minor will not reduce or alter the existing course or degree requirements for students electing to pursue a minor.
2. A student's minor program(s) must be reviewed by an advisor prior to the submission of the senior check to the department chair or head. It is the responsibility of the student to determine that all requirements for the minor are met.
3. The minor(s) must be approved by the cognizant program offering the minor(s).
4. Departments may restrict students in their major(s) from obtaining certain minor(s) at their discretion; see the catalog entry for individual majors for details.

# Architectural Engineering, Bachelor of Science

The architectural engineering (BSAE) undergraduate program is a four-year program requiring 129 credit hours. A one-year Master of Architectural Engineering (MAE) program of 36 credits is also offered. The MAE degree is accredited by the Engineering Accreditation Commission (EAC) of ABET, and almost all of our BSAE graduates continue to complete the MAE degree.

## Educational Objectives

The following are the BSAE/MAE program educational objectives (PEOs):

1. Professional Accomplishment: The AE program will prepare graduates to become licensed professional engineers a few years after graduation.
2. Career Accomplishment: The AE program will prepare graduates to contribute to society by working in an occupation related to the built environment a few years after graduation.

Architectural engineering (AE) is the engineering design of buildings. Students have the option to specialize in either the design of:

1. building structural systems;
2. building mechanical systems and acoustics; or
3. building lighting and electrical systems.

The first three years are common to all three fields of specialization and include the math and science courses common to all engineering programs. Students take an introductory course in AE in their first semester where the students learn about the materials and systems that comprise a building, visit a construction site, and interact with their industry mentors. It provides a preview of the work they can expect to perform after graduation. This introductory course helps students decide if AE is the career path they wish to pursue.

In the second semester, the AE student begins the first of a four-course sequence of courses in AE Design and Simulation Studio. These courses familiarize the engineering student with building information technology (BIM), building systems, and how they support the design process of architects. The AE degree is keenly focused on integrating engineering concepts with architectural features to deliver aesthetic and high performing buildings. Exposure to construction is an important part of the AE student's education. It develops creativity and constructability where AE graduates enjoy a special ability to work effectively with all professionals on the design and construction team.

The AE program develops breadth and depth by requiring a good understanding of all the systems that comprise a building while also providing a specialized education in one of the areas listed above. Breadth is provided in the fifth and sixth semesters, where all students take courses in each of the three areas of specialization. Depth is provided in the seventh and eighth semesters where courses are taken primarily in one of the three specialization tracks.

A one-year master of architectural engineering degree follows the four-year undergraduate program. This fifth year continues the specialized education in each of the three option areas and provides the professional practice topics that architectural engineers need later in their careers.

The MAE year features a major interdisciplinary design project. The project requires the student to practice the design skills and understanding of building systems previously developed. Student teams complete a significant building design in a manner that closely simulates professional practice. Industry and faculty members serve as consultants to the students. Typically, students enter this design into the national Architectural Engineering Institute competition. Traditionally, our students do very well at this competition.

## Career Opportunities

Architectural engineering graduates normally enter the building design industry and become registered professional engineers. There are about 20 accredited architectural engineering programs in the country, so there is a large unfulfilled demand for engineers educated in building design. In Nebraska, the home of several large architectural and engineering design firms, this is especially true.

Architectural engineering is accredited by the EAC-ABET, Inc. The accreditation is attached to the one-year master of architectural engineering degree.

## Major Department Admission

Students must complete at least 43 credit hours in the AE program before applying for professional admission to the degree program in AE. Transfer students must have all transfer hours accepted before applying for professional admission. The students must have a minimum of 3.0 GPA over a pre-determined set of 43 credit hour freshman and sophomore level courses to be professionally admitted to the AE program and continue to take 3000-level AREN courses. A spreadsheet for calculation of AE professional admittance GPA is provided on The Durham School AE website. The number of admitted students will depend on the availability of space, faculty, and other academic resources. Students are not permitted to register for more than 61 credit hours of courses listed in the AE curriculum until they have been accepted into the degree program.

## Learning Outcomes

Graduates of architectural engineering will develop:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The above student outcomes have been approved by the ABET EAC for use beginning with the 2019-20 academic year, and have been adopted by the faculty of the Department of Architectural Engineering.

## Catalog to Use

Because of rapid technical developments, the AE curriculum is continually reviewed and upgraded. Currently enrolled students are expected to modify their programs to take advantage of such revisions. Students who do not maintain continuous progress toward the degree through enrollment in applicable coursework will be considered as new students upon re-entering the program and will be subject to the requirements of the undergraduate catalog current at the time of their re-entry.

## Grade Rule

### C- and D grades

Architectural engineering students must earn a grade of C or better in math, science, computer programming, and engineering courses to obtain credit for that course toward graduation. Additionally, all courses that are prerequisites for engineering courses must be passed with a grade of C or better.

## ACE Requirements

The AE program follows the University of Nebraska–Lincoln Achievement Centered Education (ACE) requirements. Because of the specific needs of the program, most of these courses are specified in the curriculum.

Please contact Melissa Hoffman at [melissa.hoffman@unl.edu](mailto:melissa.hoffman@unl.edu) or 402.554.4482 if you are interested in more information about this program.

## Requirements

Course	Title	Credits
<b>First Semester</b>		
AREN 1010	INTRODUCTION TO ARCHITECTURAL ENGINEERING	1
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
ACE ELECTIVE (SLO 9)		3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>16</b>
<b>Second Semester</b>		
MATH 1960	CALCULUS II	5
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
AREN 1030	DESIGN AND SIMULATION STUDIO I	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>16</b>
<b>Third Semester</b>		
ECEN 2110	ELEMENTS OF ELECTRICAL ENGINEERING	3
MATH 1970	CALCULUS III	4
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
MECH 2230	ENGINEERING STATICS	3
AREN 2030	DESIGN AND SIMULATION STUDIO II	3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>18</b>
<b>Fourth Semester</b>		
MECH 2000	ENGINEERING THERMODYNAMICS	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MECH 3250	MECHANICS OF ELASTIC BODIES	3
MECH 3730	ENGINEERING DYNAMICS	3
AREN 3070	MECHANICS OF MATERIALS LAB	1
CONE 2110	CONSTRUCTION BUSINESS METHODS	3

AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>16</b>
<b>Fifth Semester</b>		
AREN 3200	LIGHTING I: FUND FOR DESIGN	3
AREN 3300	BUILDING ACOUSTICS FUNDAMENTALS	3
ACE ELECTIVE (SLO 5 or 7)	ONE OF ACE 5 OR 7 MUST INCLUDE ART 3770 (7 ONLY) OR ART 3780 (5 ONLY)	3
CIVE 310/MECH 3100	FLUID MECHANICS	3
CIVE 319	HYDRAULICS LAB	1
CIVE 341	INTRODUCTION TO STRUCTURAL ENGINEERING	4
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>17</b>
<b>Sixth Semester</b>		
AREN 3220	ELECTRICAL SYSTEMS FOR BUILDINGS I	3
AREN 3100	HVAC FUNDAMENTALS	3
CIVE 441	STEEL DESIGN I	3
AREN 4040	BUILDING ENVELOPES	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
AREN 3030	AE DESIGN AND SIMULATION STUDIO III (Note: Listed as AREN 4940 for Registration)	3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
<b>Credits</b>		<b>18</b>
<b>Seventh Semester</b>		
All options:		
CONE 2060	ENGINEERING ECONOMICS	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	3
AREN 4030	AE DESIGN AND SIMULATION STUDIO IV (Note: Listed as AREN 4940 for Registration)	3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
Select one of the following three options		9
<b>Lighting and Electrical Option</b>		
AREN 4200	LIGHTING II: THEORY, DESIGN & APPLICATION	
AREN 4120	BUILDING ENERGY II: PRIMARY AND SECONDARY SYSTEMS	
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I (satisfies ACE SLO 6)	
<b>Mechanical and Acoustics Option</b>		
AREN 4120	BUILDING ENERGY II: PRIMARY AND SECONDARY SYSTEMS	
<b>ACE ELECTIVE (SLO 6)</b>		
GENERAL ELECTIVE	ELECTIVE MUST BE APPROVED BY ADVISOR	
<b>Structural Option</b>		
CIVE 443	ADVANCED STRUCTURAL ANALYSIS	
CIVE 440	REINFORCED CONCRETE DESIGN I	

ACE ELECTIVE (SLO 6)		
	Credits	18
<b>Eighth Semester</b>		
All options:		
ACE ELECTIVE (SLO 5 OR 7)	ONE OF ACE 5 OR 7 MUST INCLUDE ART 3770 (7 ONLY) OR ART 3780 (5 ONLY)	3
AREN 1000	DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR	0
Select one of the following three options:		7
Lighting and Electrical Option		
AREN 4250	LIGHTING DESIGN	
PSYC 4210	SENSATION AND PERCEPTION	
Mechanical and Acoustics Option		
AREN 4150	HVAC DESIGN	
AREN 4300	ADVANCED NOISE CONTROL	
Structural Option		
CIVE 334	INTRODUCTION TO GEOTECHNICAL ENGINEERING	
CIVE 444	STRUCTURAL DESIGN AND PLANNING	
	<b>Credits</b>	<b>10</b>
	<b>Total Credits</b>	<b>129</b>

#### **AREN 1000 DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR (0 credits)**

Presentation of professional problems and practices by students, faculty, and professionals associated with careers in the Durham School of Architectural Engineering and Construction

#### **AREN 1010 INTRODUCTION TO ARCHITECTURAL ENGINEERING (1 credit)**

An overview of architectural engineering. Descriptions of structural, lighting and electrical, and mechanical engineered systems in buildings. Design and measurement exercises. Field visits to buildings.

#### **AREN 1030 DESIGN AND SIMULATION STUDIO I (3 credits)**

Focus on virtual modeling in the context of conceptual design. Study of fundamentals of Building Information Modeling (BIM), iterative design processes, early design analysis techniques, and technical problem-solving processes. Development of modeling skills in various software programs including Autodesk Revit, Formit, Dynamo, and Trimble Sketchup.

#### **AREN 2010 ARCHITECTURAL ENGINEERING SEMINAR (1 credit)**

This course will inform students about careers in Architectural Engineering and about non-technical issues of engineering practice. It will include visits to offices and job sites, and talks by practicing professionals. Professional, ethical, social, and environmental issues will be addressed. Students will gain experience in teamwork, and in presentation of information.

**Prerequisite(s)/Corequisite(s):** AREN 1010 or AE 1010; 30 credit hours completed

#### **AREN 2030 DESIGN AND SIMULATION STUDIO II (3 credits)**

Focus on building systems as integral elements in architecture, building and construction assemblies, materials and methods, fabrication, and tectonic exploration using building information modeling (BIM) processes. Exposure to building construction systems, stereotomic and tectonic construction assemblies, and fundamentals of the architectural design process.

**Prerequisite(s)/Corequisite(s):** AREN 1030 or AE 1030 Design and Simulation Studio I

#### **AREN 2110 THERMODYNAMICS FOR ARCHITECTURAL ENGINEERING (3 credits)**

First and Second Laws of Thermodynamics, properties of gases and vapors. Sources of energy and its conversion to work. Applications on Architectural Engineering and Construction.

**Prerequisite(s)/Corequisite(s):** MATH 1960, PHYS 2110. Not open to non-degree graduate students.

#### **AREN 2250 CONSTRUCTION GRAPHICS AND DESIGN PROCESS (3 credits)**

Introduction to typical computer-graphics and calculation applications used in a contemporary architectural engineering design office. Extensive use of CADD and electronic spreadsheet software to solve typical analysis and design problems. Fundamentals of descriptive geometry and two and three-dimensional drawing systems. Use of drawing conventions common to construction design. Basics of personal computer applications. Conceptual review of engineering design and technical problem solving processes.

#### **AREN 2400 BUILDING SYSTEMS (3 credits)**

Building systems as integral elements in architecture; building assemblies and materials; building system relationships; communication of ideas between design professionals, clients, contractors and manufacturers; construction drawings and specifications.

**Prerequisite(s)/Corequisite(s):** AREN 2250 or AE 2250

#### **AREN 3030 AE DESIGN AND SIMULATION STUDIO III (3 credits)**

A comprehensive focus on building design and construction through integrating program, structure, site, and enclosure aligned with architectural engineering. Topics include structure and construction assemblies; envelope performance; and whole building organization and space-making using BIM processes.

**Prerequisite(s)/Corequisite(s):** AREN 3030 or permission of instructor

#### **AREN 3070 MECHANICS OF MATERIALS LAB (1 credit)**

Introduction to the behavior and testing of various building materials. The concepts of axial stress and strain, flexural stress and strain, beam deflections and column buckling.

**Prerequisite(s)/Corequisite(s):** Coreq: MECH 3250.

#### **AREN 3100 HVAC FUNDAMENTALS (3 credits)**

Topics will include an introduction to the types of air conditioning systems; the properties of moist air, psychometric processes in HVAC equipment; indoor air quality; thermal comfort; heat transmission in buildings; solar radiation; and the calculation of building infiltration rates, space heating loads and space cooling loads.

**Prerequisite(s)/Corequisite(s):** MECH 2000 or MENG 2000; corequisite AREN 4040

#### **AREN 3120 MECHANICAL SYSTEMS FOR BUILDINGS (3 credits)**

Fluid flow, pumps, and piping design; space air diffusion; fans, ducts, and building air distribution; refrigeration equipment.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100 and CIVE 310 and CIVE 319

#### **AREN 3130 HVAC LAB (1 credit)**

Conduct experiments and prepare written reports involving fluid flow, pumps, fans, ducts, piping; basic heat transfer and thermodynamic principles.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100 and CIVE 310 and CIVE 319

#### **AREN 3200 LIGHTING I: FUND FOR DESIGN (3 credits)**

Introduction to illumination engineering for building interiors. Topics include the fundamentals of light and vision, lighting equipment, requirements for building lighting, and basic illuminating engineering design methods.

**Prerequisite(s)/Corequisite(s):** ECEN 2110

#### **AREN 3220 ELECTRICAL SYSTEMS FOR BUILDINGS I (3 credits)**

Study of basic design of building electrical systems including circuit design, power distribution and service equipment, communications systems, and special electrical systems.

**Prerequisite(s)/Corequisite(s):** ECEN 2110

**AREN 3230 LIGHTING AND ELECTRICAL SYSTEMS LAB (1 credit)**

General introduction to lighting and electrical systems in building interiors, through hands-on exercises using a range of currently available lighting and electrical technologies. Topics include: principles of object modeling, lamp and luminaire workshops, field measurements of lighting and electrical systems, motor workshop, power consumption and power factor workshops. **Prerequisite(s)/Corequisite(s):** AREN 3200 or AE 3200; coreq AREN 3220

**AREN 3300 BUILDING ACOUSTICS FUNDAMENTALS (3 credits)**

An introduction to the acoustics of buildings. Topics include the fundamentals of sound generation, propagation, and measurement; human hearing; acoustic properties of materials and constructions; basic room acoustics; and noise control.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**AREN 3770 GLOBAL EXPERIENCES IN ARCHITECTURAL ENGINEERING (1-3 credits)**

Individual or group educational experience in Architectural Engineering that combine classrooms, lectures, discussions, and/or seminars with field and/or classroom studies in a foreign country. Choice of subject matter and coordination of on- and off-campus activities are at the discretion of the instructor.

**AREN 3920 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING III (1-3 credits)**

Individual instruction in Architectural Engineering at the junior level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**AREN 3940 SPECIAL TOPICS IN ARCHITECTURAL ENGINEERING III (3 credits)**

Special topics in Architectural Engineering at the junior level that are not yet covered in other courses in the Architectural Engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**AREN 4020 ARCHITECTURAL ENGINEERING SENIOR DESIGN PROJECT IN LIGHTING (4 credits)**

Senior design project that integrates lighting design and illuminating engineering through a semester long design problem. A self-directed execution of the lighting design process culminating with a professional design solution.

**Prerequisite(s)/Corequisite(s):** AREN 3220 or AE 3220; AREN 4200 or AE 4200

**AREN 4030 AE DESIGN AND SIMULATION STUDIO IV (3 credits)**

Advanced topics in Building Information Modeling (BIM) are presented including modeling tools and processes for building engineers, designers, contractors, and operators. BIM management throughout the building lifecycle, technical engineering use cases, and specific topics in virtual reality, simulation, augmented reality, and graphical programming environments are covered. Advanced topics relevant to all AE fields include collaborative design and interoperability.

**Prerequisite(s)/Corequisite(s):** AREN 3030

**AREN 4040 BUILDING ENVELOPES (3 credits)**

Design and analysis of building envelopes is an important and interdisciplinary topic within the Architectural Engineering field that relates to all AE subdisciplines (lighting, electrical systems, structures, mechanical systems, and acoustics). This introductory Building Envelopes course is created to supplement the sub-discipline specific introductory courses as well as combine some of these topics under the umbrella of building envelopes. It aims to fill an important gap in the BSAE curriculum and cover a comprehensive introduction to the processes of Building Energy Modeling.

**Prerequisite(s)/Corequisite(s):** MECH 2000 or MENG 2000; junior standing; corequisite: AREN 3100

**AREN 4120 BUILDING ENERGY II: PRIMARY AND SECONDARY SYSTEMS (3 credits)**

Analysis and design of building air distribution systems, fans, pumps, piping, space air diffusion and heat exchangers.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100; CIVE 310

**AREN 4150 HVAC DESIGN (4 credits)**

Develop and design the mechanical system for an actual building, from the programming phase to the final construction documents.

**Prerequisite(s)/Corequisite(s):** AREN 4120 or AE 4120. Not open to non-degree graduate students.

**AREN 4200 LIGHTING II: THEORY, DESIGN & APPLICATION (3 credits)**

Design and analysis of lighting systems; the emphasis is on the integration between the lighting design process and the technical foundations for building lighting; topics include design criteria; lighting design procedures, lighting modes and subjective effects; calculation tools. Lab sessions include photometric measurements and computer applications. (Cross-listed with AREN 8206).

**Prerequisite(s)/Corequisite(s):** AREN 3200 or AE 3200

**AREN 4250 LIGHTING DESIGN (4 credits)**

Advanced design and analysis of lighting systems. Application of the lighting design process for advanced interior applications such as multimedia facilities, and outdoor applications such as sports lighting. (Requires the initiation of the design process, proceeding in a self-directed manner through intermediate steps, and producing professional lighting design solutions.)

**Prerequisite(s)/Corequisite(s):** AREN 4200 or AE 4200. Not open to non-degree graduate students.

**AREN 4300 ADVANCED NOISE CONTROL (3 credits)**

Characterization of acoustic sources; use and measurement of sound power and intensity; sound-structure interaction; acoustic enclosures and barriers; muffling devices; vibration control; and active noise control. (Cross-listed with AREN 8306).

**Prerequisite(s)/Corequisite(s):** AREN 3300 or AE 3300

**AREN 4600 SMART BUILDING SENSORS AND PROGRAMMING (3 credits)**

Principles of modeling, interfacing, and signal conditioning of sample building sensors, and acquisition and analysis of data utilizing engineering programming language such as LabVIEW. Overview of current sensing technology and control in buildings.

**Prerequisite(s)/Corequisite(s):** CIST 1400

**AREN 4620 MEMS SENSORS DYNAMICS (3 credits)**

Study of the dynamics of Microelectromechanical system (MEMS) beam-structures. Modeling principles and data analysis from different types of MEMS will be explained along with deep theoretical and experimental investigation of nonlinear MEMS dynamics. Learn to conduct experiments using state-of-the-art MEMS characterization tools. (Cross-listed with AREN 8626).

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**AREN 4920 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING IV (1-3 credits)**

Individual instruction in Architectural Engineering at the senior level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**AREN 4940 SPECIAL TOPICS IN ARCHITECTURAL ENGINEERING IV (3 credits)**

Special topics in Architectural Engineering at the senior level that are not yet covered in other courses in the Architectural Engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Civil Engineering, Bachelor of Science

The Department of Civil Engineering offers a complete undergraduate program to University of Nebraska students on City Campus in Lincoln and Scott Campus in Omaha. Curriculum requirements are nearly identical on both campuses. The goal is to prepare students for entry into the civil

engineering profession immediately after graduation or to pursue graduate-level studies.

Website (<https://engineering.unl.edu/civil/>)

The general educational objectives of the University of Nebraska–Lincoln (UNL) civil engineering undergraduate program are to prepare our graduates so that, with a UNL BSCE degree, a few years beyond graduation:

1. Graduates are employed in civil and environmental engineering or a closely related field; or, graduates are pursuing an advanced degree in civil and environmental engineering or a closely related field.
2. Graduates contribute to society and address societal and environmental needs through engagement in professional, community, or service organizations.
3. Graduates agree that the Civil and Environmental Engineering program prepared them for success in their careers in terms of knowledge and skillsets as embodied in the program and the Complete Engineer(TM) Initiative.

As a professional discipline, civil engineering is closely related to the total human environment. In all professional endeavors, the civil engineer must consider ecological effects as well as the social, economic, and political needs of people. The civil engineer designs systems to control and manage our water resources to provide electric power, agricultural irrigation, flood control, recreation, water supplies and wastewater treatment systems for our urban and industrial needs.

The civil engineer plans, designs, and constructs our transportation systems including highways, railroads, waterways, and airports to connect rural, urban, and industrial areas. The civil engineer also designs and constructs housing and facilities for recreational, industrial, and commercial complexes, which comprise the urban environment. It is the responsibility of civil engineering to minimize air, water, and land pollution and protect the environment.

Instructional emphasis is placed on fundamental engineering principles derived from mathematics, chemistry, physics, and engineering science. These subjects provide a sound background for the subsequent introductory courses in environmental, geotechnical, structural, transportation, and water resources engineering. Students are introduced to design concepts in the freshman year. Design is incorporated throughout the curriculum that culminates in two senior-level courses, CIVE 385 Professional Practice and Management in Civil Engineering and CIVE 489 Senior Design Project.

Instructional laboratories in environmental engineering, hydraulics, geotechnical engineering, structures, and surveying provide each student with an opportunity to learn, through individual participation, the operation of the testing equipment used to establish engineering design criteria and to monitor and model engineering facilities such as water and wastewater treatment plants, highway systems, river control systems, and structural systems.

Some students may desire to obtain a degree in construction management in addition to the degree in civil engineering. Because some civil engineering courses require prerequisites beyond those required for similar construction management courses, students should obtain the civil engineering degree first. Advising will be done by a civil engineering faculty member familiar with the construction management curriculum. After completing the civil engineering degree, the student will move to the construction management department to complete requirements for the second undergraduate degree in construction management.

The Departments of Civil Engineering and Architecture have a joint program awarding licensing degrees in both fields of study. A bachelors degree in civil engineering and masters degree in architecture are awarded, after approximately seven years of study. The departments work with individual

students in tailoring a joint degree program. More information can be obtained from either department office.

## Learning Outcomes

Graduates of the civil engineering program will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Professional Admission to Civil Engineering Criteria for Professional Admission to the Civil Engineering Degree Program

Pre-professionally admitted College of Engineering students majoring in civil engineering must have their academic records reviewed for professional admission to the Civil Engineering Degree Program during the fall, spring or summer immediately following the term in which:

- At least 12 credits (one semester) have been completed after admission to the College of Engineering;
- At least 43 credits applicable to the degree have been earned; and
- PHYS 2110 General Physics I, MECH 2230 Engineering Statics, MECH 3730 Mechanics of Elastic Bodies and MECH 3250 Engineering Dynamics have been completed.

Additionally, the student can have no more than two declined professional admission requests to other engineering majors. It is likely a student may need to complete four full semesters of credits applying to the Program before these requirements are able to be completed.

Professional admission approval to the Civil Engineering Degree Program also requires that all of the following Departmental-specific criteria must be met:

- Earn a C letter grade or better in PHYS 2110, MECH 2230, MECH 3730, AND MECH 3250
- Earn a cumulative grade point average of 2.4 or greater; and
- Earn a C letter grade or better in ALL math, science and engineering courses required for the bachelor of science in civil engineering degree if the cumulative grade point average is less than 2.700.

Students approved for professional admission to the Program are then allowed to take 400-level civil engineering courses to complete their degree.

## Requirements

(City Campus in Lincoln and Scott Campus in Omaha)

Students must have completed the equivalent of the fourth semester before admission to the civil engineering program. Transfer students must have all transfer hours accepted before being considered for the degree program.

**Degree Requirements - 130 hours**

Course	Title	Credits
<b>First Semester</b>		
CIVE 112	INTRODUCTION TO CIVIL ENGINEERING	1
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
MATH 1950	CALCULUS I	5
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>16</b>
<b>Second Semester</b>		
CIVE 130	COMPUTER-AIDED DESIGN	2
CIVE 221	GEOMETRIC CONTROL SYSTEMS	3
MATH 1960	CALCULUS II	5
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>17</b>
<b>Third Semester</b>		
ENGR 200	SOPHOMORE ENGINEERING SEMINAR	0
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES <sup>5</sup>	3
MATH 1970	CALCULUS III	4
MECH 2230	ENGINEERING STATICS	3
PHYS 2120 or CHEM 1190	GENERAL PHYSICS-CALCULUS LEVEL <sup>3</sup> or GENERAL CHEMISTRY II	4
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>17</b>
<b>Fourth Semester</b>		
CIVE 361	HIGHWAY ENGINEERING	3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MECH 3250	MECHANICS OF ELASTIC BODIES	3
MECH 3730	ENGINEERING DYNAMICS	3
<b>Credits</b>		<b>15</b>
<b>Fifth Semester</b>		
CIVE 310/MECH 3100	FLUID MECHANICS	3
CIVE 319	HYDRAULICS LAB	1
CIVE 326	INTRODUCTION TO ENVIRONMENTAL ENGINEERING	3
CIVE 327	ENVIRONMENTAL ENGINEERING LABORATORY	1
CIVE 341	INTRODUCTION TO STRUCTURAL ENGINEERING	4
STAT 3800 or MECH 3210	APPLIED ENGINEERING PROBABILITY AND STATISTICS or ENGINEERING STATISTICS AND DATA ANALYSIS	3
<b>Credits</b>		<b>15</b>
<b>Sixth Semester</b>		
CIVE 334	INTRODUCTION TO GEOTECHNICAL ENGINEERING	4
CIVE 352	INTRODUCTION TO WATER RESOURCES ENGINEERING	3
CIVE 378	MATERIALS OF CONSTRUCTION	3

CIVE 385	PROFESSIONAL PRACTICE AND MANAGEMENT IN CIVIL ENGINEERING	3
ACE Elective <sup>1</sup>		3

**Credits** **16**

<b>Seventh Semester</b>		
Technical Elective		3
CIVE Design electives		6
ACE Elective <sup>1</sup>		3
Science Elective		4

**Credits** **16**

<b>Eighth Semester</b>		
CIVE 489	SENIOR DESIGN PROJECT	3
CIVE Design Elective		3
Technical Electives		9
Professional Development Electives <sup>1</sup>		3

**Credits** **18**

**Total Credits** **130**

- <sup>1</sup> ACE elective: Choose one course from each ACE Student Learning Outcome (SLO) 5,6,7,8 and 9 elective courses.
- <sup>2</sup> Computer Aided Design: AE 2250 or equivalent.
- <sup>3</sup> PHYS 2120: CHEM 1190 & CHEM 1194 is an acceptable substitute.
- <sup>4</sup> CIVE 221: CONE 2210 is acceptable substitute.
- <sup>5</sup> ENGL 3980: ENGR 3000 is acceptable substitute.
- <sup>6</sup> Professional Development Elective: The Department has a list of acceptable courses.
- <sup>7</sup> Technical elective: The department has a list of acceptable courses.

**CIVE Design Electives**

CIVE Design Electives: Nine (9) credits must be taken from courses designated as Design Electives. CIVE Design electives must be taken from at least two sub-disciplines.

Code	Title	Credits
CIVE 419	FLOW SYSTEMS DESIGN	3
CIVE 425	PROCESS DESIGN IN WATER SUPPLY AND WASTEWATER TREATMENT	3
CIVE 426	DESIGN OF WATER TREATMENT FACILITIES	3
CIVE 427	DESIGN OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES	3
CIVE 436	FOUNDATION ENGINEER	3
CIVE 440	REINFORCED CONCRETE DESIGN I	3
CIVE 441	STEEL DESIGN I	3
CIVE 452	WATER RESOURCES DEVELOPMENT	3
CIVE 462	HIGHWAY DESIGN	3
CIVE 463	TRAFFIC ENGINEERING	3

**Civil Engineering Technical Electives**

Technical Electives: Technical electives will be selected by the student in consultation with his/her adviser to formulate a coherent program in civil engineering. Two technical electives (up to six credits) can be taken from MECH 2000, ECEN 2110, CONE 2060 or any approved course in science, mathematics, or other engineering areas approved by the department. The department has an approved list.

Code	Title	Credits
CIVE 421	HAZARDOUS WASTE MANAGEMENT AND TREATMENT	3
CIVE 422	POLLUTION PREVENTION: PRINCIPLES AND PRACTICES	3

CIVE 424	SOLID WASTE MANAGEMENT ENGINEERING	3
CIVE 430	FUNDAMENTALS OF WATER QUALITY MODELING	3
CIVE 431	SMALL TREATMENT SYSTEMS	3
CIVE 432	BIOREMEDIATION OF HAZARDOUS WASTES	3
CIVE 434	SOIL MECHANICS II	3
CIVE 443	ADVANCED STRUCTURAL ANALYSIS	3
CIVE 444	STRUCTURAL DESIGN AND PLANNING	3
CIVE 446	STEEL DESIGN II	3
CIVE 447	REINFORCED CONCRETE II	3
CIVE 452	WATER RESOURCES DEVELOPMENT	3
CIVE 454	HYDRAULIC ENGINEERING	3
CIVE 455	NONPOINT SOURCE POLLUTION CONTROL ENGINEERING	3
CIVE 456	SURFACE WATER HYDROLOGY	3
CIVE 458	GROUNDWATER ENGINEERING	3
CIVE 459	RELIABILITY OF STRUCTURES	3
CIVE 461	URBAN TRANSPORTATION PLANNING	3
CIVE 468	AIRPORT PLANNING AND DESIGN	3
CIVE 472	PAVEMENT DESIGN AND EVALUATION	3
CIVE 475	WATER QUALITY STRATEGY	3
CIVE 481	COMPUTATIONAL PROBLEM SOLVING IN CIVIL ENGINEERING	3
CIVE 498	SPECIAL TOPICS IN CIVIL ENGINEERING	1-6

**For more information, call 402-554-2462 or visit**

[www.engineering.unl.edu/civil/](http://www.engineering.unl.edu/civil/) (<http://www.engineering.unl.edu/civil/>)

**CIVE 112 INTRODUCTION TO CIVIL ENGINEERING (1 credit)**

Introduction to civil engineering as a career by use of case studies; alternate approaches to engineering designs illustrated by use of engineering principles.

**CIVE 130 COMPUTER-AIDED DESIGN (2 credits)**

Use of computer-aided design software to communicate engineering ideas. Specifications, dimensioning, tolerancing, 2- and 3-D model development, topographic mapping, and process layout with environmental, bioprocess, and biomedical emphases.

**Prerequisite(s)/Corequisite(s):** CIVE112, not open to nondegree students

**CIVE 221 GEOMETRIC CONTROL SYSTEMS (3 credits)**

Introduction to the theory and application of mensuration and geometric information processing in civil engineering. Measurement of distance, direction, elevation and location using mechanical, electronic and satellite systems. Collection of field data and error propagation. Elementary geometric data bases for design, construction, operation and control of civil works.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CIVE 252 CONSTRUCTION MATERIALS LAB (1 credit)**

Introduction to ASTM and AASHTO standard procedures used to measure soil and concrete properties; common modifications to soil and concrete mixes are discussed and analyzed.

**Prerequisite(s)/Corequisite(s):** MATH1950 and CNST2510 coreq

**CIVE 310 FLUID MECHANICS (3 credits)**

Fluid statics, equations of continuity, momentum, and energy; dimensional analysis and dynamic similitude. Applications to: flow meters; fluid pumps and turbines; viscous flow and lubrication; flow in closed conduits and open channels. Two-dimensional potential flow.

**Prerequisite(s)/Corequisite(s):** MATH 2350; and MENG 3730 or EMEC 3730.

**CIVE 319 HYDRAULICS LAB (1 credit)**

Hydraulic experiments and demonstrations. Velocity, pressure and flow measurements; pipe flow, open channel flow; hydraulic structures and machinery, hydrologic and sediment measurement and student projects.

**Prerequisite(s)/Corequisite(s):** CIVE310 pre/coreq

**CIVE 326 INTRODUCTION TO ENVIRONMENTAL ENGINEERING (3 credits)**

Introduction to the principles of environmental engineering, including water quality, atmospheric quality, pollution prevention, and solid and hazardous wastes engineering. Design of water, air, and waste management systems.

**Prerequisite(s)/Corequisite(s):** MATH 2350, and CHEM 1180 and CHEM 1184, or CHEM 1190 and CHEM 1194

**CIVE 327 ENVIRONMENTAL ENGINEERING LABORATORY (1 credit)**

Environmental engineering experiments, demonstrations, field trips, and projects. Experiments include the measurement and determination of environmental quality parameters such as solids, dissolved oxygen, biochemical and chemical oxygen demand, and alkalinity.

**Prerequisite(s)/Corequisite(s):** Pre or Coreq: CIVE 326.

**CIVE 328 CONCRETE MATERIALS (2 credits)**

Physical properties of cement and concrete. Sampling, testing, inspection. Design of mixtures. Factors affecting strength. Specifications. Building forms and placing concrete.

**Prerequisite(s)/Corequisite(s):** MENG 2230 and CHEM 1180. Not open to non-degree graduate students.

**CIVE 334 INTRODUCTION TO GEOTECHNICAL ENGINEERING (4 credits)**

Soil composition, structure and phase relationships; soil classification. Principles of effective stress; loading induced subsurface stresses; load history; deformation and failure of soils. Elastic and limit analysis with applications to design for bearing capacity, settlement, retaining walls and slope stability. Steady state seepage.

**Prerequisite(s)/Corequisite(s):** EMEC 3250 or MENG 3250; Coreq: CIVE 310.

**CIVE 341 INTRODUCTION TO STRUCTURAL ENGINEERING (4 credits)**

Introduction to the analysis and design of structural systems. Introduction to the analysis and design of structural systems. Analyses of determinate and indeterminate trusses, beams, and frames, and design philosophies for structural engineering. Laboratory experiments deal with the analysis of determinate and indeterminate structures.

**Prerequisite(s)/Corequisite(s):** MENG 3250

**CIVE 352 INTRODUCTION TO WATER RESOURCES ENGINEERING (3 credits)**

Introduction to water resources engineering design and planning, surface hydrology, groundwater hydraulics, reservoirs and other control structures. Introduction to field measurement and computational methods in water resources.

**Prerequisite(s)/Corequisite(s):** CIVE310 or MENG3100

**CIVE 361 HIGHWAY ENGINEERING (3 credits)**

Introduction to the principles of highway engineering and traffic operations and control.

**Prerequisite(s)/Corequisite(s):** MENG 2230; and CIVE 221 or CONE 2210.

**CIVE 378 MATERIALS OF CONSTRUCTION (3 credits)**

Introduction to the behavior, testing and design of soil, portland cement concrete, steel, wood and composites. Experiments covering the concepts of stress and strain under axial, torsional, shear and flexural loading conditions. Common ASTM laboratory test procedures and specifications, field quality control tests and statistical applications.

**Prerequisite(s)/Corequisite(s):** MENG 3250

**CIVE 385 PROFESSIONAL PRACTICE AND MANAGEMENT IN CIVIL ENGINEERING (3 credits)**

Basic elements of civil engineering practice. Roles of all participants in the process-owners, designers, architects, contractors, and suppliers. Basic concepts in business management, public policy, leadership, and professional licensure. Professional relations, civic responsibilities, and ethical obligations for engineering practice. Project management, contracts, allocation of resources, project estimating, planning, and controls.

**Prerequisite(s)/Corequisite(s):** Junior standing and CIVE major. Not open to non-degree graduate students.

**CIVE 419 FLOW SYSTEMS DESIGN (3 credits)**

Application of hydraulic principles to the design of water distribution systems, wastewater and stormwater collection systems, channelized flow systems and treatment facilities. (Cross-listed with CIVE 819)

**Prerequisite(s)/Corequisite(s):** CIVE 326 or CIVE 327; CIVE 352 coreq.

**CIVE 421 HAZARDOUS WASTE MANAGEMENT AND TREATMENT (3 credits)**

Survey of the hazardous waste management system in the USA. State and federal hazardous waste regulations. Chemical characteristics of hazardous waste and unit operations and processes used for treatment of soil, water, and air. (Cross-listed with CIVE 821).

**Prerequisite(s)/Corequisite(s):** CIVE 326.

**CIVE 422 POLLUTION PREVENTION: PRINCIPLES AND PRACTICES (3 credits)**

Introduction to pollution prevention (P2) and waste minimization methods. Practical applications to small businesses and industries. Legislative and historical development of P2 systems analysis, waste estimation, P2 methods, P2 economics, and sources of P2 information. (Cross-listed with CIVE 822).

**Prerequisite(s)/Corequisite(s):** Permission

**CIVE 424 SOLID WASTE MANAGEMENT ENGINEERING (3 credits)**

Planning design and operation of solid and waste collection processing, treatment, and disposal systems including materials, resources and energy recovery systems. (Cross-listed with CIVE 824).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 334

**CIVE 425 PROCESS DESIGN IN WATER SUPPLY AND WASTEWATER TREATMENT (3 credits)**

Design of unit operations and processes associated with drinking water and wastewater treatment facilities.

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 310

**CIVE 426 DESIGN OF WATER TREATMENT FACILITIES (3 credits)**

Analyses of water supplies and design of water treatment and distribution systems. (Cross-listed with CIVE 826).

**Prerequisite(s)/Corequisite(s):** CIVE425

**CIVE 427 DESIGN OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES (3 credits)**

Analysis of systems for wastewater treatment and disposal. (Cross-listed with CIVE 827).

**Prerequisite(s)/Corequisite(s):** CIVE 425

**CIVE 430 FUNDAMENTALS OF WATER QUALITY MODELING (3 credits)**

Comprehensive study of water quality and the effects of various water pollutants on the aquatic environment; modeling of water quality variables. (Cross-listed with CIVE 830).

**Prerequisite(s)/Corequisite(s):** CIVE 326

**CIVE 431 SMALL TREATMENT SYSTEMS (3 credits)**

Design of small and decentralized waste water management systems. (Cross-listed with CIVE 831.)

**Prerequisite(s)/Corequisite(s):** CIVE 326 or permission. Not open to non-degree graduate students.

**CIVE 432 BIOREMEDIATION OF HAZARDOUS WASTES (3 credits)**

Principles, applications, and limitations of bioremediation of hazardous wastes and design of some bioremediation systems.

**Prerequisite(s)/Corequisite(s):** CIVE 326 and (CIVE 310 or MENG 3100)

**CIVE 434 SOIL MECHANICS II (3 credits)**

Application of the effective stress principle to shear strength of cohesive soils; analysis of stability of slopes. Development of continuum relationships for soils; solutions for stresses and displacements for an elastic continuum. Solution of the consolidation equation for various initial and boundary conditions.

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 436 FOUNDATION ENGINEER (3 credits)**

Subsoil exploration and interpretation; selection of foundation systems; determination of allowable bearing capacity and settlement; design of deep foundations; pile driving analysis; control of groundwater.

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 439 INTRODUCTION TO BRIDGE ENGINEERING (3 credits)**

Structural types, bridge loads, design of bridge slabs, steel girder bridges, and prestressed concrete girder bridges. Evaluation of existing bridges. Problems related to fatigue and corrosion. Field testing of bridges. (Cross-listed with CIVE839)

**Prerequisite(s)/Corequisite(s):** CIVE440 or CIVE441 or CIVE840

**CIVE 440 REINFORCED CONCRETE DESIGN I (3 credits)**

Introduction to the design concepts of reinforced concrete building components. The design of flexural and compression members, simple walls, foundations, and floor systems using the latest American Concrete Institute (ACI) design requirements.

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CIVE 441 STEEL DESIGN I (3 credits)**

Introduction to the design concepts for structural steel building components. Design of tension members, bolted and welded connections, column members, and beam members. Limit states design concepts used throughout, and emphasis on behavior of members and code design procedures.

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CIVE 443 ADVANCED STRUCTURAL ANALYSIS (3 credits)**

Matrix analysis methods and computer solutions for indeterminate structures. Additional topics: static condensation, shear deformations, and non-prismatic members in matrix-based analyses, moment distribution method, load cases and load combinations for buildings and bridges, and influence lines and analysis for moving loads. (Cross-listed with CIVE 843)

**Prerequisite(s)/Corequisite(s):** CIVE 341. Not open to non-degree graduate students.

**CIVE 444 STRUCTURAL DESIGN AND PLANNING (3 credits)**

Principles of design of steel and reinforced concrete structural building systems, planning of building vertical and horizontal load resisting systems, and bridge systems. Several design projects involve indeterminate analysis and design concepts for both steel and reinforced concrete. (Cross-listed with CIVE 844).

**Prerequisite(s)/Corequisite(s):** CIVE 440 and CIVE 441

**CIVE 446 STEEL DESIGN II (3 credits)**

A continuation of the topics covered in CIVE 441. The principles and procedures used in design of steel buildings, design of plate girders, design and analysis of building systems, design and analysis of composite steel-concrete building systems, innovative building systems, and introduction to seismic design of steel buildings. Plate buckling, beam, column, and beam-column design, and frame stability. Introduction to connection design.

**Prerequisite(s)/Corequisite(s):** CIVE 441

**CIVE 447 REINFORCED CONCRETE II (3 credits)**

Shear friction theory, strut-and-tie modeling, anchorage, deflection, slender and bi-axially loaded members, torsion, two-way action and punching shear, and footing design. Excel spreadsheets are developed and used for various design tasks. (Continuation of topics covered in CIVE 440/CIVE 840.) (Cross-listed with CIVE 847).

**Prerequisite(s)/Corequisite(s):** CIVE 440 or CIVE 840

**CIVE 451 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. The finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow. (Cross-listed with CIVE 851)

**CIVE 452 WATER RESOURCES DEVELOPMENT (3 credits)**

Theory and application of systems engineering with emphasis on optimization and simulation techniques for evaluating alternatives in water resources developments related to water supply, flood control, hydroelectric power, drainage, water quality, water distribution, irrigation and water measurement. (Cross-listed with CIVE 852).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 454 HYDRAULIC ENGINEERING (3 credits)**

Fundamentals of hydraulics with applications of mechanics of solids, mechanics of fluids, and engineering economics to the design of hydraulic structures. Continuity, momentum, and energy principles are applied to special problems from various branches of hydraulic engineering. (Cross-listed with CIVE 854).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 455 NONPOINT SOURCE POLLUTION CONTROL ENGINEERING (3 credits)**

Identification, characterization, and assessment of nonpoint source pollutants; transport mechanisms and remediation technologies; design methodologies and case studies. (Cross-listed with CIVE 855).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 352

**CIVE 456 SURFACE WATER HYDROLOGY (3 credits)**

Stochastic analysis of hydrological data and processes including rainfall, runoff, infiltration, temperature, solar radiation, wind, and non-point pollution. Space-time hydrologic modeling with emphasis on the application of techniques in the design of engineering projects. (Cross-listed with CIVE 856).

**Prerequisite(s)/Corequisite(s):** CIVE 352 or permission

**CIVE 458 GROUNDWATER ENGINEERING (3 credits)**

Application of engineering principles to the movement of groundwater. Analysis and design of wells, well fields, and artificial recharge. Analysis of pollutant movement. (Cross-listed with CIVE 858).

**Prerequisite(s)/Corequisite(s):** CIVE 352.

**CIVE 459 RELIABILITY OF STRUCTURES (3 credits)**

Fundamental concepts related to structural reliability, safety measures, load models, resistance models, system reliability, optimum safety levels, and optimization of design codes.

**Prerequisite(s)/Corequisite(s):** CIVE 341.

**CIVE 461 URBAN TRANSPORTATION PLANNING (3 credits)**

Development of urban transportation planning objectives and goals. Data collection procedures, land use and travel forecasting techniques, trip generation, trip distribution, modal choice analysis, and traffic assignment. Site development and traffic impact analysis. (Cross-listed with CIVE 861).

**Prerequisite(s)/Corequisite(s):** CIVE 361

**CIVE 462 HIGHWAY DESIGN (3 credits)**

Design of roadways, intersections, interchanges, parking facilities, and land development site access and circulation. Emphasis on design projects. (Cross-listed with CIVE862)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 463 TRAFFIC ENGINEERING (3 credits)**

Design of signalized intersections, arterial street and network signal systems, and freeway control systems. Emphasis on design projects. (Cross-listed with CIVE863)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 468 AIRPORT PLANNING AND DESIGN (3 credits)**

Planning and design of general aviation and air-carrier airports. Land-side components include vehicle ground access systems, vehicle circulation parking and terminal buildings. Air-side components include aircraft apron-gate area, taxi-way system, runway system and air traffic control facilities and airspace. Emphasis on design projects. (Cross-listed with CIVE868)

**Prerequisite(s)/Corequisite(s):** CIVE 361

**CIVE 471 BITUMINOUS MATERIALS AND MIXTURES (3 credits)**

Understanding of the physical, chemical, geometrical, and mechanical characteristics and practical applications of bituminous materials and mixtures. Fundamental mechanics for elastic and inelastic materials and basic theories associated with mechanical data analyses and designs. Recent advances and significant research outcomes for further discussions. Applications of theories to laboratory and field testing. (Cross-listed with CIVE 871)

**Prerequisite(s)/Corequisite(s):** CIVE 378. Not open to non-degree graduate students.

**CIVE 472 PAVEMENT DESIGN AND EVALUATION (3 credits)**

Thickness design of flexible and rigid pavement systems for highways and airports; design of paving materials; evaluation and strengthening of existing pavements. (Cross-listed with CIVE 872).

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 475 WATER QUALITY STRATEGY (3 credits)**

Holistic approach to the selection and analysis of planning strategies for protecting water quality from nonpoint sources of contamination. Introduction to the use of methods of analyzing the impact of strategies on whole systems and subsystems for selecting strategies; and for evaluating present strategies.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CIVE 476 CONSTRUCTION COST CONTROLS (3 credits)**

Development of cost accounting principles and financial controls appropriate for construction contractors. Includes purchasing policies and procedure, labor and equipment cost reporting techniques, accounting procedures for control of materials and supplies, billing methods, principles of financial reporting and analysis.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and ACCT 2020.

**CIVE 481 COMPUTATIONAL PROBLEM SOLVING IN CIVIL ENGINEERING (3 credits)**

Introduction of numerical methods to solve problems in civil engineering, including finding roots of equations, solving linear algebra equations, optimization, curve fitting, numerical differentiation and integration, and finite difference method. Computational methods in numerical integration, matrix operations and ordinary differential equations as they apply to civil engineering problems. (Cross-listed with CIVE 881)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CIVE 489 SENIOR DESIGN PROJECT (3 credits)**

Requires the formulation and completion of a civil engineering design project. Course provides senior civil engineering students with the opportunity to apply engineering concepts and principles to a comprehensive design project of multiple sub-disciplinary nature. The principal objectives are for students to develop an understanding of the entire life-cycle of civil engineering projects with emphasis on the development of a unified and sustainable design that addresses the client's needs; project team work; strong engineer-client relationships; and effective project communications.

**Prerequisite(s)/Corequisite(s):** Senior standing and CIVE 385

**CIVE 498 SPECIAL TOPICS IN CIVIL ENGINEERING (1-6 credits)**

Special problems, topics, or research in civil engineering. (Cross-listed with CIVE 898).

**Prerequisite(s)/Corequisite(s):** Permission.

## Electrical & Computer Engineering

The mission of the department of Electrical & Computer Engineering (ECE) at the University of Nebraska is to provide undergraduate and graduate level education in electrical and computer engineering, perform research and other scholarly activities, and furnish service to the state, nation, industry, and the profession. To fulfill this mission, the ECE department offers the degrees of Bachelor of Science in Electrical Engineering and in Computer Engineering, as well as several graduate programs. The faculty takes pride in its high level of interaction with both undergraduate and graduate students.

### General Requirements

The following sections apply to the electrical engineering and computer engineering programs. For more details visit the ECE department's website (<https://engineering.unl.edu/ece/>)

### Advisement

Upon entry into the curriculum, each student will be assigned an academic advisor. It is required that each student meet with the advisor prior to each class registration period and that all courses to be applied toward the degree be selected with the advice and approval of the advisor.

The student is expected to have his/her academic records reviewed and approval obtained from the ECE department prior to application to the University registrar for awarding of a degree in order to ensure that all curricular requirements have been satisfied by the time of the student's intended graduation.

### Curriculum

Because of the rapid developments in the fields of electrical and computer engineering, the curricular requirements are continually reviewed and updated to reflect technological advances. Curricular sequence and course descriptions contained herein are intended to serve as general guidelines. Contact the ECE department for information on any changes to the requirements that are currently in effect but not listed in this catalog.

Students who do not maintain continuous progress toward a degree through enrollment in applicable course work will be considered as new students upon reentering the electrical or computer engineering curricular sequence and will be subject to the requirements of the curriculum current at the time of their reentry. Certain courses may not be valid as prerequisites or as credit toward the degree after two academic years; the student's academic advisor should be consulted regarding applicability. The applicable University catalogs and college academic policies must be followed to ensure the student satisfies all of the Achievement Centered Education (ACE) requirements.

### Special Interest Areas

Opportunities are provided for the development of areas of special interest through enrollment in the individual study courses which are offered at the freshman through senior level for the student who may wish to develop a topic under the guidance of a department faculty member. Enrollment is by permission after a written proposal has been approved. Special topics courses are also offered by the department as the need arises. Academic advisers should be consulted regarding the particular topics to be covered and the necessary prerequisites for each offering of this course. Students who expect to continue their education at the graduate level after the award

of the baccalaureate degree should consult their advisors regarding course selections that would enhance that objective.

Students are encouraged to develop their professional and leadership potential through participation in student chapters of related professional organizations and in University extracurricular activities. Participation in the University Honors Program is encouraged for those who qualify.

### Transfer Course Work

The applicability of transfer course work with engineering content toward credit in the curriculum is determined on a case-by-case basis by the department.

### Financial Aid

Numerous opportunities exist for students to obtain financial aid during the course of their academic work at the university. The office of the dean of the college and the campus financial aid office should be consulted to determine the availability of such assistance.

### Degrees Offered

- Electrical Engineering (p. 617)
- Computer Engineering (p. 615)

#### **ECEN 1030 ELECTRICAL AND COMPUTER ENGINEERING FUNDAMENTALS (4 credits)**

Introduction to DC circuit analysis and digital logic. Topics include Ohm's and Kirchoff's laws, mesh and nodal analysis, Boolean algebra, logic gates, minimization, counters and flip-flops. Uses of computer based resources for data analysis and report generation. Use of internet to locate and retrieve engineering resources.

**Prerequisite(s)/Corequisite(s):** MATH 1950 (pre or coreq)

#### **ECEN 1060 MICROPROCESSOR APPLICATIONS (3 credits)**

Introduction to assembly language programming of microprocessors/microcontrollers, assemblers, and debugging tool utilization. Microprocessor system hardware components, control signals, and 'C' language micro-controller programming.

**Prerequisite(s)/Corequisite(s):** ECEN 1030, CIST 1400

#### **ECEN 1234 INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING (1 credit)**

Laboratory design projects introducing some basic concepts and skills needed in electrical and computer engineering.

**Prerequisite(s)/Corequisite(s):** Coreq: CIST 1400. Open to first year students only or by permission.

#### **ECEN 1920 INDIVIDUAL STUDY IN COMPUTER AND ELECTRONICS ENGINEERING I (1-3 credits)**

Individual study at the freshman level in a selected electrical, computer, or electronics engineering area under the supervision and guidance of an electrical and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Departmentally approved proposal

#### **ECEN 1940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING I (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering which may not be covered in the other courses in the electrical and computer engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Freshman standing or permission.

#### **ECEN 1980 SPECIAL TOPICS IN ELECTRICAL ENGINEERING I (1-6 credits)**

Offered as the need arises to treat electrical engineering topics for first-year students not covered in other courses.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 2110 ELEMENTS OF ELECTRICAL ENGINEERING (3 credits)**

Basic circuit analysis including direct and alternating currents and operational amplifiers. Digital signals and circuits. Not for electrical engineering majors.

**Prerequisite(s)/Corequisite(s):** MATH 1960 and PHYS 2110

**ECEN 2130 ELECTRICAL CIRCUITS I (3 credits)**

Electrical circuit theory, Kirchhoff's and Ohm's laws, circuit analysis theorems, Norton and Thevenin equivalence. The analysis of resistor circuits, with capacitors and inductors, in DC and AC steady state. Transients and variable frequency response are studied, including computer solutions to circuit problems.

**Prerequisite(s)/Corequisite(s):** ECEN 1030 and ECEN 2250. MATH 2350 prior to or concurrent.

**ECEN 2140 ELECTRICAL CIRCUITS II (3 credits)**

Introduction to the analysis of electrical circuits in sinusoidal steady states. The concepts of impedance, phasors, power, frequency response, resonance, magnetic circuits and two-part networks. Transform techniques for circuit analysis.

**Prerequisite(s)/Corequisite(s):** ECEN 2130 and ECEN 2184. Pre or Corequisite: MATH 2050.

**ECEN 2150 ELECTRONICS AND CIRCUITS I (3 credits)**

Introduction to electrical engineering circuit theory. Kirchhoff's law and circuit analysis theorem applied to steady state DC resistive circuits. Analysis of transient RLC and sinusoidal steady-state circuits. Modern computer methods are employed.

**Prerequisite(s)/Corequisite(s):** Co-Req: MATH 1970

**ECEN 2160 ELECTRONICS AND CIRCUITS II (3 credits)**

Steady-state power calculations for sinusoidal single-phase and balanced three-phase circuits. Mutual inductance. Frequency response. Introduction to the fundamentals of semiconductor theory and their applications to P-N junction devices. Kirchhoff's laws and circuit analysis theorems applied to steady-state diode circuits. Modern computer methods employed.

**Prerequisite(s)/Corequisite(s):** ECEN 2150 with grade of C or higher. Coreq: MATH 2350.

**ECEN 2170 ELECTRICAL CIRCUITS III (1 credit)**

Analysis of first and second order RLC circuits using differential equations and Laplace transforms. Variable frequency network performance analysis. This course is for computer engineering majors only.

**Prerequisite(s)/Corequisite(s):** ECEN 2130. Not open to non-degree graduate students.

**ECEN 2184 ELECTRICAL CIRCUITS LABORATORY I (1 credit)**

The use of laboratory tools for measurement and verification of electrical concepts. Experiments using both passive and semiconductor devices at audio frequencies. Analysis verification with computer simulation.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2130.

**ECEN 2200 INTRODUCTION TO EMBEDDED SYSTEMS (3 credits)**

Basic hardware and software concepts of embedded microprocessor systems and interfacing with other hardware components. Simple circuits are designed and drivers to run these circuits are written. Design and build hardware and write drivers in assembly language.

**Prerequisite(s)/Corequisite(s):** CSCI 1200 or working knowledge of C programming. Not open to non-degree graduate students.

**ECEN 2220 ELECTRONIC CIRCUITS I (4 credits)**

Analysis and design of modern electronic circuits. Diode circuits, bipolar and field effect transistor switching and amplifier circuits, and operational amplifier circuits.

**Prerequisite(s)/Corequisite(s):** ECEN 2130 with grade of C or better, and ECEN 2184.

**ECEN 2240 INTRODUCTION TO SIGNAL PROCESSING (4 credits)**

This course demonstrates the use of mathematical and digital computation tools key to engineering applications. Auditory and visual senses are used in the presentation and study of sinusoidal signals, sampling, frequency response and filtering theory.

**Prerequisite(s)/Corequisite(s):** ECEN 1060, CIST 1400, MATH 1960.

**ECEN 2250 ELECTRICAL AND COMPUTER ENGINEERING SEMINAR (1 credit)**

An overview of electrical, computer, electronics and telecommunication fields. There will be information on professional careers available upon graduation. Professionalism and ethics are addressed as well as the need for lifelong learning experiences.

**Prerequisite(s)/Corequisite(s):** ECEN 1030 or parallel

**ECEN 2310 ELECTRICAL ENGINEERING LABORATORY (1 credit)**

Laboratory accompanying ECEN 2110.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2110. Not open to non-degree graduate students.

**ECEN 2350 INTRODUCTORY ELECTRICAL LABORATORY I (1 credit)**

Laboratory accompanying ECEN 2150.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2150.

**ECEN 2360 INTRODUCTORY ELECTRICAL LABORATORY II (1 credit)**

Laboratory accompanying ECEN 2160

**Prerequisite(s)/Corequisite(s):** ECEN 2350, Coreq: ECEN 2160.

**ECEN 2920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING II (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a electrical and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Sophomore Standing, ECE departmentally approved proposal.

**ECEN 2940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING II (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering at the sophomore level which may not be covered in the other courses in the electrical and engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Sophomore standing or permission.

**ECEN 3040 SIGNALS AND SYSTEMS I (3 credits)**

Mathematical modeling of physical systems and signals. Representation of signals in terms of basic functions. Fourier Series expansion, Fourier Transforms, Laplace and Z-Transforms. Input-output relations, convolution. Transfer functions. System Stability. Poles/zeros and s- and z-plane methods. Applications.

**Prerequisite(s)/Corequisite(s):** ECEN 2140 or ECEN 2160 with a grade of C or better and MATH 2350.

**ECEN 3050 PROBABILITY THEORY AND STATISTICS FOR ELECTRICAL AND COMPUTER ENGINEERS (3 credits)**

Random experiment model, random variables, functions of random variables, and introduction to random processes; statistics and practical data analysis.

**Prerequisite(s)/Corequisite(s):** MATH 1970/(UNL)MATH 208

**ECEN 3060 ELECTROMAGNETIC FIELD THEORY (3 credits)**

Complex vectors, Maxwell's equations. Uniform plane waves. Wave reflection and transmission at interfaces. Waveguides and resonators. Transmission line principles. Antennas. Topics in waves.

**Prerequisite(s)/Corequisite(s):** ECEN 2150 or ECEN 2130 with grade of C or better, PHYS 2120, MATH 1970, MATH 2350., not open to non-degree graduate students.

**ECEN 3074 ELECTRICAL ENGINEERING LABORATORY I (2 credits)**

Laboratory work on circuits and systems, digital and analog electronic circuits.

**Prerequisite(s)/Corequisite(s):** ECEN 1060; ECEN 2220 or ECEN 2360; Coreq: ECEN 3130 or ECEN 3700; Admission to College of Engineering; not open to non-degree graduate students.

**ECEN 3100 DIGITAL DESIGN AND INTERFACING (4 credits)**

Digital design from both the circuit and system perspectives. Topics include the structure and analysis of digital integrated circuits, interface signal integrity, Field Programmable Gate Array (FPGA) design and synthesis, software simulation. Lab exercises provide hands-on experience with design tools and the design process.

**Prerequisite(s)/Corequisite(s):** ECEN 2220. Prereq or coreq: ECEN 3130.

**ECEN 3130 SWITCHING CIRCUITS THEORY (4 credits)**

Combinational circuit analysis and design. State machine analysis and design. Includes synchronous/clock mode circuits and asynchronous sequential circuits. Minimization, race and hazard elimination are covered. Circuits are implemented in discrete logic and in CPLD and FPGA devices. VHDL hardware description language is used to describe circuits. Circuits are implemented in discrete logic and in CPLD/FPGA devices.

**Prerequisite(s)/Corequisite(s):** ECEN 1060.

**ECEN 3160 ELECTRONICS AND CIRCUITS III (3 credits)**

Kirchhoff's laws and circuit analysis theorems applied to steady state transistor circuits. Frequency response of filters and amplifiers. Basic power amplifier types. Advanced operational amplifier circuits. Introduction to the fundamentals of semiconductor theory and their application to p-n junction and field devices.

**Prerequisite(s)/Corequisite(s):** ECEN 2160 with grade of C or better.

**ECEN 3174 ELECTRICAL ENGINEERING LABORATORY II (2 credits)**

Lab work on electromagnetic fields and waves, solid state devices, discrete systems, control systems, and communications.

**Prerequisite(s)/Corequisite(s):** ECEN 3040, ECEN 3074 Coreq: ECEN 3060, ECEN 3160, not open to non-degree graduate students.

**ECEN 3250 COMMUNICATIONS SYSTEMS (4 credits)**

Relevant communication systems; principles of transmission and reception; amplitude; frequency and phase modulation. Sampling theorem, pulse-code modulation and delta modulation.

**Prerequisite(s)/Corequisite(s):** ECEN 2220; ECEN 3050.

**ECEN 3274 DISCRETE SYSTEMS LABORATORY (1 credit)**

Laboratory work on discrete systems.

**Prerequisite(s)/Corequisite(s):** ECEN 1060 or ECEN 2200 and ECEN 3074

**ECEN 3280 APPLIED FIELDS AND LINES I (3 credits)**

Transmission lines. Discontinuities, different termination, and matching methods. Application of vector analysis to Maxwell's equations. Uniform plane waves including reflection/transmission. S-parameters. Principles of antennas. LW, MW, SW, USW propagation.

**Prerequisite(s)/Corequisite(s):** MATH 1970 and MATH 2350

**ECEN 3290 APPLIED FIELDS AND LINES II (3 credits)**

Metallic waveguides with rectangular, circular and coaxial cross section, antennas, free space, propagation in free space, applications.

**Prerequisite(s)/Corequisite(s):** ECEN 3280.

**ECEN 3320 ASSEMBLY LANGUAGE PROGRAMMING (1 credit)**

Architecture and assembly language programming of 8-bit and 32-bit microcontrollers.

**Prerequisite(s)/Corequisite(s):** ECEN 1060

**ECEN 3380 INTRODUCTION TO POWER AND ENERGY SYSTEMS (3 credits)**

Energy sources, environmental impacts, power systems principles, three phase circuits, transmission lines, transformers, per unit analysis, generators, loads, and power system modeling.

**Prerequisite(s)/Corequisite(s):** ECEN 2160 or ECEN 2140 with grade of C or better. Not open to non-degree graduate students.

**ECEN 3450 MOBILE ROBOTICS I (4 credits)**

Introduction to the primary issues spanning the field of mobile robotics, including robotics history, robot components (sensors, actuators), robot system design considerations, low-level control (feedback control) and robotics control architectures. The lab focuses on the practical implementation of autonomous robot control on a real mobile robot using behavior-based methods in the C language.

**Prerequisite(s)/Corequisite(s):** ECEN 1060, ECEN 2130.

**ECEN 3474 ELECTRICAL ENGINEERING LABORATORY II (1 credit)**

Lab work on electromagnetics, fields and waves, solid state devices and control systems.

**ECEN 3500 ELECTRICAL ENGINEERING INTERNSHIP OR COOPERATIVE EDUCATION (1-3 credits)**

Approval of faculty sponsor prior to the internship or Co-op is required. For Internships or Cooperatives primarily technical in nature lasting 4.5 months or greater. Weekly communication and/or final report required. Must be taken during or after the semester in which the Internship/Co-op occurs.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 3520 ELECTRONIC CIRCUITS II (4 credits)**

Operational amplifier circuit design and analysis with emphasis on feedback and stability. Design and analysis of large signal power amplifiers. Other integrated devices such as regulators, comparators, Schmitt triggers, oscillators and active filters.

**Prerequisite(s)/Corequisite(s):** ECEN 2220

**ECEN 3550 SIGNALS AND LINEAR SYSTEMS (3 credits)**

Continuous and discrete time representations of signals. System modeling and analysis using differential and difference equations. Fourier, Laplace and z transforms. State description of continuous and discrete time transfer functions. The primary mathematical tools used in the analysis of continuous and discrete time systems.

**Prerequisite(s)/Corequisite(s):** ECEN 2140

**ECEN 3610 ADVANCED ELECTRONICS AND CIRCUITS (3 credits)**

Analog and digital electronics for discrete and integrated circuits. Multistage amplifiers, frequency response, feedback amplifiers, simple filters and amplifiers MOS and bipolar logic gates and families A/D and D/A converters.

**Prerequisite(s)/Corequisite(s):** ECEN 3160; not open to non-degree graduate students.

**ECEN 3620 DATA AND TELECOMMUNICATIONS TRANSCEIVERS (4 credits)**

Noise and signal distortions in communication systems, impedance matching techniques, high frequency measurement techniques, design of high frequency amplifiers and oscillators, PLL and frequency synthesizers, data synchronization and multiplexing techniques, Antennas and their arrays.

**Prerequisite(s)/Corequisite(s):** ECEN 3520; Pre or Coreq.: ECEN 3250, ECEN 3280

**ECEN 3700 DIGITAL LOGIC DESIGN (3 credits)**

Combinational and sequential logic circuits. MSI chips, programmable logic devices (PAL, ROM, PLA) used to design combinational and sequential circuits. CAD tools. LSI and PLD components and their use. Hardware design experience.

**Prerequisite(s)/Corequisite(s):** ECEN 1210, not open to non-degree graduate students.

**ECEN 3920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING III (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a electric and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Junior standing and ECE departmentally approved proposal.

**ECEN 3940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING III (1-4 credits)**

Special topics in the emerging areas in electrical, computer and electronics engineering which may not be covered in the other courses in the Electrical and Computer engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission.

**ECEN 3980 SPECIAL TOPICS ELECTRICAL ENGINEERING III (1-6 credits)**

Offered as the need arises to treat electrical engineering topics for third-year students not covered in other courses.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to nondegree students.

**ECEN 3990 UNDERGRADUATE RESEARCH (1-3 credits)**

Research accompanied by a written report.

**Prerequisite(s)/Corequisite(s):** Electrical engineering seniors or permission., not open to non-degree graduate students

**ECEN 4000 ELECTRONIC INSTRUMENTATION (3 credits)**

Applications of analog and digital devices to electronic instrumentation. Includes transducers, instrumentation amplifiers, mechanical and solid state switches, data acquisition systems, phase-lock loops, and modulation techniques. Demonstrations with working circuits and systems. (Cross-listed with ECEN 8006)

**Prerequisite(s)/Corequisite(s):** Senior Standing in Engineering or Permission. Not open to non-degree graduate students.

**ECEN 4060 POWER SYSTEMS ANALYSIS (3 credits)**

Symmetrical components and fault calculations, power system stability, generator modeling (circuit view point), voltage control system, high voltage DC transmission, and system protection. (Cross-listed with ECEN 8066)

**Prerequisite(s)/Corequisite(s):** ECEN 3380, not open to non-degree graduate students.

**ECEN 4070 POWER SYSTEMS PLANNING (3 credits)**

Economic evaluation, load forecasting, generation planning, transmission planning, production simulation, power plant reliability characteristics, and generation system reliability. (Cross-listed with ECEN 8076)

**Prerequisite(s)/Corequisite(s):** ECEN 3050, not open to non-degree graduate students.

**ECEN 4080 ENGINEERING ELECTROMAGNETICS (3 credits)**

Applied electromagnets: Transmission lines in digital electronics and communication. The quasistatic electric and magnetic fields; electric and magnetic circuits and electromechanical energy conversion. Guided waves; rectangular and cylindrical metallic waveguides and optical filters. Radiation and antennas; line and aperture antennas and arrays. (Cross-listed with ECEN 8086)

**Prerequisite(s)/Corequisite(s):** ECEN 3060, not open to non-degree graduate students.

**ECEN 4100 MULTIVARIATE RANDOM PROCESSES (3 credits)**

Probability space, random vectors, multivariate distributions, moment generating functions, conditional expectations, discrete and continuous-time random processes, random process characterization and representation, linear systems with random inputs. (Cross-listed with ELEC 8106)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 4160 MATERIALS AND DEVICES FOR COMPUTER MEMORY, LOGIC, AND DISPLAY (3 credits)**

Survey of fundamentals and application of devices used for memory, logic, and display. Magnetic, superconductive, semi-conductive, and dielectric materials. (Cross-listed with ECEN 8166)

**Prerequisite(s)/Corequisite(s):** PHYS 2120, not open to non-degree graduate students.

**ECEN 4170 SEMICONDUCTOR FUNDAMENTALS II (3 credits)**

Analysis of BJT's and MOSFET's from a first principle materials viewpoint. Statics and dynamic analysis and characterization. Device fabrication processes. (Cross-listed with ECEN 8176)

**Prerequisite(s)/Corequisite(s):** ECEN 4210 or ECEN 8216. Not open to non-degree graduate students.

**ECEN 4200 PLASMA PROCESSING OF SEMICONDUCTORS (3 credits)**

Physics of plasmas and gas discharges developed. Includes basic collisional theory, the Boltzman equation and the concept of electron energy distribution. Results are related to specific gas discharge systems used in semiconductor processing, such as sputtering, etching, and deposition systems. (Cross-listed with ECEN 8206)

**Prerequisite(s)/Corequisite(s):** Senior or graduate standing. Not open to non-degree graduate students.

**ECEN 4210 PRINCIPLES OF SEMICONDUCTOR MATERIALS AND DEVICES I (3 credits)**

Introduction to semiconductor fundamentals, charge carrier concentration and carrier transport, energy bands, and recombination. PN junction, static and dynamic, and special PN junction diode devices. (Cross-listed with ECEN 8216)

**Prerequisite(s)/Corequisite(s):** PHYS 2130. Not open to non-degree graduate students.

**ECEN 4240 DIGITAL SIGNAL PROCESSING (3 credits)**

The temporal and spectral analysis of digital signals and systems, the design of digital filters and systems, and advanced systems including multi-rate digital signal processing techniques. (Cross-listed with ECEN 8246)

**Prerequisite(s)/Corequisite(s):** ECEN 3550

**ECEN 4280 POWER ELECTRONICS (3 credits)**

Basic analysis and design of solid-state power electronic devices and converter circuitry. (Cross-listed with ECEN 8286)

**Prerequisite(s)/Corequisite(s):** ECEN 3040, ECEN 3160.

**ECEN 4300 WIND ENERGY (3 credits)**

This broad multidisciplinary course will combine engineering principles of both the mechanical/aerodynamical and electrical components and systems, along with economic and environmental considerations for siting and public policy, to appropriately cover the relevant topics associated with all scales of wind energy implementations. (Cross-listed with ECEN 8306)

**Prerequisite(s)/Corequisite(s):** Senior standing or permission.

**ECEN 4330 MICROPROCESSOR SYSTEM DESIGN (4 credits)**

Microprocessor based systems. Architecture; design and interfacing. Memory design, input/output ports, serial communications, and interrupts. Generating assembly ROM code, assembly/C firmware generation, and designing device drivers. (Cross-listed with ECEN 8336)

**Prerequisite(s)/Corequisite(s):** ECEN 3100 with grade of C or better and ECEN 3320 with grade of C or better.

**ECEN 4350 EMBEDDED MICROCONTROLLER DESIGN (4 credits)**

Microcontroller architecture: design, programming, and interfacing for embedded systems. Timing issues, memory interfaces, serial and parallel interfacing, and functions for common microcontrollers. (Cross-listed with ECEN 8356)

**Prerequisite(s)/Corequisite(s):** ECEN 4330/ECEN 8336 with grade of C or better, STAT 3800.

**ECEN 4360 ELECTRIC MACHINES (3 credits)**

Provides a solid background in electric machine analysis, covering fundamental concepts, techniques, and methods for analysis and design. Discussion of transformers and presentation of some new systems and applications. (Cross-listed with ECEN 8366)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and ECEN 2160

**ECEN 4370 PARALLEL AND DISTRIBUTED PROCESS (3 credits)**

Parallel and Distributed Processing concepts, principles, techniques and machines. (Cross-listed with ECEN 8376).

**Prerequisite(s)/Corequisite(s):** ECEN 4350 or ECEN 8356

**ECEN 4420 BASIC ANALYTICAL TECHNIQUES IN ELECTRICAL ENGINEERING (3 credits)**

Applications of partial differential equations, matrices, vector analysis, complex variables, and infinite series to problems in electrical engineering. (Cross-listed with ECEN 8426)

**Prerequisite(s)/Corequisite(s):** MATH 2350. Not open to non-degree graduate students.

**ECEN 4440 LINEAR CONTROL SYSTEMS (3 credits)**

Classical (transfer function) and modern (state variable) control techniques. Both time domain and frequency domain techniques are studied. Traditional, lead, lag, and PID compensators are examined, as well as state variable feedback. (Cross-listed with ECEN 8446)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 4480 DECISION ANALYSIS (3 credits)**

Principles of engineering economy including time value of money, net present value, and internal rate of return. Use of influence diagram and decision tree to structure and analyze decision situations under uncertainty including use of stochastic dominance, value of information, and utility theory. Fundamentals of two-person matrix games including Nash equilibrium. (Cross-listed with ECEN 8486)

**Prerequisite(s)/Corequisite(s):** ECEN 3050 or STAT 3800.

**ECEN 4500 BIOINFORMATICS (3 credits)**

This course examines how information is organized in biological sequences such as DNA and proteins and will look at computational techniques which make use of this structure. During this class various biochemical processes that involve these sequences are studied to understand how these processes effect the structure of these sequences. In the process bioinformatics algorithms, tools, and techniques which are used to explore genomic and amino acid sequences are also introduced. (Cross-listed with ECEN 8506)

**Prerequisite(s)/Corequisite(s):** Computer programming language and ECEN 3050 or STAT 3800 or equivalent.

**ECEN 4510 INTRODUCTION TO VLSI SYSTEM DESIGN (3 credits)**

The concepts, principles, and methodology at all levels of digital VLSI system design and focused on gate-level VLSI implementation. (Cross-listed with ECEN 8516).

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 4520 INTRODUCTION TO COMPUTER-AIDED DIGITAL DESIGN (3 credits)**

The concepts, simulation techniques and methodology in computer-aided digital design at system and logic levels. (Cross-listed with ECEN 8526)

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 4530 COMPUTATIONAL AND SYSTEMS BIOLOGY (3 credits)**

Provides the required biology primer and covers functional genomics, transcriptomics, differential expression, clustering, classification, prediction, biomarker discovery, pathway analysis and network based approaches to high throughput biological data analysis. Includes the development of databases, algorithms, web-based and other tools regarding management and analysis of life science data. Areas of study include DNA, RNA, and protein sequence analysis, functional genomics and proteomics, 3D macromolecule structure prediction, and systems/network approach. (Cross-listed with ECEN 8536).

**Prerequisite(s)/Corequisite(s):** By permission.

**ECEN 4540 POWER SYSTEMS OPERATION AND CONTROL (3 credits)**

Characteristics and generating units. Control of generation, economic dispatch, transmission losses, unit commitment, generation with limited supply, hydrothermal coordination, and interchange evaluation and power pool. (Cross-listed with ECEN 8546)

**Prerequisite(s)/Corequisite(s):** ECEN 3380 or ECEN 8385. Not open to non-degree graduate students.

**ECEN 4600 LABVIEW PROGRAMMING (3 credits)**

Labview as a programming language and for applications to acquire data, to access the network, control lab instruments, and for video and sound applications. (Cross-listed with ECEN 8606)

**Prerequisite(s)/Corequisite(s):** Prior programming experience.

**ECEN 4610 DIGITAL COMMUNICATIONS MEDIA (4 credits)**

Topics related to the transport of bit streams from one geographical location to another over various physical media such as wire pairs, coaxial cable, optical fiber, and radio waves. Transmission characteristics, media interfacing, delay, distortion, noise, and error detection and correction techniques. (Cross-listed with ECEN 8616)

**Prerequisite(s)/Corequisite(s):** ECEN 3250 or ECEN 4620

**ECEN 4620 COMMUNICATION SYSTEMS (3 credits)**

Mathematical descriptions of signals in communication systems. Principles of analog modulation and demodulation. Performance analysis of analog communication systems in the presence of noise. (Cross-listed with ECEN 8626)

**Prerequisite(s)/Corequisite(s):** ECEN 3040 and ECEN 3050. Not open to non-degree graduate students.

**ECEN 4630 DIGITAL SIGNAL PROCESSING (3 credits)**

Discrete system analysis using Z-transforms. Analysis and design of digital filters. Discrete Fourier transforms. (Cross-listed with ECEN 8636)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 4640 DIGITAL COMMUNICATION SYSTEMS (3 credits)**

Principles of digital transmission of information in the presence of noise. Design and analysis of baseband PAM transmission systems and various carrier systems including ASK, FSK, PSK. (Cross-listed with ECEN 8646)

**Prerequisite(s)/Corequisite(s):** ECEN 4620. Not open to non-degree graduate students.

**ECEN 4650 INTRODUCTION TO DATA COMPRESSION (3 credits)**

Introduction to the concepts of Information Theory and Redundancy removal. Simulation of various data compression schemes such as Delta Modulation, Differential Pulse Code Modulation, Transform Coding and Runlength Coding. (Cross-listed with ECEN 8656)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 4660 TELECOMMUNICATION ENGINEERING I (4 credits)**

Standard telecommunications protocols, architecture of long distance integrated data networks, local area networks, wide area networks, radio and satellite networks. Network management, internetworking, system modeling and performance analysis. (Cross-listed with ECEN 8666)

**Prerequisite(s)/Corequisite(s):** ECEN 3620; ECEN 4610/ECEN 8616 prior to or concurrent.

**ECEN 4670 ELECTROMAGNETIC THEORY AND APPLICATION (3 credits)**

Engineering application of Maxwell's equations. Fundamental Parameters of Antennas, Radiation analysis, and synthesis of antenna arrays. Aperture Antennas. (Cross-listed with ECEN 8676)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 4680 MICROWAVE ENGINEERING (3 credits)**

Applications of active and passive devices to microwave systems. Includes impedance matching, resonators, and microwave antennas. (Cross-listed with ECEN 8686)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 4690 ANALOG INTEGRATED CIRCUITS (3 credits)**

Analysis and design of analog integrated circuits both bipolar and MOS. Basic circuit elements such as differential pairs, current sources, active loads, output drivers used in the design of more complex analog integrated circuits. (Cross-listed with ECEN 8696)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 4700 DIGITAL AND ANALOG VLSI DESIGN (3 credits)**

Introduction to VLSI design techniques for analog and digital circuits. Fabrication technology and device modeling. Design rules for integrated circuit layout. LSI design options with emphasis on the standard cell approach of digital and analog circuits. Lab experiments, computer simulation and layout exercises. (Cross-listed with ECEN 8706)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 4710 COMPUTER COMMUNICATION NETWORKS (4 credits)**

This course investigates the standard protocols and hardware solutions defined by the International Standard Organization (ISO) and Institute of Electrical and Electronics Engineers (IEEE) for the computer communications networks. Included are ISO OSI model, IEEE 802.X (Ethernet, token bus, token ring) and Asynchronous Transfer Modals (ATM) networks. (Cross-listed with ECEN 8716)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4730 MOBILE AND PERSONAL COMMUNICATIONS (4 credits)**

This course provides basic concepts on mobile and personal communications. Concepts on mobile and personal communications. Modulation techniques for mobile radio, equalization, diversity, channel coding, and speech coding. (Cross-listed with ECEN 8736)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4740 DIGITAL SYSTEMS (3 credits)**

Synthesis using state machines; design of digital systems; micro programming in small controller design; hardware description language for design and timing analysis. (Cross-listed with ECEN 8746)

**Prerequisite(s)/Corequisite(s):** ECEN 3700. Not open to non-degree graduate students.

**ECEN 4750 SATELLITE COMMUNICATIONS (4 credits)**

The fundamental concepts of satellite communications. Orbits, launching satellites, modulation and multiplexing, multiple access, earth stations, coding, interference and special problems in satellite communications. (Cross-listed with ECEN 8756)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4760 WIRELESS COMMUNICATIONS (3 credits)**

The fundamental concepts of wireless communications. Basic communications concepts such as multiple access, and spectrum. Propagation, radio, standards, and internetworking. Current issues in wireless communications. (Cross-listed with ECEN 8766)

**Prerequisite(s)/Corequisite(s):** ECEN 3250 or ECEN 4620 prior to or concurrent

**ECEN 4770 DIGITAL SYSTEMS ORGANIZATION AND DESIGN (3 credits)**

Hardware development languages, hardware organization and realization, microprogramming, interrupt, intersystem communication, and peripheral interfacing. (Cross-listed with ECEN 8776)

**Prerequisite(s)/Corequisite(s):** ECEN 4740 or ECEN 8746. Not open to non-degree graduate students.

**ECEN 4790 OPTICAL FIBER COMMUNICATIONS (4 credits)**

Fundamentals of lightwave communication in optical fiber waveguides, physical description of fiber optic systems. Properties of the optical fiber and fiber components. Electro-optic devices: light sources and modulators, detectors and amplifiers; optical transmitter and receiver systems. Fiber optic link design and specification; fiber optic networks. (Cross-listed with ECEN 8796)

**Prerequisite(s)/Corequisite(s):** ECEN 4630.

**ECEN 4800 INTRODUCTION TO LASERS AND LASER APPLICATIONS (3 credits)**

Physics of electronic transition production stimulated emission of radiation. Threshold conditions for laser oscillation. Types of lasers and their applications in engineering. (Cross-listed with ECEN 8806)

**Prerequisite(s)/Corequisite(s):** PHYS 2130

**ECEN 4820 ANTENNAS AND RADIO PROPAGATION FOR WIRELESS COMMUNICATIONS (4 credits)**

Fundamental theory of antennas and radio propagation for wireless communications. Basic antenna characteristics and various antennas and antenna arrays. Basic propagation mechanisms and various channel models, such as Friis free space model, Hata model, lognormal distribution, and multipath model. Includes practical antenna design for high radio frequency (RF) with modeling software tools such as Numerical Electromagnetic Code (NEC) and ADvanced Design System (ADS). Design projects will be assigned as the main part of course. (Cross-listed with ECEN 8826)

**Prerequisite(s)/Corequisite(s):** ECEN 3280

**ECEN 4840 NETWORK SECURITY (4 credits)**

Network security and cryptographic protocols. Classical encryption techniques, block ciphers and stream cyphers, public-key cryptography, authentications digital signatures, key management and distributions, network vulnerabilities, transport-level security, IP security. (Cross-listed with ECEN 8846)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4860 APPLIED PHOTONICS (3 credits)**

Introduction to the use of electromagnetic radiation for performing optical measurements in engineering applications. Basic electromagnetic theory and light interaction with matter are covered with corresponding laboratory experiments conducted. (Cross-listed with ECEN 8866)

**Prerequisite(s)/Corequisite(s):** ECEN 3060 or permission. Not open to non-degree graduate students.

**ECEN 4880 WIRELESS SECURITY (4 credits)**

A comprehensive overview on the recent advances in wireless network and system security. Covers security issues and solutions in emerging wireless access networks and systems as well as multihop wireless networks. (Cross-listed with ECEN 8886)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4910 SPECIAL TOPICS IN ELECTRIC AND COMPUTER ENGINEERING IV (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering which may not be covered in the other courses in the electrical, and computer engineering curriculum. (Cross-listed with ECEN 8916)

**Prerequisite(s)/Corequisite(s):** Senior standing

**ECEN 4920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING IV (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a Electrical and Computer Engineering faculty member. (Cross-listed with ECEN 8926).

**Prerequisite(s)/Corequisite(s):** Senior or graduate standing and departmentally approved proposal.

**ECEN 4940 ELECTRICAL ENGINEERING CAPSTONE I (2 credits)**

A substantial design project that allows application of electrical engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals. The first in a two semester electrical engineering capstone senior design course sequence.

**Prerequisite(s)/Corequisite(s):** ECEN 2220, ECEN 3040, ECEN 3060, ECEN 3130, and (UNO) ENGL 1160. The ECE department changed its English composition requirements to ENGL 1160 (UNO); ENGL 1160 is required, not technical writing.

**ECEN 4950 ELECTRICAL ENGINEERING CAPSTONE II (3 credits)**

A substantial design project that allows application of electrical engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team and applying new ideas as needed to meet project goals.

**Prerequisite(s)/Corequisite(s):** ECEN 4940

**ECEN 4960 COMPUTER ENGINEERING CAPSTONE I (2 credits)**

A substantial design project that allows application of computer engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals. The first in a two semester computer engineering capstone senior design course sequence.

**Prerequisite(s)/Corequisite(s):** ECEN 4330; (UNO) ENGL 1160. The ECE department changed its English composition requirements to ENGL 1160 (UNO); ENGL 1160 is required, not technical writing.

**ECEN 4980 SPECIAL TOPICS IN ELECTRICAL ENGINEERING IV (1-6 credits)**

Offered as the need arises to meet electrical engineering topics for fourth-year and graduate students not covered in other courses. (Cross-listed with ECEN 8986)

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 4990 COMPUTER ENGINEERING CAPSTONE II (3 credits)**

Requires the completion of a design project that demonstrates the ability to combine knowledge from individual courses in the program to complete a design task. The capstone design course for the B.S. in computer engineering, electrical engineering and electronics engineering.

**Prerequisite(s)/Corequisite(s):** ECEN 4960. Not open to non-degree graduate students.

## Computer Engineering, Bachelor of Science

The 124 credit hour program in computer engineering leads to the Bachelor of Science degree in Computer Engineering. Thirty-two (32) hours of mathematics and physics and 9 hours of computer science complement the required 44 hours of work in the computer engineering area. Six (6) hours in written and oral communications, 15 hours in the humanities and social sciences, and 18 hours of engineering electives provide the opportunity for the student to acquire a general educational background and gain the cultural attributes associated with a university education.

The individual holding this degree will have advanced knowledge in his or her field of engineering interest and in addition will have a university educational background involving mathematics, the physical sciences, and the humanities and social sciences. Completion of this curriculum will enable the graduate to enter employment in positions involving computer hardware design and applications, computer software design and development, microcomputer based applications, and computer networking. The program also leads to the preparation for graduate work in computer engineering, computer science or electrical engineering.

### Accreditation

The Electrical and Computer Engineering (ECE) department's Computer Engineering Program (CENG) is accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org/>)

### Program Educational Objectives

The department's Program Educational Objectives are a statement of what graduates are doing, or are capable of doing, three to five years after graduation. The students in the Computer Engineering program receive a strong foundation in engineering science and design that not only enables them to pursue productive careers in the computer engineering field but that can be used as the foundation for careers in other areas, such as business, management, and medicine. Typical industries in which Computer Engineering graduates are employed include microprocessor/embedded system design, digital design, hardware/software integration, and computer architecture and parallel processing.

The Computer Engineering program prepares graduates for their professional careers with the objective that within five years after graduation they will be:

- Employed in business, academia, or government.
- Successful engineers who have established productive careers in their field and have contributed to improve and provide innovative and effective solutions in computer engineering or related fields.
- Demonstrating technical and decision-making processes and the human interactions necessary to produce viable, responsible, and sustainable technological solutions.
- Engaging in lifelong learning, which may include postgraduate education, to successfully adapt to technological, industry specific, and cultural changes and to foster adept functioning in society.
- Performing engineering practice in a context that reflects awareness of the ethics of their profession and of the impacts of their work on the profession and society at large.

These Program Educational Objectives were developed with input from the program's educational objectives constituency, consisting of employers (including the Industry Advisory Board), graduates of the program, and faculty of the department.

### Learning Outcomes

Learning Outcomes are those abilities that a graduate of the Computer Engineering program will have attained so that he/she can meet the educational objectives established for the program.

At the time of graduation, students in the ECE Computer Engineering program will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Professional Admission Requirements

**Pre-professionally admitted College of Engineering students majoring in computer engineering will be granted profession admission into the computer engineering program if the students have:**

- maintained a cumulative GPA of at least 2.4 and is in good standing in the College of Engineering, and
- completed ECEN 2130 Electrical Circuits I or ECEN 2150 Electronics and Circuits I and ECEN 3130 Switching Circuit Theory or ECEN 3700 Digital Logic Design with a grade of C or better.

**A transfer student will be admitted if he/she has:**

- completed courses equivalent to ECEN 2130 or ECEN 2150 and ECEN 3130 or ECEN 3700 at other institutions with acceptable transfer grades of C or better, and
- earned a GPA of 2.4 or better during their first 12 credit hours in computer engineering course work at UNL/UNO.

Transfer students will be able to appeal to the College's Academic Appeals Committee for admission for an additional semester if they fail to meet the GPA requirement.

See the College of Engineering section of the catalog for details on admission to the college.

## Requirements

Course	Title	Credits
<b>First Year</b>		
<b>First Semester</b>		
ECEN 1030	ELECTRICAL AND COMPUTER ENGINEERING FUNDAMENTALS	4
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
MATH 1950	CALCULUS I	5
ENGL 1160	ENGLISH COMPOSITION II	3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
ECEN 1060	MICROPROCESSOR APPLICATIONS	3
ECEN 1234	INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING	1
ECEN 2250	ELECTRICAL AND COMPUTER ENGINEERING SEMINAR	1
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
MATH 1960	CALCULUS II	5
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
<b>Credits</b>		<b>17</b>
<b>Second Year</b>		
<b>First Semester</b>		
ECEN 2150	ELECTRONICS AND CIRCUITS I	3
ECEN 2184	ELECTRICAL CIRCUITS LABORATORY I	1
MATH 2350	DIFFERENTIAL EQUATIONS	3
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
CMST 1110	PUBLIC SPEAKING FUNDS <sup>2</sup>	3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
ECEN 2170	ELECTRICAL CIRCUITS III	1
ECEN 2220	ELECTRONIC CIRCUITS I	4
ECEN 3130	SWITCHING CIRCUITS THEORY	4
MATH 1970	CALCULUS III	4
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>16</b>
<b>Third Year</b>		
<b>First Semester</b>		
ECEN 3100	DIGITAL DESIGN AND INTERFACING	4
ECEN 3320	ASSEMBLY LANGUAGE PROGRAMMING	1
CSCI 3320	DATA STRUCTURES	3
MATH 2050	APPLIED LINEAR ALGEBRA	3
Engineering Elective <sup>3</sup>		3
<b>Credits</b>		<b>14</b>

### Second Semester

ECEN 3050	PROBABILITY THEORY AND STATISTICS FOR ELECTRICAL AND COMPUTER ENGINEERS	3
ECEN 3250	COMMUNICATIONS SYSTEMS	4
ECEN 4330	MICROPROCESSOR SYSTEM DESIGN	4
Engineering Elective <sup>3</sup>		3
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>17</b>

### Fourth Year

#### First Semester

ECEN 4350	EMBEDDED MICROCONTROLLER DESIGN	4
ECEN 4960	COMPUTER ENGINEERING CAPSTONE I	2
ENGR 4690	TECHNOLOGY, SCIENCE AND CIVILIZATION (ACE 8)	3
Engineering Elective <sup>3</sup>		3
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>15</b>

#### Second Semester

ECEN 4990	COMPUTER ENGINEERING CAPSTONE II	3
Engineering Elective <sup>3</sup>		9
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>124</b>

<sup>1</sup> ACE elective: Choose one course from each ACE Student Learning Outcome (SLO) 5,6,7 and 9 elective course. ENGR 4690 satisfies ACE SLO 8.

<sup>2</sup> Students may substitute ENGR 1000 for CMST 1110

<sup>3</sup> Engineering electives may be selected from ECE junior and senior or approved sophomore level courses. Three hours of engineering electives may be selected from an approved list of non-ECE courses.

## Engineering Electives

The computer engineering program requires 18 hours of engineering electives. These consist of at least 15 hours of any ECEN course at the junior or senior level. Students can substitute three (3) of these hours with a course from the following list.

Computer Science (CSCI) Courses:

4150/8156	Graph Theory and Applications
4220/8226	Programming Languages
4300/8306	Deterministic Operations Research Models
4310/8316	Probabilistic Operations Research Models
4440/8446	Introduction to Parallel Computing
4450/8456	Introduction to Artificial Intelligence
4470/8476	Pattern Recognition
4500/8506	Operating Systems
4510/8516	Advanced Operating Systems
4620/8626	Computer Graphics
4660/8666	Automata, Computability and Formal Languages
4760/8766	Topics in Modeling

4830/8836 Introduction to Software Engineering

4850/8856 Database Management Systems

Math (MATH) Courses:

4150/8156 Graph Theory and Applications

4300/8306 Deterministic Operations Research Models

4310/8316 Probabilistic Operations Research Models

4660/8666 Automata, Computability and Formal Languages

4760/8766 Topics in Modeling

## Electrical Engineering, Bachelor of Science

The Department of Electrical and Computer Engineering offers a complete electrical engineering undergraduate program to students on the City (Lincoln) and Scott (Omaha) campuses of the University of Nebraska. Curriculum requirements for the electrical engineering major are nearly identical on both campuses and students can complete all degree requirements on either campus.

Electrical engineering is concerned with the production, transmission, and utilization of electrical energy and the creation, transmission and processing of information. This includes power generation and transmission systems, motors, batteries and control systems, as well as radio frequency (RF) systems, telecommunications, remote sensing, signal processing, digital circuits, instrumentation, audio, video and opto-electronics. Employment opportunities for electrical engineers cover a wide spectrum of activities including design, development, research, sales, and management. These activities are carried on in industrial organizations, public and private utilities, the communications and computer industry, governmental and educational institutions, and consulting engineering firms. The objective of this major is to offer students an education to become productive electrical engineers and be active, contributing citizens of the nation and the world.

This department has over 40 faculty involved in research related to electronic materials, nanotechnology, optical systems, communications, biomedical applications, signal processing, microelectronics design, energy systems, and electromagnetics. Students are encouraged to participate in research activities, and have opportunities to travel and present their work at research conferences.

The department has extensive research facilities for all areas including state of the art computing facilities, integrated circuits and systems research facilities, communications and signal processing laboratories, applied electromagnetics research, solid state laboratories, nanostructures research, electro-optics research and energy systems laboratories.

The curriculum is designed to provide a broad education in fundamental principles and laboratory applications, and an awareness of the socioeconomic impact of technology. Technical electives are normally selected from advanced courses in electrical engineering to provide for specialization in selected areas as well as breadth and depth of knowledge. However, technical electives can also be selected from courses offered by other departments of the College of Engineering or from appropriate courses in physics, chemistry, mathematics, and biological sciences.

### Accreditation

The Electrical and Computer Engineering (ECE) department's Electrical Engineering Program (EE) is accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org/>)

## Program Educational Objectives

The Program Educational Objectives (PEOs) for the electrical engineering program are a statement of what its graduates are doing or are capable of doing three to five years after graduation. Electrical engineering is concerned with the production, transmission, and utilization of electrical energy and the transmission and processing of information. Employment opportunities for electrical engineers cover a wide spectrum of activities including design, development, research, sales, and management. These activities are carried on in industrial organizations, public and private utilities, the communications and computer industry, governmental and educational institutions, and consulting engineering firms. Careers may encompass electronic materials, nanotechnology, optical systems, communications, biomedical applications, signal processing, microelectronics design, energy systems, and electromagnetics. The objective of this program is to offer students an education to become productive electrical engineers and be active, contributing citizens of the nation and the world.

The Program Educational Objectives for the electrical engineering program are that graduates will be:

- Employed in business, academia, or government.
- Successful engineers who have established productive careers in their field and have contributed to improve and provide innovative and effective solutions in electrical engineering or related fields.
- Demonstrating technical and decision-making processes and the human interactions necessary to produce viable, responsible, and sustainable technological solutions.
- Engaging in lifelong learning, which may include postgraduate education, to successfully adapt to technological, industry specific, and cultural changes and to foster adept functioning in society.
- Performing engineering practice in a context that reflects awareness of the ethics of their profession and of the impacts of their work on the profession and society at large.

These Program Educational Objectives were developed with input from the program's educational objectives constituency, consisting of employers (including the Industry Advisory Board), graduates of the program, and faculty of the department.

## Student Outcomes

Student Outcomes are those abilities that a graduate of the Electrical Engineering program will have attained so that he/she can meet the educational objectives established for the program.

At the time of graduation, students in the ECE Electrical Engineering program will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Professional Admission Requirements

**Pre-professionally admitted College of Engineering students majoring in electrical engineering will be granted profession admission into the electrical engineering program if the students have:**

- maintained a cumulative GPA of at least 2.4 and is in good standing in the College of Engineering, and
- completed ECEN 2130 Electrical Circuits I or ECEN 2150 Electronics and Circuits I and ECEN 2140 Electrical Circuits II or ECEN 2160 Electronics and Circuits II with a grade of C or better.

**A transfer student will be admitted if he/she has:**

- completed courses equivalent to ECEN 2130 or ECEN 2150 and ECEN 2140 or ECEN 2160 at other institutions with acceptable transfer grades of C or better, and
- earned a GPA of 2.4 or better during their first 12 credit hours in electrical engineering course work at UNL/UNO.

Transfer students will be able to appeal to the College's Academic Appeals Committee for admission for an additional semester if they fail to meet the GPA requirement.

See the College of Engineering section of the catalog for details on admission to the college.

Students graduating with a Bachelor of Science in Electrical Engineering degree must successfully complete 125 credit hours as follows:

Code	Title	Credits
Required electrical engineering courses		41
Required math and science courses		32
Technical electives <sup>1</sup>		27

<sup>1</sup> Of the 27 credit hours of technical electives, at least 12 credit hours must be taken as electrical engineering (ECEN) courses, which are referred to as "EE Option Technical Electives." The remaining 15 credit hours of technical electives which are referred to as "EE or Other Technical Electives" may be taken from any 300 or 400 level course offering (with some exceptions) in the department of Electrical and Computer Engineering or in any other engineering department within the College of Engineering, or in the departments of Biological Sciences, Chemistry, Computer Science and Engineering, Mathematics, Statistics, or Physics and Astronomy at UNL or UNO.

### Requirements

Course	Title	Credits
<b>First Year</b>		
<b>First Semester</b>		
ECEN 1030	ELECTRICAL AND COMPUTER ENGINEERING FUNDAMENTALS	4
MATH 1950	CALCULUS I	5
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
ENGL 1160	ENGLISH COMPOSITION II	3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
ECEN 1060	MICROPROCESSOR APPLICATIONS	3
ECEN 1234	INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING	1

ECEN 2250	ELECTRICAL AND COMPUTER ENGINEERING SEMINAR	1
MATH 1960	CALCULUS II	5
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
CMST 1110	PUBLIC SPEAKING FUNDS <sup>2</sup>	3

**Credits** **17**

#### Second Year

##### First Semester

ECEN 2150	ELECTRONICS AND CIRCUITS I	3
ECEN 2184	ELECTRICAL CIRCUITS LABORATORY I	1
MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1

**Credits** **15**

##### Second Semester

ECEN 2160	ELECTRONICS AND CIRCUITS II	3
ECEN 2220	ELECTRONIC CIRCUITS I	4
ECEN 3130	SWITCHING CIRCUITS THEORY	4
MATH 1970	CALCULUS III	4

**Credits** **15**

#### Third Year

##### First Semester

ECEN 3040	SIGNALS AND SYSTEMS I	3
ECEN 3060	ELECTROMAGNETIC FIELD THEORY (ACE Elective) <sup>1</sup>	3
ECEN 3074	ELECTRICAL ENGINEERING LABORATORY I	2
Electrical Engineering Option Technical Elective <sup>3</sup>		3
Electrical Engineering or Other Technical Electives		3
ACE Elective <sup>1</sup>		3

**Credits** **17**

##### Second Semester

ECEN 3050	PROBABILITY THEORY AND STATISTICS FOR ELECTRICAL AND COMPUTER ENGINEERS	3
ECEN 3474	ELECTRICAL ENGINEERING LABORATORY II	1
Electrical Engineering Option Technical Elective <sup>3</sup>		3
Electrical Engineering or Other Technical Electives <sup>3</sup>		3
Science Elective		4
ACE Elective <sup>1</sup>		3

**Credits** **17**

#### Fourth Year

##### First Semester

ECEN 4940	ELECTRICAL ENGINEERING CAPSTONE I	2
Electrical Engineering Option Technical Elective <sup>3</sup>		3
Electrical Engineering or Other Technical Electives <sup>3</sup>		6
ACE Electives <sup>1</sup>		3

**Credits** **14**

##### Second Semester

ECEN 4950	ELECTRICAL ENGINEERING CAPSTONE II	3
Electrical Engineering Option Technical Elective <sup>3</sup>		3
Electrical Engineering or Other Technical Electives <sup>3</sup>		3

ACE Elective <sup>1</sup>	6
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>125</b>

- <sup>1</sup> Choose one course from not yet satisfied ACE outcomes 5,6,7,8 or 9.
- <sup>2</sup> ENGR 1000 may be substituted for CMST 1110
- <sup>3</sup> The department maintains of approved list of technical electives (within and outside of ECE) on the department website.

Total Credit Hours Required for Graduation - **125 Hours**

### Technical Electives

Each EE undergraduate student must choose one of the emphasis areas listed below for the EE technical electives.

### Electrical Engineering Emphasis Areas

Communications and Signal Processing

Electromagnetic Fields and Optics

Electronics

Energy and Power Systems

Materials and Devices

Bioengineering

Modeling and Simulation

Telecommunications

### Electives

There are 27 credit hours of technical electives required. Of these 27 credit hours, at least 12 credit hours must be taken in one of the electrical engineering (ECEN) emphasis areas. Below is a list of courses in each emphasis area.

#### Communications & Signal Processing

ECEN 4100	Multivariate Random Processes
ECEN 3250/ECEN 4620 core Communications Systems	Communications Systems/
ECEN 4240/ECEN 4630 core Signal Processing	Digital Signal Processing/Digital
ECEN 4610/ECEN 4640 Digital Communication Systems	Digital Communications Media/
ECEN 4650	Intro Data Compression
Electromagnetic Fields and Optics	
ECEN 4080 core	Engineering Electromagnetics
ECEN 4670 Applications	Electromagnetic Theory and
ECEN 4680	Microwave Engineering
ECEN 4790	Optical Fiber Communications
ECEN 4800 applications	Introduction to Lasers and Laser
ECEN 4860	Applied Photonics

#### Electronics

ECEN 3100/ ECEN 4740 core Digital Systems	Digital Design and Interfacing/
ECEN 3520/ECEN 3610 core Electronics and Circuits	Electronic Circuits II/Advanced
ECEN 3620 Transceivers	Data and Telecommunications
ECEN 4690	Analog Integrated Circuits
ECEN 4700	Digital and Analog VLSI Design
Energy and Power Systems	
ECEN 3380 core	Intro Power and Energy Systems
ECEN 4060	Power Systems Analysis
ECEN 4280 core	Power Electronics
ECEN 4300	Wind Energy
ECEN 4360	Electric Machines
ECEN 4440	Linear Control Systems
ECEN 4980 X	Solar Energy
Materials and Devices	
ECEN 4170	Semiconductor Fundamentals II
ECEN 4200 Semiconductors	Plasma Processing of
ECEN 4210 core Materials and Devices I	Principles of Semiconductor
ECEN 4220 Chemistry of Solids	Introduction to Physics and
Bioengineering	
ECEN 4500 core	Bioinformatics
ECEN 4600	Labview Programming
ECEN 4530 Biology	Computational and Systems
ECEN 4980 S Processing	Bioengineering Image and Signal
Modeling and Simulation	
ECEN 3980 M core Simulation: Discrete Systems	Computational Modeling and
ECEN 4480	Decision Analysis
ECEN 4980 Simulation: Continuous Systems	Computational Modeling and
Telecommunications	
ECEN 3620 Transceivers	Data and Telecommunications
ECEN 4610/ECEN 4640 core Digital Communication Systems	Digital Communications Media/

**ECEN 4660 core****Telecommunications Engineering**

Of the 12 credit hours required in an emphasis area which are referred to as "EE Option Technical Electives", 6 credit hours must be taken from one of the eight EE emphasis areas listed. This must include at least one Core Course in that area.

In addition, at least one 3 credit hour course from a different EE emphasis area must be taken. The remaining 3 credits may be satisfied by any non-required 3000- or 4000-level ECEN course except ECEN 3990 Undergraduate Research.

The remaining 15 credit hours of technical electives which are referred to as "EE or other Technical Electives" may be taken from any 3000- or 4000-level course offering (with the exception of those listed below) in the Department of Electrical and Computer Engineering or in any other engineering department within the College of Engineering at UNL, or in the UNO Departments of Biology, Chemistry, Computer Science, Mathematics, or Physics or in the UNL Departments of Biological Sciences, Chemistry, Computer Science and Engineering, Mathematics, Statistics, or Physics and Astronomy.

**Not Allowed 300- and 400-Level Technical Electives**

ENGR 4690 Technology, Science and Civilization

BIOL 3500 Biological Principles of Aging

BIOL 3660 Introduction to Sustainable Landscape Design

CSCI 3710 Introduction to Digital Design and Computer Organization

STAT 3000 Statistical Methods I

UNL BIOS 310 School of Biological Sciences Seminar

UNL IMSE 305 Introduction to Engineering Management

MATH 4980 Seminar or UNL MATH 495 (<http://bulletin.unl.edu/undergraduate/courses/MATH/495/>) Seminar

UNL MATH 496 (<http://bulletin.unl.edu/undergraduate/courses/MATH/496/>) Seminar in Mathematics

or any other seminar-type courses.

**Allowed 100 and 200 Level Technical Electives**

UNL AGEN 225 (<http://bulletin.unl.edu/undergraduate/courses/AGEN/225/>) Engineering Properties of Biological Materials (BSEN 225 (<http://bulletin.unl.edu/undergraduate/courses/BSEN/225/>))

PHYS 4350 Astrophysics or ASTR 204 Introduction to Astronomy & Astrophysics

UNL ASTR 224 (<http://bulletin.unl.edu/undergraduate/courses/ASTR/224/>) Astronomy & Astrophysics Lab

BIOL 2140 Genetics or UNL BIOS 206 (<http://bulletin.unl.edu/undergraduate/courses/BIOS/206/>) General Genetics

BIOL 2740 Human Physiology and Anatomy I or UNL BIOS 213 (<http://bulletin.unl.edu/undergraduate/courses/BIOS/213/>) Human Physiology

CHEM 1190 General Chemistry II and CHEM 1194 General Chemistry II Laboratory or UNL CHEM 110 (<http://bulletin.unl.edu/undergraduate/courses/CHEM/110/>) General Chemistry II

CHEM 1190 General Chemistry II or UNL CHEM 114 (<http://bulletin.unl.edu/undergraduate/courses/CHEM/114/>) Fundamental Chemistry II

Any 2000 level chemistry course or UNL CHEM 2xx

CSCI 1620 Introduction to Computer Science II or UNL CSCE 156 (<http://bulletin.unl.edu/undergraduate/courses/CSCE/156/>) Computer Science II

MATH 2030 Discrete Mathematics or UNL CSCE 235 (<http://bulletin.unl.edu/undergraduate/courses/CSCE/235/>) Introduction to Discrete Structures

UNL CSCE 251 (<http://bulletin.unl.edu/undergraduate/courses/CSCE/251/>) Unix Programming Environment

UNL MATL 260 (<http://bulletin.unl.edu/undergraduate/courses/MATL/260/>) Elements of Materials Science

UNL MATL 262 (<http://bulletin.unl.edu/undergraduate/courses/MATL/262/>) Materials Lab I

MECH 2230 or UNL MECH 200 Engineering Statics

MECH 2500 or UNL MECH 250 Mechanics

MECH 2000 or UNL MECH 200 Engineering Thermodynamics

No more than a total of 3 credit hours may be taken in ECEN 3990 or similar offerings from other departments.

However, students can choose a "Research Option." The purpose of research option is to provide research experiences and offer opportunities for students to work with a faculty advisor on a specific research topic. A certificate of completion of thesis will be awarded to the students, and outstanding thesis awards will be presented at the end of semester functions. Requirements for the research option are listed below.

**Research Option**

1. Selection of a faculty advisor (ECE department faculty), research topic, and thesis committee (at least one other faculty).
2. Registration for 6 credit hours of undergraduate research (ECEN 3990) over at least two consecutive semesters on the same research topic.
3. GPA of above 3.0.
4. Write an undergraduate thesis or report and make an oral presentation to be graded by thesis committee members.

**Science Electives**

BIOL 1450 BIOLOGY I (5 cr) or UNL LIFE 120 and LIFE 120L FUNDAMENTALS OF BIOLOGY I

CHEM 1180 (3 cr) and CHEM 1184 (1 cr) or UNL CHEM 109 or CHEM 111 or CHEM 113

PHYS 2130 (4 cr) or UNL PHYS 213

## Engineering Leadership Minor

**Overview and Purpose**

The engineering leadership minor provides students an opportunity to focus on building leadership, management, and interpersonal skills needed to solve many of our societal challenges. Students complete a series of leadership, project management and interpersonal skills courses using

experiential learning strategies and combine subject area knowledge gained in courses from their majors with strategies and skills to effectively lead in the engineering profession.

Courses included in the minor are leadership courses developed for the minor and focus on leadership, management and interpersonal skill needs of engineering students as well as courses lead by the faculty in the Department of Agricultural Leadership, Education and Communication.

This minor is intended to serve students in the College of Engineering. The minor contributes to the National Academy of Engineers call to expose engineering students to formal studies of leadership development (NAE, 2004) and the College of Engineering's mission to graduate the "Complete Engineer."

## Eligibility

Open to students in the College of Engineering only.

## Requirements

The engineering leadership minor is an interdisciplinary program; providing course offerings through the College of Engineering (COE) and the Department of Agricultural Leadership, Education and Communication (ALEC) at the University of Nebraska - Lincoln (UNL). To successfully complete the minor, students are required to complete 18 credit hours in leadership and professional development; 9 of which come from engineering leadership and management courses. Many of the ALEC courses are available as online courses. All ALEC courses are taught at the UNL.

## Courses

Code	Title	Credits
<b>ENGR Leadership &amp; Management Courses (9 credit hours required)</b>		
ENGR 1000	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS (ACE 2)	3
ENGR 2000	PROFESSIONALISM & GLOBAL PERSPECTIVE (ACE 6 & 9)	3
ENGR 3200	LEADERSHIP, MANAGEMENT, AND ETHICS (ACE 6 & 8)	3
<b>Leadership Courses (9 credit hours required)</b>		<b>9</b>
Select one or two theory-based courses from the following:		
ALEC 202	FOUNDATION OF LEADERSHIP THEORY & PRACTICE	
ALEC 302	DYNAMICS OF EFFECTIVE LEADERSHIP IN ORGANIZATIONS	
ALEC 455	DYNAMICS OF EFFECTIVE LEADERSHIP IN GROUPS & TEAMS <sup>1</sup>	
ALEC 477	LEADERSHIP & MOTIVATION	
Select one or two application courses from the following:		
ALEC 407	SUPERVISORY LEADERSHIP	
ALEC 410	ENVIRONMENTAL LEADERSHIP <sup>1</sup>	
ALEC 422	FACILITATION & PROJECT PLANNING <sup>1</sup>	
ALEC 466	LEADERSHIP & DIVERSITY IN ORGANIZATIONS & COMMUNITIES <sup>1</sup>	
<b>Experiential Learning in Leadership (0 -3 cr hrs)</b>		
ALEC 337	INSTRUCTIONAL INTERNSHIP IN LEADERSHIP DEVELOPMENT <sup>2</sup>	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> Note that junior standing is required for these courses.

<sup>2</sup> Credit received for being an undergraduate teaching assistant at the selection of the instructor.

## Additional Minor Requirements

All courses must be completed with a Pass, or grade of C or higher.

Up to 6 credit hours may be taken as Pass/No Pass.

### ENGR 100 FRESHMAN ENGINEERING SEMINAR (0 credits)

Overview of the engineering field as well as major specific information. Information will be provided to help with transitional needs to UNL and the college of engineering (time management, study skills, and resources), involvement opportunities (student organizations, research, and study abroad, tours of engineering facilities for experiential learning, and interactive learning to increase business knowledge and skills.

**Prerequisite(s)/Corequisite(s):** First year College of Engineering students. Not open to non-degree graduate students.

### ENGR 150 SPATIAL VISUALIZATION TRAINING (0 credits)

Develop and improve spatial visualization skills.

### ENGR 200 SOPHOMORE ENGINEERING SEMINAR (0 credits)

Overview of career opportunities in engineering and construction management. Emphasizes internships, cooperative education and career placement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### ENGR 1000 INTERPERSONAL SKILLS FOR ENGINEERING LEADERS (3 credits)

Establishes a foundation in communication and leadership skills that is needed for engineering students to be successful in their academic endeavors and future career opportunities. Introduction to the principles and practices of positive interpersonal relationships for leadership development. Self-awareness, awareness of others, effective interpersonal communication, and the building of trust relationships as a basis for understanding and developing leadership.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### ENGR 1010 INTRODUCTION TO ENGINEERING (3 credits)

Students will examine relevant and practical industrial and commercial engineering applications to gain necessary engineering skills that will help them succeed as a student as well as a professional engineer. A variety of engineering disciplines will be highlighted and discussed, as well as topics in the underlying physical, chemical, and biological scientific principles and processes related to each topic. The class will use a specified focus area that involves real world applications to aid in the conceptualization and learning of the course material. Students will develop engineering problem solving skills; gain expertise and experience using modern engineering and computational tools; and emulate an engineering team atmosphere - each of which can be applied to a profession engineering environment.

### ENGR 1910 FRESHMAN ENGINEERING SPECIAL TOPICS (1-3 credits)

Topics vary.

### ENGR 2000 PROFESSIONALISM & GLOBAL PERSPECTIVE (3 credits)

Enhance essential professional skills for personal and team success through investigating issues in a global context. Explore in-demand professional aptitudes (self-awareness, emotional intelligence, teamwork, communication, and workplace interaction expectations). Through industry/community interaction, explore cultural and business norms and the application of broader perspectives to identify issues/solutions responsive and adaptive to their global context.

### ENGR 2500 ENGINEERING COOPERATIVE EDUCATION (1-12 credits)

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Sophomore standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 2910 SOPHOMORE ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary.

**ENGR 3000 CREATIVITY AND WRITING FOR ENGINEERS (3 credits)**

Writing technical engineering reports; creative thinking and brainstorming applied to a real engineering problem with individual solutions submitted in report form.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and Sophomore

**ENGR 3010 INTRODUCTION TO NUCLEAR AND RADIATION ENGINEERING CONCEPTS (1 credit)**

History of nuclear development, basic concepts of radiation and radioactivity, radioactive waste management, global warming, and the impact of nuclear power plants. Industrial applications, health, and nuclear medicine. Job opportunities at power plants, graduate school, and national laboratories. Tour of the University of Texas nuclear research reactor and demonstration experiments. (Requires off-campus travel.)

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

**ENGR 3100 UTILIZATION OF NUCLEAR TECHNOLOGIES IN SOCIETY (3 credits)**

The applications of nuclear science to society and the fundamental radiation principles utilized in these applications.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 3200 LEADERSHIP, MANAGEMENT, AND ETHICS (3 credits)**

Explore professional leadership, ethics, project management tools and skills, and how to successfully implement and respond to change. In a team based environment, enhance essential professional skills for personal and team success by developing and presenting a responsive proposal considering: client needs, basic project controls and scheduling. Learn about personal styles, motivation and effectively implementing change. Examine ethical dilemmas regarding principles, stewardship, and civics from ethical, legal, and expediency perspectives.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 3500 ENGINEERING COOPERATIVE EDUCATION (0-12 credits)**

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Junior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 3910 JUNIOR ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary

**ENGR 3950 ENGINEERING INTERNSHIP (0-1 credits)**

Provides an opportunity to reflect on experience gained through an internship related to the major field of study and an integral or important part of their program of study. Develop non-technical professional skills through reflective writing assignments. May be repeated.

**Prerequisite(s)/Corequisite(s):** Undergraduate major in the College of Engineering; sophomore standing; permission from instructor.

**ENGR 4000 PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY (1 credit)**

Discussions on professionalism and ethics of engineering practice; problems encountered by new graduates.

**Prerequisite(s)/Corequisite(s):** Senior

**ENGR 4020 ENERGY SYSTEMS AND RESOURCES (3 credits)**

Energy as a critical component of civilization. The critical role of energy from the economic and political point of view world wide. Energy resources available, the technology to use the resources, the economics of energy production, the environmental consequences of energy use, and energy policy.

**Prerequisite(s)/Corequisite(s):** ENGR 3010, not open to nondegree students

**ENGR 4070 PROJECT MANAGEMENT (3 credits)**

Project development, role of the project manager, project selection, project planning, budgeting and cost estimation, project scheduling, and project termination.

**ENGR 4100 RADIATION PROTECTION AND SHIELDING (3 credits)**

Basic principles and concepts of radiation protection and shield design. Dosi-metric units and response functions, hazards of radiation doses, radiation sources, basic methods for dose evaluation, and shielding design techniques for photons and neutrons.

**Prerequisite(s)/Corequisite(s):** MENG 4010, MECH 4010 MENG 8016, MECH 8016 or ENGR 4210

**ENGR 4110 NUCLEAR REACTOR THEORY (3 credits)**

Introduction to neutron diffusion theory, neutron moderation, neutron thermalization, and criticality condition of nuclear reactor.

**Prerequisite(s)/Corequisite(s):** ENGR 3100, not open to nondegree students

**ENGR 4120 NUCLEAR REACTOR ANALYSIS (3 credits)**

Group diffusion method, multiregional reactors, heterogeneous reactors, reactor kinetics, and change in reactivity.

**Prerequisite(s)/Corequisite(s):** ENGR 4110, not open to nondegree students

**ENGR 4150 COGNITIVE ERGONOMICS (3 credits)**

Human factors affecting work. Focus on humans: energy requirements, lighting, noise, monotony and fatigue, learning, simulations versus sequential tasks. Experimental evaluation of concepts.

**Prerequisite(s)/Corequisite(s):** ENGR 4300 or permission.

**ENGR 4160 PHYSICAL ERGONOMICS (3 credits)**

Human performance in work. Human response to various environmental and task-related variables with emphasis on physical and physiological effects.

**Prerequisite(s)/Corequisite(s):** ENGR 4300 or permission

**ENGR 4170 OCCUPATIONAL SAFETY HYGIENE ENGINEERING (3 credits)**

Introduction to occupational hygiene engineering with emphasis on workplace environmental quality. Heat, illumination, noise, and ventilation.

**Prerequisite(s)/Corequisite(s):** Senior standing or permission

**ENGR 4200 NUCLEAR REACTOR ENGINEERING (3 credits)**

The physics governing nuclear reactors and the design principles for commercial nuclear power plants. Reactor designs currently operating in the power industry.

**ENGR 4210 ELEMENTS OF NUCLEAR ENGINEERING (3 credits)**

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research. (Cross-listed with MECH 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 2120, and (ENGR 3010 or ENGR 3100)

**ENGR 4500 ENGINEERING COOPERATIVE EDUCATION (0-12 credits)**

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Senior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 4600 PACKAGING ENGINEERING (3 credits)**

Investigation of packaging processes, materials, equipment and design. Container design, material handling, storage, packing and environmental regulations, and material selection.

**Prerequisite(s)/Corequisite(s):** CONE 2060; MENG 3210 or MECH 3210; MENG 3730 or MECH 3730

**ENGR 4610 RFID SYSTEMS IN THE SUPPLY CHAIN (3 credits)**

Foundations of Radio Frequency Identification Systems (RFID). The fundamentals of how RFID components of tag, transponder, and antennae are utilized to create RFID systems. Best practices for implementation of RFID systems in common supply operations.

**ENGR 4690 TECHNOLOGY, SCIENCE AND CIVILIZATION (3 credits)**

(Lect 2 Dis. 2) This course studies the development of technology as a trigger of change upon humankind, from the earliest tools of Homo Habilis to the advent of the radio telescope in exploring the creation of the universe. The course traces the paths from early science to development of the sciences and technologies that will dominate the new millennium. (8696 is for non SET students) (Cross-listed with ENGR 8696).

**Prerequisite(s)/Corequisite(s):** Senior or permission.

**ENGR 4810 SUPPLY CHAIN OPTIMIZATION (3 credits)**

Foundations of supply chain network modeling. The concepts that support the economic and service trade-offs in supply chain and logistics management. Using decision support system (DSS) to design optimal logistics network models given data requirements and operational parameters. Using leading software packages to model problems arising in strategic management of logistics networks.

**ENGR 4830 LOGISTICS IN THE SUPPLY CHAIN (3 credits)**

The process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption. Domestic transportation systems, distribution centers and warehousing, international logistics, logistic system controls, and reengineering logistics systems.

**ENGR 4900 GLOBAL EXPERIENCES IN ENGINEERING (1-3 credits)**

Individual or group educational experience combining classroom lectures, discussions, and/or seminars with field and/or classroom studies in a foreign country. Choice of subject matter and coordination of on- and off-campus activities are at the discretion of the instructor.

**ENGR 4910 SENIOR ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary.

## Environmental Engineering Minor

**Grade Rules****C- and D Grades**

All courses must be completed with a grade of D- or higher.

**Pass/No Pass Limits**

No course taken Pass/No Pass will be counted toward the minor.

Code	Title	Credits
CIVE 326	INTRODUCTION TO ENVIRONMENTAL ENGINEERING	3
CIVE 352	INTRODUCTION TO WATER RESOURCES ENGINEERING	3
CIVE 425	PROCESS DESIGN IN WATER SUPPLY AND WASTEWATER TREATMENT	3
Electives I (select one or two of the following:		3-6
CIVE 419	FLOW SYSTEMS DESIGN	
CIVE 424	SOLID WASTE MANAGEMENT ENGINEERING	
CHME 489	Air Pollution, Assessment and Control	
Electives II (Select one or two of the following)		3-6
CIVE 422	POLLUTION PREVENTION: PRINCIPLES AND PRACTICES	
CIVE 426	DESIGN OF WATER TREATMENT FACILITIES	

CIVE 427	DESIGN OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES
CIVE 430	FUNDAMENTALS OF WATER QUALITY MODELING
CIVE 431	SMALL TREATMENT SYSTEMS
CIVE 452	WATER RESOURCES DEVELOPMENT
CIVE 454	HYDRAULIC ENGINEERING
CIVE 455	NONPOINT SOURCE POLLUTION CONTROL ENGINEERING
CIVE 458	GROUNDWATER ENGINEERING
CIVE 475	WATER QUALITY STRATEGY
CHME 323	Chemical Engineering Thermodynamics and Kinetics
BSEN 244	Thermodynamics and Living Systems
BSEN 441	Animal Waste Management
BSEN 468	Wetlands

**Total Credits**

**15-21**

## Pre-Engineering

Two years of course work applicable to Bachelor of Science degrees in Agricultural Engineering, Biological Systems Engineering, and Mechanical Engineering are provided on the Scott Campus in Omaha.

The courses listed under each pre-engineering program are similar in content to equivalent courses at the University of Nebraska-Lincoln, allowing for maximum transferability of credit.

Students should select courses at UNO that meet degree requirements as stated in the Catalog of the institution to which they plan to transfer.

**For more information,** please call 402.554.3562

**Programs Offered**

- Pre-Agricultural Engineering (p. 623)
- Pre-Biological Systems Engineering (p. 624)
- Pre-Mechanical Engineering (p. 625)

## Pre-Agricultural Engineering

Agricultural engineering (AGEN) is one of two engineering degree programs offered in the Department of Biological Systems Engineering at UNL. AGEN students emphasize coursework in one of three engineering areas: machine design, test, or soil and water resources. Thus, some agricultural engineers are involved in the analysis and design of field machinery systems and machine components through study of the principles of mechanical design, joining techniques, hydraulics, controls, ergonomics, and safety. Others are evaluating machine or mechanical system functional performance based on study of test procedure standards, measurements, data acquisition, electronic communication and statistics, and practical experience gained at the Nebraska Tractor Test Laboratory. Still others are analyzing and designing soil and water management-related infrastructure as aided through study of irrigation, drainage, erosion and runoff control techniques, crop tillage and cultivation practices, and natural resources management. Job opportunities for graduates are available in industry, public agencies, consulting, and private practice.

Students choosing the pre-agricultural engineering program on the Scott Campus in Omaha should be aware that there are five courses in the first two years (AGEN 100, AGEN 112, AGEN 225, AGEN 260, and MSYM 232); 12 total credit hours) for which there are no equivalents on the Scott Campus. However, substitutions for AGEN 100 may be available on a case-by-case basis.

## Requirements

Course	Title	Credits
<b>First Year</b>		
<b>First Semester</b>		
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
ENGR 1000	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS	3
ACE Elective <sup>1</sup>		3
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
MATH 1960	CALCULUS II	5
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>16</b>
<b>Second Year</b>		
<b>First Semester</b>		
MATH 1970	CALCULUS III	4
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
MECH 2230	ENGINEERING STATICS	3
MECH 2000	ENGINEERING THERMODYNAMICS	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES <sup>2</sup>	3
<b>Credits</b>		<b>17</b>
<b>Second Semester</b>		
MATH 2350	DIFFERENTIAL EQUATIONS	3
ECEN 2110	ELEMENTS OF ELECTRICAL ENGINEERING	3
CONE 2060	ENGINEERING ECONOMICS	3
MECH 3730	ENGINEERING DYNAMICS	3
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>63</b>

Other courses available:

Code	Title	Credits
BIOL 1020	PRINCIPLES OF BIOLOGY	4
CIVE 310/MECH 3100	FLUID MECHANICS	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
ACE Elective <sup>1</sup>		3

<sup>1</sup> Ace elective: Selected from ACE elective (SLO 5, 6, 7, or 9) list.

<sup>2</sup> ENGL 3980: EPPE sophomore level placement or successful completion of ENGL 1160/ENGL 1164 required.

## Pre-Biological Systems Engineering

Biological Systems Engineering (BSEN) brings engineering to life by working with living systems and applying engineering, biology, and mathematics to improve lives and our world. Biological systems engineers are trained to solve problems in biomedical engineering, environmental and water resources engineering, and food and bioprocess engineering. Students who

choose pre-biological systems engineering on the Scott Campus in Omaha, should be aware that there are three courses in the first two years (BSEN 100, BSEN 112, BSEN 225; nine total credit hours) for which there are no equivalents on the Scott Campus. However, substitutions for BSEN 100 may be available on a case by case basis.

## Requirements

Course	Title	Credits
<b>First Year</b>		
<b>First Semester</b>		
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
ENGR 1000	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS	3
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
MATH 1960	CALCULUS II	5
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>16</b>
<b>Second Year</b>		
<b>First Semester</b>		
MATH 1970	CALCULUS III	4
BIOL 1450	BIOLOGY I <sup>2</sup>	5
CHEM 2210	FUNDAMENTALS OF ORGANIC CHEMISTRY <sup>3</sup>	4
CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	1
MECH 2230	ENGINEERING STATICS	3
ENGR 200	SOPHOMORE ENGINEERING SEMINAR	0
<b>Credits</b>		<b>17</b>
<b>Second Semester</b>		
MATH 2350	DIFFERENTIAL EQUATIONS	3
BIOL 1750	BIOLOGY II	5
ECEN 2110	ELEMENTS OF ELECTRICAL ENGINEERING	3
ENGL 1160	ENGLISH COMPOSITION II <sup>4</sup>	3
MECH 3730	ENGINEERING DYNAMICS	3
<b>Credits</b>		<b>17</b>
<b>Total Credits</b>		<b>65</b>

<sup>1</sup> ACE electives: Selected from ACE elective (SLO 5 through 9) list.

<sup>2</sup> BIOL 1450: Four of the five hours can be used in BSEN.

<sup>3</sup> CHEM 2210: Three of the four hours can be used in BSEN.

<sup>4</sup> ENGL 1160: Can take ENGL 1150 to fulfill requirement.

Other courses that can be used to meet BSEN requirements:

Code	Title	Credits
MECH 2000	ENGINEERING THERMODYNAMICS	3
CIVE 310/MECH 3100	FLUID MECHANICS	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
CHEM 3650	FUNDAMENTALS OF BIOCHEMISTRY	3

CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	1
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4

## Pre-Mechanical Engineering

Mechanical engineers are considered the “general practitioners” of engineering because their education is extremely broad and their services span many interdisciplinary technical, social environmental and economic problems. These engineers deal with a wide realm of motion, all forms of energy conversion and transmission; the flow of fluids and heat; the development, design and operation of machinery and equipment; material structure and properties; and transportation processes. Here, you’ll choose among three major areas: thermal-fluid science engineering, systems and design engineering, and materials science engineering. Your career could include research and development, design of equipment and systems, testing, plant and sales engineering, and management.

### Requirements

Course	Title	Credits
<b>First Year</b>		
<b>First Semester</b>		
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
Communication Elective:		3
ACE Elective <sup>1</sup>		3
ENGR 1000 or CMST 2010 or CMST 2410	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS or INTERPERSONAL COMMUNICATION or SMALL GROUP COMMUNICATION AND LEADERSHIP	3
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
<b>Credits</b>		<b>18</b>
<b>Second Semester</b>		
MATH 1960	CALCULUS II	5
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
CIST 1400 or CSCI 2240	INTRODUCTION TO COMPUTER SCIENCE I or INTRODUCTION TO C PROGRAMMING	3
<b>Credits</b>		<b>17</b>
<b>Second Year</b>		
<b>First Semester</b>		
MATH 1970	CALCULUS III	4
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
MECH 2230	ENGINEERING STATICS	3
CONE 2060	ENGINEERING ECONOMICS	3
ECEN 2110	ELEMENTS OF ELECTRICAL ENGINEERING	3
ENGR 200	SOPHOMORE ENGINEERING SEMINAR	0
<b>Credits</b>		<b>17</b>
<b>Second Semester</b>		
MATH 2350	DIFFERENTIAL EQUATIONS	3
MECH 2000	ENGINEERING THERMODYNAMICS	3
MECH 3250	MECHANICS OF ELASTIC BODIES	3

MECH 3730	ENGINEERING DYNAMICS	3
MATH 2050	APPLIED LINEAR ALGEBRA	3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>67</b>

<sup>1</sup> ACE Elective: Choose from list. Flexible ACE electives include categories 5, 6, 7, and 9. Students must complete one from each category; for a total of four courses.

Other applicable courses available:

Code	Title	Credits
MECH 4200	HEAT TRANSFER	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
ACE elective <sup>1</sup>		9
MECH 3100 or CIVE 310	FLUID MECHANICS FLUID MECHANICS	3

## Robotics Engineering Minor

### Description

Chair and Advisor: Justin Bradley (CSE)

The robotics engineering minor is jointly administered by the Departments of:

- Electrical & Computer Engineering (ECE)
- Computer Science and Engineering (CSE)
- Mechanical and Materials Engineering (MME)

### Requirements

**This minor is available to all majors. Consult with your advisor before declaring this minor.**

The robotics engineering minor consists of three core courses and three elective courses. When selecting electives, the student must take two courses outside of their major area of study. For example, a student in mechanical engineering might take an elective from the Department of Computer Science and Engineering and one from the Department of Electrical Engineering.

Code	Title	Credits
<b>Core Requirements</b>		
Select one course from each of the three following topic areas:		9
<b>Topic Area: Core Programming</b>		
CSCE 155	COMPUTER SCIENCE I (version A or E)	
CSCE 156	COMPUTER SCIENCE II	
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I (UNO course) <sup>1</sup>	
<b>Topic Area: Controls</b>		
MECH 3500	INTRODUCTION TO DYNAMIC AND CONTROL OF ENGINEERING SYSTEMS	
ECEN 4440	LINEAR CONTROL SYSTEMS	
ECEN 2200	INTRODUCTION TO EMBEDDED SYSTEMS	
ECEN 4910	SPECIAL TOPICS IN ELECTRIC AND COMPUTER ENGINEERING IV	
<b>Topic Area: Embedded Systems</b>		
ECEN 1060	MICROPROCESSOR APPLICATIONS	
CSCE 336	EMBEDDED SYSTEMS	
MECH 457	MECHATRONIC SYSTEMS	
<b>Elective Requirements</b>		

Select three of the following; two must be outside your department:

ECEN 4000	ELECTRONIC INSTRUMENTATION
ECEN 4280	POWER ELECTRONICS
ECEN 4440	LINEAR CONTROL SYSTEMS
ECEN 4600	LABVIEW PROGRAMMING
ECEN 4620	COMMUNICATION SYSTEMS
ECEN 4980	SPECIAL TOPICS IN ELECTRICAL ENGINEERING IV
CSCE 436	ADVANCED EMBEDDED SYSTEMS
CSCE 439	ROBOTICS ALGORITHMS APPLICATIONS
CSCE 473	COMPUTER VISION
CSCE 476	INTRODUCTION TO ARTIFICIAL INTELLIGENCE <sup>1</sup>
CSCE 4XX	(SPECIAL TOPICS COURSES ON ROBOTICS)
ECEN 3450	MOBILE ROBOTICS I
ECEN 4330	MICROPROCESSOR SYSTEM DESIGN
ECEN 4350	EMBEDDED MICROCONTROLLER DESIGN
MECH 3420	KINEMATICS AND DYNAMICS OF MACHINERY
MECH 4500	MECHANICAL ENGINEERING CONTROL SYSTEMS DESIGN
MECH 4420	INTERMEDIATE KINEMATICS
MECH 4440	INTERMEDIATE DYNAMICS OF MACHINERY
MECH 4490	ADVANCED DYNAMICS
MECH 4530	ROBOTICS: KINEMATICS & DESIGN
MECH 4580	DIGITAL CONTROL OF MECHANICAL SYSTEMS
MECH 4880	KINEMATICS AND MACHINE DESIGN LABORATORY

**Total Credits**

**18**

<sup>1</sup> On the Scott Campus in Omaha, similar courses being offered by CIST could be substituted.

# Construction

## Construction Degrees

The Charles W. Durham School of Architectural Engineering and Construction offers students an education that opens up a full range of professional opportunities in the construction industry. The two bachelor's degree options, Construction Engineering and Construction Management, are found under the Majors tab.

## Degrees Offered

- Construction Engineering, Bachelor of Science (p. 629)
- Construction Management, Bachelor of Science (p. 631)

### CNST 1120 CONSTRUCTION COMMUNICATIONS (3 credits)

Development of communication skills including understanding of contract documents, working drawings, technical terminology, graphic symbols, and abbreviations. Fundamentals of drafting principles, sketching, and dimensioning techniques.

### CNST 1310 INTRODUCTION TO THE CONSTRUCTION INDUSTRY (1 credit)

Introduction to basic management principles and practices for labor, materials, machinery, and budgets.

9

### CNST 2250 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)

Introduction to Building Information Modeling (BIM) concepts and techniques. Explore the use of the Revit Architecture platform to create detailed 3D models of construction projects and other BIM-related topics such as clash detection and point-cloud models.

**Prerequisite(s)/Corequisite(s):** CNST 1120

### CNST 2410 HORIZONTAL CONSTRUCTION (3 credits)

Introduction to earthmoving equipment and methods, labor, productivity, and economic aspects of excavation, material transportation, and fill work. Introduction to the financial principles of equipment ownership and operation.

**Prerequisite(s)/Corequisite(s):** MATH 1950

### CNST 2420 VERTICAL CONSTRUCTION (3 credits)

Focus on vertical structures, from grade to topping out, with an emphasis on materials and material handling equipment. Includes the assembly process for a variety of applications including cast-in-place concrete, steel erection, wood framing, precast concrete, masonry structural elements, and material finishing.

**Prerequisite(s)/Corequisite(s):** MATH 1950

### CNST 2510 CONSTRUCTION MATERIALS AND SPECIFICATIONS (3 credits)

Introduction to construction materials and proper methods of specifying to achieve design and construction goals, safety and inspection, and to meet zoning code and environmental requirements. Physical, mechanical and aesthetic properties of soils, concrete, masonry, metals, plastics and other materials will be studied as they relate to in-service conditions, acceptability, and performance.

**Prerequisite(s)/Corequisite(s):** MATH 1950

### CNST 2520 CONSTRUCTION MATERIALS AND TESTING (3 credits)

Introduction to basic materials used in construction. Laboratory testing and evaluation of material properties of soil, aggregate, and concrete.

**Prerequisite(s)/Corequisite(s):** MATH 1950; parallel registration in CNST 2410 is recommended. Laboratory testing procedures emphasizing testing of aggregates, soil, and concrete.

### CNST 3050 BUILDING ENVIRONMENTAL TECHNICAL SYSTEMS I (3 credits)

Characteristics and performance of buildings with respect to thermal and psychometric environment in buildings related to human comfort, heat gain/heat loss, ventilation, natural energy systems and sustainable design principles, and plumbing and life safety systems in the built environment.

**Prerequisite(s)/Corequisite(s):** PHYS 1050

### CNST 3060 ELECTRICAL SYSTEMS (3 credits)

Fundamentals of electric power generation and distribution, service, and circuits in buildings with an emphasis on electrical equipment and systems, lighting principles and applications, and fire protection systems. Review of National Electric Code.

**Prerequisite(s)/Corequisite(s):** MATH 1950, PHYS 1050.

### CNST 3310 STRUCTURAL MECHANICS (3 credits)

Introduction to various external force systems, and their resulting internal forces and deformations, which act on structural elements.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### CNST 3320 STRUCTURAL OPTIMIZATION (3 credits)

Optimization of key properties of elements and systems of building structures: force, geometric, and material.

**Prerequisite(s)/Corequisite(s):** CNST 3310. Not open to non-degree graduate students.

**CNST 3780 CONSTRUCTION ESTIMATING I (3 credits)**

Preparation of detailed cost estimates based on contract documents. Identify and analyze cost components of building and site scopes of work to perform detailed quantity take-offs. Apply labor, material, and equipment pricing from RS Means. Use production rates and quantity takeoffs to prepare a preliminary construction schedule. Complete quantity takeoffs from 2D plans and from 3D BIM software models. (Cross-listed with CNE 3780).

**Prerequisite(s)/Corequisite(s):** CNST 1120.

**CNST 3790 CONSTRUCTION ESTIMATING II (3 credits)**

Continuation of CNST 3780 with emphasis on the determination of total project cost and preparation of complete bid proposals for self-performed and subcontracted commercial projects. Evaluation and analysis of subcontractor bids to determine overall project costs by completing a hard bid simulation scenario. Exploration of contract delivery methods and their effect on overall project cost.

**Prerequisite(s)/Corequisite(s):** CNST 3780

**CNST 4050 MECHANICAL ESTIMATING (3 credits)**

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of mechanical construction.

**Prerequisite(s)/Corequisite(s):** CNST3050 and CNST3060 and CNST3790

**CNST 4060 ELECTRICAL ESTIMATING (3 credits)**

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of electrical construction.

**Prerequisite(s)/Corequisite(s):** CNST 3050, CNST 3060 and 3790.

**CNST 4110 PROJECT ADMINISTRATION (3 credits)**

Ownership and administration of companies focusing on documentation and specifications, contracts, take-offs, estimating, bidding, bonds, insurance, project management and administration, scheduling, time and cost management, labor law and labor relations, and project safety. (Cross-listed with CNST 8116).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4150 MECHANICAL/ELECTRICAL PROJECT MANAGEMENT (3 credits)**

Fundamentals of project management within the mechanical and electrical contracting industry. Codes, contract documents, productivity, coordination, project control and administration, scheduling, safety, and project closeout, from a specialty contracting perspective. (Cross-listed with CNST8156)

**Prerequisite(s)/Corequisite(s):** CNST 3050, CNST 3060 and CNST 3790. CNST 4050 and CNST 4060 are recommended.

**CNST 4200 PROFESSIONAL PRACTICE AND ETHICS (3 credits)**

Examination of professional practice considering the perspectives of designers and the contractors and their respective relationships to society, specific client types, and other collaborators in the design and construction fields. Focus on ethics, professional communication and responsibility, professional organization, office management, environmental stewardship, professional registration, and owner-designer-contractor relationships. (Cross-listed with CNST 8206).

**Prerequisite(s)/Corequisite(s):** CNST 3790, LAWS 3930. Not open to non-degree graduate students.

**CNST 4250 ALTERNATIVE PROJECT DELIVERY METHODS (3 credits)**

Historical and current project delivery methods (PDM) are explored. Procurement strategies, contractual arrangements, and compensation methods are also discussed in conjunction with risks, costs, and legal and ethical issues that need to be considered when determining which system is best for a particular project. (Cross-listed with CNST 8256)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4340 THE DESIGN-BUILD PROJECT DELIVERY SYSTEM (3 credits)**

The organizational, managerial, ethical and legal principles involved in design-build as a project delivery system. Advantages and disadvantages, growth, merits, and criticism of the design-build system. (Cross-listed with CNST 8346)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4360 INTENT AND APPLICATION OF INTERNATIONAL BUILDING CODE (3 credits)**

Fundamentals of how to research, interpret, and apply building code requirements to the design and construction of both new and renovated structures. (Cross-listed with CNST 8366)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4400 BUILDING INFORMATION MODELING (BIM) II (3 credits)**

Advance topics in building information modeling, including structural and MEP modeling, 4/5 dimensional construction animations and visualization. Good knowledge of Revit Architectural Modeling and knowledge of construction estimating and scheduling is required before registering in this class. (Cross-listed with CNST 8406)

**Prerequisite(s)/Corequisite(s):** CNST 2250 and CNST 3780.

**CNST 4440 CONSTRUCTION SITE SAFETY MANAGEMENT (3 credits)**

Introduction to safety management for project engineers, project managers, safety teams, and company safety officers. Addresses basic accident and injury models, human accident costs, safety behavior, ethical issues in safety, workers' compensation and EMR, job safety analysis (JSA), project site safety audits, safety promotion and training, emergency planning and response, safety management programs and training, and OSHA record-keeping and reporting. (Cross-listed with CNST 8446).

**Prerequisite(s)/Corequisite(s):** CNST 2410 or CNE 3190. Not open to non-degree graduate students.

**CNST 4760 PROJECT BUDGETS AND CONTROLS (3 credits)**

The basic systems related to revenues and expenses associated with record keeping of construction contracts. Managerial accounting related to planning and control of construction projects.

**Prerequisite(s)/Corequisite(s):** CNST 3780 and CNE 2060.

**CNST 4800 PRODUCTIVITY AND HUMAN FACTORS IN CONSTRUCTION (3 credits)**

Motivation and productivity improvement methods for management in typical job environments. Methods to improve working environments in the field and office. Procedures and mechanisms to implement human behavior and ergonomics concepts for enhanced productivity and safety. (Cross-listed with CNST 8806).

**Prerequisite(s)/Corequisite(s):** CNST 3780, MGMT 3490. Not open to non-degree graduate students.

**CNST 4820 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 8826, CNE 4820, CNE 8826).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4850 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 8856, CNE 4850, CNE 8856)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CNST 4860 CONSTRUCTION MANAGEMENT SYSTEMS (3 credits)**

Application of selected topics in systems analysis (operations research). Simulation, mathematical optimization, queuing theory, Markov decision processes, econometric modeling, neural networks, data envelopment analysis, decision analysis, and analytic hierarchy processes as used in the industry. (Cross-listed with CNST 8866).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4880 RESIDENTIAL CONSTRUCTION AND REAL ESTATE DEVELOPMENT (3 credits)**

Application of various strategies to real estate development including community and residential design, planning, site selection, land development, marketing and customer service. Methods used by construction companies to analyze, bid, and market their developments to customers through the preconstruction and bidding process. (Cross-listed with CNST 8886)

**Prerequisite(s)/Corequisite(s):** CNST 3790.

**CNST 4890 SENIOR CONSTRUCTION PROJECT (3 credits)**

Execution of a project from conceptual design and location through estimating, bidding, site layout, planning and scheduling, cost control, records management, and project completion and documentation. Capstone course.

**Prerequisite(s)/Corequisite(s):** CNST 3790; CNST 4200; CNST 4760 ; CNST 4850. Pre/Coreq: CNST 4800.

**CNST 4950 INTERNSHIP (3 credits)**

Participation in a full-time summer internship associated with a construction-related entity. Includes weekly assignments and a final presentation designed to foster interactions between the intern and the business side of the entity. General topics include personnel and time management, structuring business plans, scheduling work, finance and budgets, marketing plans, contracts, risk analysis, and communication and leadership. (Cross-listed with CONE 4950).

**Prerequisite(s)/Corequisite(s):** Permission of instructor, Letter of application, Letter of agreement from industry mentor. Not open to non-degree graduate students.

**CNST 4980 SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT (1-6 credits)**

Individual or small group study of special topics in construction management. Topic varies. A signed student-instructor learning contract is required. (Cross-listed with CNST 8986, CONE 4980).

**CONE 1030 INTRODUCTION TO CONSTRUCTION ENGINEERING (1 credit)**

Introduction to the organization and terminology of construction engineering. Overview of technical and management skills required to succeed in the construction engineering profession.

**CONE 2060 ENGINEERING ECONOMICS (3 credits)**

Introduction to methods of economics comparisons of engineering alternatives: time value of money, depreciation, taxes, concepts of accounting, activity-based costing, ethical principles, civics and stewardship, and the importance to society.

**Prerequisite(s)/Corequisite(s):** Sophomore Standing.

**CONE 2110 CONSTRUCTION BUSINESS METHODS (3 credits)**

Business concepts and practices used by construction contractors. The construction industry, management principles, forms of business ownership, company organization, construction contracts, estimating and bidding, business ethics, bonds and insurance, financial statements, cost accounting, equipment management, planning and scheduling, labor relations and personnel management.

**Prerequisite(s)/Corequisite(s):** CONE 1030 or CNST 1310 or AE 1010

**CONE 2210 GEOMETRIC CONTROL SYSTEMS (3 credits)**

Introduction to the theory and application of mensuration and geometric information processing in civil engineering. Measurement of distance, direction, elevation and location using mechanical, electronic and satellite systems. Collection of field data and error propagation. Elementary geometric data bases for design, construction, operation and control of civil works.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CONE 3190 CONSTRUCTION METHODS AND EQUIPMENT (3 credits)**

Characteristics, capabilities and selection of equipment and methods used in the building construction industry. Estimating job production, equipment production rates, machine operating costs, earth-moving equipment, hoisting equipment, operations analysis, and use of various other construction methods and equipment.

**Prerequisite(s)/Corequisite(s):** CONE 2060

**CONE 3780 CONSTRUCTION ESTIMATING I (3 credits)**

Preparation of detailed cost estimates based on contract documents. Identify and analyze cost components of building and site scopes of work to perform detailed quantity take-offs. Apply labor, material, and equipment pricing from RS Means. Use production rates and quantity takeoffs to prepare a preliminary construction schedule. Complete quantity takeoffs from 2D plans and from 3D BIM software models. (Cross-listed with CNST 3780).

**Prerequisite(s)/Corequisite(s):** CNST 1120.

**CONE 4140 ACCIDENT PREVENTION IN CONSTRUCTION (3 credits)**

Safety practices in the construction industry and the national safety and health standards of the Occupational Safety and Health Administration (OSHA). The theory of accidents; personal attitudes; statistics and environment; accident occurrence; prevention and inspection in connection with the construction of buildings, highways, and associated heavy facilities. Nationally accepted safety codes and their relationship to accepted practices in the industry.

**Prerequisite(s)/Corequisite(s):** Senior standing and CONE 2110 and CONE 3190

**CONE 4160 WOOD/CONTEMPORARY MATERIALS DESIGN (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 8166)

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CONE 4170 FORMWORK SYSTEMS (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design, masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 8176)

**Prerequisite(s)/Corequisite(s):** CONE 4160; Pre/Co-req.: CIVE 441

**CONE 4500 SUSTAINABLE CONSTRUCTION (3 credits)**

Sustainable construction and its application to the green building industry. Topics include: the LEED certification process, sustainable building site management, efficient wastewater applications, optimizing energy performance, indoor environmental issues, performance measurement/verification, recycled content and certified renewable materials. (Cross-listed with CONE 8506.)

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 4590 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

This course instructs CAD users on the effective use of Building Information Model (BIM) for integration of design, document and construction estimate. Topics include: model-based 3D design, file formats, interoperability, and MEP modeling. (Cross-listed with CONE 8596)

**Prerequisite(s)/Corequisite(s):** CNST 1120, or Graduate standing in AE, CIVE, CNST or CONE.

**CONE 4660 HEAVY AND/OR CIVIL ESTIMATING (3 credits)**

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil construction takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts. (Cross-listed with CONE 8666).

**Prerequisite(s)/Corequisite(s):** CONE 3190 and CONE 3780 and CONE 4850

**CONE 4760 PROJECT BUDGETS AND CONTROLS (3 credits)**

The basic systems related to revenues and expenses associated with record keeping of construction contracts. Managerial accounting related to planning and control of construction projects.

**Prerequisite(s)/Corequisite(s):** CNST 3780 and CONE 2060.

**CONE 4810 HIGHWAY & BRIDGE CONSTRUCTION (3 credits)**

The methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment. (Cross-listed with CONE 8816)

**Prerequisite(s)/Corequisite(s):** CONE 3190 or CNST 2410

**CONE 4820 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 4820, CNST 8826, CONE 8826).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CONE 4830 SUPPORT OF EXCAVATION (3 credits)**

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams. Soil mechanics, lateral loads, hydrology, and pumping methods. (Cross-listed with CONE 8836)

**Prerequisite(s)/Corequisite(s):** CET 2180 and CET 3290

**CONE 4850 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 4850, CNST 8856, CONE 8856)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CONE 4890 CONSTRUCTION ENGINEERING CAPSTONE (3 credits)**

CONE 4890 embodies the cumulative CONE experience in a project format and uses teams to simulate actual construction enterprises operating in cooperative and competitive situations which replicate the construction industry. An integrated, comprehensive project; to be taken in the term prior to graduation.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 4950 INTERNSHIP (3 credits)**

Participation in a full-time summer internship associated with a construction-related entity. Includes weekly assignments and a final presentation designed to foster interactions between the intern and the business side of the entity. General topics include personnel and time management, structuring business plans, scheduling work, finance and budgets, marketing plans, contracts, risk analysis, and communication and leadership. (Cross-listed with CNST 4950).

**Prerequisite(s)/Corequisite(s):** Permission of instructor, Letter of application, Letter of agreement from industry mentor. Not open to non-degree graduate students.

**CONE 4980 SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT (1-6 credits)**

Individual or small group study of special topics in construction management. Topic varies. A signed student-instructor learning contract is required. (Cross-listed with CNST 4980, CNST 8986)

## Construction Engineering, Bachelor of Science

### Description

Construction engineering (CONE) is a program of the Charles W. Durham School of Architectural Engineering and Construction. The construction engineering major integrates engineering, construction and management courses. This program is designed for persons fulfilling the construction industry's need for licensed professional engineers. It resembles the construction management program but provides a greater emphasis on engineering, scientific, and technical courses to meet requirements for licensure as a professional engineer. The courses focus on the application of engineering principles to solve real-world construction problems. They include instruction in civil engineering, structural principles, material testing and evaluation, project management, computer-assisted design, 3D animation, sustainability, and graphic communication.

### Program Educational Objectives (PEOs)

1. Professional Achievement: The Construction Engineering program prepares graduates to become Licensed Professional Engineers and Certified Professional Constructors.
2. Career Achievement: The Construction Engineering program prepares graduates to contribute to society by working in an occupation related to the architecture-engineering-construction industry.

Under the stimulus of increasing demand for global services, many Nebraska companies have expanded their reach well beyond U.S. borders. This demand gives the construction engineering graduate an unprecedented number of opportunities for employment—locally, nationally and internationally—and for pursuing an advanced degree at the University of Nebraska—Lincoln or elsewhere.

Construction engineers participate in the preparation of engineering and architectural documents, including specifications, which they translate into finished projects such as buildings for housing, commerce and industry, highways, railroads, waterways, airports, power plants, energy distribution systems, military bases and space center complexes. These projects involve thousands of details shared by a team of owners, architects, engineers, general constructors, specialty constructors, manufacturers, material suppliers, equipment distributors, regulatory bodies and agencies, labor resources and others. The constructor assumes responsibility for delivery of the completed project at a specified time and cost and also accepts associated legal, financial and management obligations. Because of the broad scope of the construction engineer's project responsibility, they must assure the project's constructability as well as its capability to be operated and maintained.

Construction engineering students are required to enroll in a set of courses specifically designed for a general construction education. Each student selects, with the guidance of an advisor, a set of approved electives. The program outlined below leads to the bachelor of science degree in construction engineering.

### Professional Admission Requirements

In order to be professionally admitted into the construction engineering program, students must complete at least 43 credit hours of courses listed in the first two years of the required curriculum with a minimum GPA of 2.5 for those major courses (not necessarily the cumulative GPA).

## Learning Outcomes

Graduates of the construction engineering program will have:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The above student outcomes have been approved by the ABET Engineering Area Delegation for use beginning with the 2019-20 academic year, and have been adopted by the faculty of the Charles W. Durham School of Architectural Engineering and Construction.

## Requirements

Students are required to enroll in a predetermined set of courses specifically designed for general construction education. Each student selects, with the approval of their advisor, a set of approved electives.

Course	Title	Credits
<b>First Semester</b>		
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
CMST 1110	PUBLIC SPEAKING FUNDS	3
CONE 1030	INTRODUCTION TO CONSTRUCTION ENGINEERING	1
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
MATH 1950	CALCULUS I	5
<b>Credits</b>		<b>16</b>
<b>Second Semester</b>		
CNST 1120	CONSTRUCTION COMMUNICATIONS	3
MATH 1960	CALCULUS II	5
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
PHYS 1154	GENERAL PHYSICS LABORATORY I <sup>1</sup>	1
ACE Elective <sup>2</sup>		3
<b>Credits</b>		<b>16</b>
<b>Third Semester</b>		
CONE 2210	GEOMETRIC CONTROL SYSTEMS	3
ENGR 200	SOPHOMORE ENGINEERING SEMINAR	0
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	3
MATH 1970	CALCULUS III	4
MECH 2230	ENGINEERING STATICS	3
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
<b>Credits</b>		<b>17</b>

## Fourth Semester

CONE 2060	ENGINEERING ECONOMICS	3
CNST 2250	INTRODUCTION TO BUILDING INFORMATION MODELING	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MECH 3250	MECHANICS OF ELASTIC BODIES	3
MECH 3730	ENGINEERING DYNAMICS	3
<b>Credits</b>		<b>15</b>

## Fifth Semester

ECEN 2110	ELEMENTS OF ELECTRICAL ENGINEERING	3
CIVE 341	INTRODUCTION TO STRUCTURAL ENGINEERING	4
CONE 3190	CONSTRUCTION METHODS AND EQUIPMENT	3
CONE/CNST 3780	CONSTRUCTION ESTIMATING I	3
CIVE 310/MECH 3100	FLUID MECHANICS	3
<b>Credits</b>		<b>16</b>

## Sixth Semester

CIVE 334	INTRODUCTION TO GEOTECHNICAL ENGINEERING	4
CIVE 378	MATERIALS OF CONSTRUCTION	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) <sup>3</sup>	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
ACE Elective <sup>2</sup>		3
<b>Credits</b>		<b>16</b>

## Seventh Semester

CIVE 440	REINFORCED CONCRETE DESIGN I	3
CNST 4440	CONSTRUCTION SITE SAFETY MANAGEMENT	3
CONE/CNST 4760	PROJECT BUDGETS AND CONTROLS	3
CONE/CNST 4850	CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS	3
Technical elective <sup>4</sup>		3
<b>Credits</b>		<b>15</b>

## Eighth Semester

CIVE 441	STEEL DESIGN I	3
CONE 4890	CONSTRUCTION ENGINEERING CAPSTONE	3
CNST 4200	PROFESSIONAL PRACTICE AND ETHICS	3
Design elective <sup>4</sup>		3
ACE Elective <sup>2</sup>		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>126</b>

<sup>1</sup> PHYS 1154: PHYS 1164 is an acceptable substitute if taken with PHYS 2120.

<sup>2</sup> ACE elective: Choose one course from each ACE Student Learning Outcome (SLO) 5, 7 or 9 elective courses.

<sup>3</sup> ECON 2200 satisfies SLO area 6.

<sup>4</sup> See tables below for Design and Technical Elective options.

## Additional Major Requirements

### Grade Rules

### C- and D Grades

All coursework must be of C grade level or higher to be credited toward graduation requirements or to be valid as a prerequisite for another course.

## Electives

Students are required to enroll in a predetermined set of courses specifically designed for general construction education. Each student selects, with the approval of his/her advisor, a set of approved electives.

Technical electives are selected from the following list. One (3 credit hour) of the required two electives needs to be considered a design technical elective.

Code	Title	Credits
<b>Design Electives</b>		
CONE 4160	WOOD/CONTEMPORARY MATERIALS DESIGN	3
CONE 4170	FORMWORK SYSTEMS	3
CONE 4810	HIGHWAY & BRIDGE CONSTRUCTION	3
CONE 4830	SUPPORT OF EXCAVATION	3
CIVE 443	ADVANCED STRUCTURAL ANALYSIS	3
CIVE 444	STRUCTURAL DESIGN AND PLANNING	3
CIVE 446	STEEL DESIGN II	3
CIVE 447	REINFORCED CONCRETE II	3

Code	Title	Credits
<b>Technical Electives</b>		
All previously listed Design Electives		
CNST 3790	CONSTRUCTION ESTIMATING II	3
CNST 4340	THE DESIGN-BUILD PROJECT DELIVERY SYSTEM	3
CONE 4500	SUSTAINABLE CONSTRUCTION	3
CONE 4660	HEAVY AND/OR CIVIL ESTIMATING	3
CONE 4980	SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT	1-6
MECH 4200	HEAT TRANSFER	3

## ACE Requirements

The CONE program follows the University's ACE general education requirements. Because of the specific needs of the program, several of these courses are specified in the curriculum. Please contact Melissa Hoffman at melissa.hoffman@unl.edu or 402.554.4482, if you are interested in more information about this program.

# Construction Management, Bachelor of Science

## Construction Management

Construction management (CNST) is a complete undergraduate degree program available to students within the Charles W. Durham School of Architectural Engineering and Construction located at Nebraska Hall on the Lincoln City Campus and at the Peter Kiewit Institute (PKI) in Omaha. Construction is one of the largest and most diversified industries in the country, accounting for approximately four percent of the U.S. gross domestic product (GDP). The key professional in this vast enterprise is the "constructor," a term given to leaders and managers in the construction industry who are responsible for planning, scheduling, and building the projects designed by architects and engineers. These highly-specialized efforts are indispensable in meeting the country's growing need for new structures, infrastructure, and environmental controls that are of high quality and are cost effective, efficient, and sustainable.

Construction firms vary in size from large corporations to small proprietorships and partnerships. These are often classified according to the kind of construction work they do: general contractors, heavy and highway contractors, specialty contractors—including mechanical and

electrical—and residential builders and developers. Many firms engage in more than one category of work. Some larger companies incorporate the architectural and engineering design functions as part of their role as a design/build firm. Collectively, constructors manufacture our entire built environment—buildings for housing, commerce and industry, highways, railroads, waterways, airports, power plants, energy distribution systems, military bases, and space center complexes. Thus, the construction management field is broad, requiring a unique educational background for its professional practitioners.

Although the range of construction activities appears wide and diverse, the general educational requirements for construction management are universal regardless of a particular firm's area of specialization. Since construction is primarily a business enterprise, the graduate must have a sound background in business management and administration, as well as an understanding of the fundamentals of architecture and engineering as they relate to project design and the actual construction process in the field. Professional expertise lies in the fields of construction science, methods, and management. A working knowledge of structural design, mechanical and electrical systems, methods and materials, soil mechanics, and construction equipment is also essential.

The construction management curriculum embraces a course of study in:

1. construction project management from pre-design through commissioning;
2. project life-cycle and sustainability;
3. health and safety, accident prevention, and regulatory compliance;
4. law, contract documents administration, and dispute prevention and resolution;
5. materials, labor, and methods of construction;
6. finance and accounting principles;
7. planning and scheduling;
8. cost management including plan reading, quantity take offs, and estimating;
9. project delivery methods;
10. leadership and managing people;
11. business and communication skills.

## Learning Outcomes

Graduates of the construction management program will have:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The above student outcomes have been approved by the ABET Engineering Area Delegation for use beginning with the 2019-20 academic year, and have been adopted by the faculty of the Charles W. Durham School of Architectural Engineering and Construction.

## Program Educational Objectives

The following is a list of the Construction Management Program Educational Objectives (PEO) that graduates are expected to attain within a few years of graduation:

1. Develop construction project objectives and plans including delineation of scope, budget, and schedule.
2. Select project participants and set performance requirements.
3. Maximize resource efficiency through judicious procurement and management of labor, materials, and equipment.
4. Implement and complete construction activities through coordination and control of scheduling, contracting, estimating, and cost control.
5. Develop effective communication protocols and mechanisms for resolving conflicts associated with the construction process.
6. Ensure quality and safety through design, measurement, analysis, and control.

Educational standards and criteria were established by The Charles W. Durham School of Architectural Engineering and Construction and approved by ABET, the accrediting agency for the construction management program at the University of Nebraska–Lincoln.

## Grade Rules

C- and D Grades

All required and elective courses must be passed with a grade of C or better to be included in the 120 credit hours needed for degree completion.

## ACE Requirements

The CNST program follows the UNL ACE general education requirements. Because of the specific needs of the program, most of these courses are specified in the curriculum. Please contact Melissa Hoffman at melissa.hoffman@unl.edu or 402.554.4482, if you are interested in more information about this program.

## Requirements

Course	Title	Credits
<b>First Semester</b>		
ENGR 1000	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS	3
CNST 1310	INTRODUCTION TO THE CONSTRUCTION INDUSTRY	1
ENGL 1160/1164	ENGLISH COMPOSITION II <sup>2</sup>	3
MATH 1950	CALCULUS I <sup>2</sup>	5
ENGR 100	FRESHMAN ENGINEERING SEMINAR	0
ACE Elective <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
CNST 1120	CONSTRUCTION COMMUNICATIONS	3
PHYS 1050	INTRODUCTION TO PHYSICS	4

PHYS 1054	INTRODUCTION TO PHYSICS LABORATORY	1
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES <sup>2</sup>	3
STAT 1530	ELEMENTARY STATISTICS <sup>2</sup>	3
ACE Elective <sup>1</sup>		3

**Credits 17**

### Third Semester

CNST 2410	HORIZONTAL CONSTRUCTION	3
CNST 2510	CONSTRUCTION MATERIALS AND SPECIFICATIONS	3
CNST 2520	CONSTRUCTION MATERIALS AND TESTING	3
CONE 2210	GEOMETRIC CONTROL SYSTEMS	3
CONE 2060	ENGINEERING ECONOMICS <sup>2</sup>	3
ENGR 200	SOPHOMORE ENGINEERING SEMINAR	0

**Credits 15**

### Fourth Semester

CNST 2420	VERTICAL CONSTRUCTION	3
CNST 2250	INTRODUCTION TO BUILDING INFORMATION MODELING	3
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS <sup>2</sup>	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) <sup>2</sup>	3
ACE Elective <sup>1</sup>		3

**Credits 15**

### Fifth Semester

CNST/CONE 3780	CONSTRUCTION ESTIMATING I <sup>2</sup>	3
CNST 3060	ELECTRICAL SYSTEMS	3
CNST 3310	STRUCTURAL MECHANICS <sup>2</sup>	3
CNST 4440	CONSTRUCTION SITE SAFETY MANAGEMENT	3
CONSTRUCTION TECHNICAL ELECTIVE		3

**Credits 15**

### Sixth Semester

CNST 3790	CONSTRUCTION ESTIMATING II	3
CNST 3050	BUILDING ENVIRONMENTAL TECHNICAL SYSTEMS I	3
CNST 3320	STRUCTURAL OPTIMIZATION	3
CNST 4110	PROJECT ADMINISTRATION	3
CONSTRUCTION TECHNICAL ELECTIVE		3

**Credits 15**

### Seventh Semester

CNST/CONE 4850	CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS	3
CNST/CONE 4760	PROJECT BUDGETS AND CONTROLS	3
CNST 4200	PROFESSIONAL PRACTICE AND ETHICS	3
CONSTRUCTION TECHNICAL ELECTIVE		3
TECHNICAL ELECTIVE		3

**Credits 15**

### Eighth Semester

CNST 4890	SENIOR CONSTRUCTION PROJECT	3
CNST 4800	PRODUCTIVITY AND HUMAN FACTORS IN CONSTRUCTION	3
SENIOR SEMINAR		1
CONSTRUCTION TECHNICAL ELECTIVE		3

CONSTRUCTION TECHNICAL ELECTIVE	3
<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

<sup>1</sup> ACE elective: Choose one course from not yet satisfied ACE outcomes 5, 7, or 9

<sup>2</sup> Additional placement and/or prerequisites may apply

## Achievement-Centered Education Electives

Engineering majors who will complete their undergraduate degree program on the UNL (City or East Campus in Lincoln) or Scott Campus in Omaha must satisfy the general education requirements of the Achievement Centered Education (ACE) program at UNL. The ACE program contains 4 Institutional Objectives with 10 Student Learning Outcomes (SLO). ACE electives are associated with SLO 5 through 9, and consists of course work primarily from the humanities, fine arts, social sciences, civics, ethics, human and cultural diversity areas. A minimum of one 3-credit hour course is to be selected from each of the following listed SLO areas to satisfy student learning outcomes 5 through 9. Although some courses are listed in more than one area, no individual course can be utilized to satisfy more than one SLO area.

### Program Specific Notes

Please read the description under your specific major to find out more about flexible ACE requirements

#### Architectural Engineering

-Flexible ACE electives **include 5, 6, 7 and 9**

-Students **must complete one from each category**; for a total of four courses

-PSYC 1010 ust be the ACE 6 if completing the **Lighting and Electrical** option

-Students must complete **ART 3770 (ACE 5 or 7) or 3780 (ACE 7)** as either an **ACE 5 or 7**, then must complete **one more course to fulfill the missing elective**

#### Civil and Electrical Engineering

- Flexible ACE electives include **5, 6, 7, 8, and 9**

- Students must complete **one from each category**; for a total of five courses

#### Computer Engineering

- Flexible ACE electives **include 5, 6, 7 and 9**

- Students **must complete one from each category**; for a total of four courses

-Students must complete **ENGR 4690** as their **ACE 8**

#### Construction Engineering and Management

- Flexible ACE electives include **5, 7, and 9**

- Students **must complete one from each category**; for a total of three courses

- Students must complete **ECON 2200** to fulfill the **ACE 6** elective

- Students must complete **CONE 2060** to fulfill the **ACE 8** elective

#### Pre-Programs (Mechanical, Agricultural, and Biological Systems)

- Flexible ACE electives **include 5, 6, 7 and 9**

- Students **must complete one from each category**; for a total of four courses

- Students must complete **CONE 2060** to fulfill the **ACE 8** elective

## SLO - Area 5

Code	Title	Credits
ART 3770	HISTORY OF ARCHITECTURE TO 1850 <sup>1</sup>	3
DSGN 1400	HISTORY OF DESIGN	3
ENGL 1010	INTRODUCTION TO GENRE STUDIES: PROSE	3
ENGL 1020	INTRODUCTION TO GENRE STUDIES: POETRY, DRAMA, FILM	3
ENGL 2250	THE SHORT STORY	3
ENGL 2310	INTRODUCTION TO BRITISH LITERATURE I	3
ENGL 2320	INTRODUCTION TO BRITISH LITERATURE II	3
ENGL 2350	AFRICAN AMERICAN LITERATURE 1746-1939 <sup>1</sup>	3
ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT <sup>1</sup>	3
ENGL 2410	CRITICAL APPROACHES TO LITERATURE	3
ENGL 2420	CRITICAL APPROACHES TO LANGUAGE STUDIES	3
ENGL 2450	AMERICAN LITERATURE I	3
ENGL 2460	AMERICAN LITERATURE II	3
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE <sup>1</sup>	3
FREN 3160	INTRODUCTION TO FRENCH LITERATURE	3
GERM 3370	GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD	3
HIST 1110	AMERICAN HISTORY TO 1865	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
HIST 2510	ANCIENT GREECE: BRONZE AGE TO CLASSICAL ERAS	3
HIST 2520	ANCIENT HISTORY - ROME	3
HIST 2620	MODERN BRITAIN	3
HIST 2710	RUSSIA TO 1855	3
HIST 4540	MEDIEVAL EUROPE	3
HUMN 1110	PERSPECTIVES ON USAMERICAN CULTURE	6
PHIL 1010	INTRODUCTION TO PHILOSOPHY: MEANING OF LIFE <sup>1</sup>	3
PHIL 2030	INTRODUCTION TO ETHICS	3
PHIL 3050	ETHICAL THEORY <sup>1</sup>	3
PHIL 3110	HISTORY OF ANCIENT PHILOSOPHY	3
PHIL 3130	HISTORY OF MODERN PHILOSOPHY	3
PHIL 3200	PHILOSOPHY OF RELIGION	3
PHIL 3210	SOCIAL PHILOSOPHY <sup>1</sup>	3
PHIL 3220	PHILOSOPHY OF ART <sup>1</sup>	3
PHIL 3400	PHILOSOPHY OF NATURAL SCIENCE	3
PHIL 3600	EPISTEMOLOGY	3
PHIL 3650	PHILOSOPHY OF MIND	3
PHIL 3700	METAPHYSICS	3
RUSS 3150	INTRODUCTION TO RUSSIAN LITERATURE I	3
SPAN 3170	SURVEY OF SPANISH LITERATURE I	3
SPAN 3180	SURVEY OF SPANISH LITERATURE II	3
SPAN 3420	LATIN AMERICAN CIVILIZATION	3

WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES <sup>1</sup>	3
-----------	---	---

<sup>1</sup> Multiple listing.

## SLO – Area 6

Code	Title	Credits
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY <sup>1</sup>	3
ANTH 3210	CULTURES OF AFRICAN PEOPLE	3
ANTH 4210	CULTURAL ANTHROPOLOGY	3
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) <sup>1</sup>	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) <sup>1</sup>	3
ENGR 2000	PROFESSIONALISM & GLOBAL PERSPECTIVE <sup>1</sup>	3
ENGR 3200	LEADERSHIP, MANAGEMENT, AND ETHICS <sup>1</sup>	3
FNBK 2280	PERSONAL FINANCE	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
GEOG 4010	CONSERVATION OF NATURAL RESOURCES <sup>1</sup>	3
GEOG 4120	URBAN GEOGRAPHY	3
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
MGMT 4040	ORGANIZATIONAL BEHAVIOR	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT <sup>1</sup>	3
PSCI 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS <sup>1</sup>	3
PSCI 3160	POLITICAL PARTIES	3
PSCI 3170	INTEREST GROUPS	3
PSCI 3180	CAMPAIGNS AND ELECTIONS	3
PSCI 4030	THE PRESIDENCY	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSYC 3450	SOCIAL PSYCHOLOGY	3
SOC 1010	INTRODUCTORY SOCIOLOGY	3
SOC 2100	SOCIAL PROBLEMS <sup>1</sup>	3
SOC 2150	SOCIOLOGY OF FAMILIES <sup>1</sup>	3
TED 2310	FAMILY-CENTERED PARTNERSHIPS	3

<sup>1</sup> Multiple listing.

## SLO – Area 7

Code	Title	Credits
ART 1100	FOUNDATION: DRAWING	3
ART 2050	SURVEY OF WESTERN ART HISTORY I	3
ART 2060	SURVEY OF WESTERN ART HISTORY II	3
ART 3770	HISTORY OF ARCHITECTURE TO 1850 <sup>1</sup>	3
ART 3780	HISTORY OF ARCHITECTURE SINCE 1850	3
DSGN 1100	DESIGN THINKING	3
ENVN 2000	LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY <sup>1</sup>	3
HUMN 1200	AUTOBIOGRAPHICAL READING AND WRITING	3
MUS 1070	MUSIC OF THE PEOPLE: ROCK AND POP	3
MUS 1080	MUSIC OF THE PEOPLE: THE WORLD <sup>1</sup>	3
MUS 1090	MUSIC APPRECIATION	3
MUS 1100	MUSIC OF THE PEOPLE: JAZZ	3
PHIL 3220	PHILOSOPHY OF ART <sup>1</sup>	3
THEA 1010	THEATRE APPRECIATION	3

WRWS 1500	INTRODUCTION TO CREATIVE WRITING	3
WRWS 2060	FUNDAMENTALS OF POETRY WRITING	3

<sup>1</sup> Multiple listing.

## SLO – Area 8

Code	Title	Credits
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
BLST 1000	INTRODUCTION TO BLACK STUDIES <sup>1</sup>	3
CMST 4510	PERSUASION AND SOCIAL INFLUENCE	3
CONE 2060	ENGINEERING ECONOMICS	3
CNST 4200	PROFESSIONAL PRACTICE AND ETHICS	3
CRP 4000	INTRODUCTION TO PLANNING	3
ENGR 3200	LEADERSHIP, MANAGEMENT, AND ETHICS <sup>1</sup>	3
JMC 4500	MASS COMMUNICATION AND PUBLIC OPINION	3
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES <sup>1</sup>	3
PHIL 1010	INTRODUCTION TO PHILOSOPHY: MEANING OF LIFE <sup>1</sup>	3
PHIL 1020	CONTEMPORARY MORAL PROBLEMS <sup>1</sup>	3
PHIL 3050	ETHICAL THEORY <sup>1</sup>	3
PHIL 3210	SOCIAL PHILOSOPHY <sup>1</sup>	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT <sup>1</sup>	3
TED 2100	EDUCATIONAL FOUNDATIONS	3

<sup>1</sup> Multiple listing.

## SLO - Area 9

Code	Title	Credits
ANTH 1050	INTRODUCTION TO ANTHROPOLOGY <sup>1</sup>	3
BLST 1000	INTRODUCTION TO BLACK STUDIES <sup>1</sup>	3
BLST 2420	AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN	3
CMST 4530	INTERCULTURAL COMMUNICATION-US	3
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE	3
ECON 3600	INTRODUCTION TO INTERNATIONAL ECONOMICS	3
ENGR 2000	PROFESSIONALISM & GLOBAL PERSPECTIVE <sup>1</sup>	3
ENGL 2350	AFRICAN AMERICAN LITERATURE 1746-1939 <sup>1</sup>	3
ENGL 2360	AFRICAN AMERICAN LITERATURE 1940-PRESENT <sup>1</sup>	3
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE <sup>1</sup>	3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	3
GEOG 4010	CONSERVATION OF NATURAL RESOURCES <sup>1</sup>	3
HIST 1000	WORLD CIVILIZATIONS I	3
HIST 1010	WORLD CIVILIZATIONS II	3

HIST 2480	HISTORY OF LATIN AMERICA: PRECONQUEST TO THE PRESENT	3
HIST 2810	HISTORY OF CHINA: FROM THE MANCHU CONQUEST TO THE PRESENT	3
HIST 2820	JAPAN: FROM WARRING STATES TO THE MODERN DAY	3
HIST 2920	HISTORY OF MODERN AFRICA	3
HIST 4400	HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES	3
ENVN 2000	LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY <sup>1</sup>	3
MGMT 4150	INTERNATIONAL MANAGEMENT	3
MUS 1080	MUSIC OF THE PEOPLE:THE WORLD <sup>1</sup>	3
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES <sup>1</sup>	3
PHIL 1020	CONTEMPORARY MORAL PROBLEMS <sup>1</sup>	3
PHIL 3200	PHILOSOPHY OF RELIGION	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PSCI 3120	THE AFRICAN AMERICAN EXPERIENCE IN POLITICS <sup>1</sup>	3
RELI 1010	INTRODUCTION TO WORLD RELIGIONS	3
SOC 2100	SOCIAL PROBLEMS <sup>1</sup>	3
SOC 2150	SOCIOLOGY OF FAMILIES <sup>1</sup>	3
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
SPAN 3410	SPANISH CIVILIZATION	3
SPAN 3420	LATIN AMERICAN CIVILIZATION	3
WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES <sup>1</sup>	3

<sup>1</sup> Multiple listing.

## College of Information Science & Technology

The College of Information Science and Technology (IS&T) was established on July 1, 1996 and represents the joint efforts of the University of Nebraska, the State of Nebraska, and private industry to address the growing global need for knowledgeable professionals in the area of information technology.

The College of IS&T's overarching philosophy is exemplified by the value statement, "No student will go unassisted or unchallenged."

### Our Vision

We will be a premier college with excellence in education, research, and service in the disciplines necessary to meet the needs of our students and the communities we serve.

### Our Mission

We deliver student-focused education and perform cutting-edge research, preparing professionals and developing solutions that benefit the world. (We do cool stuff.)

In order to accomplish the College of IS&T's vision and mission, the faculty and staff strive to achieve the following three strategic goals:

1. Keep students at the center of all College of IS&T efforts;
2. Strive to achieve the highest academic excellence; and

3. Actively lead and collaborate with academic, business, and community entities on various projects related to information science and technology.

The College of IS&T is focused on reaching the next level of information technology innovation through collaboration. This collaboration is fostered by the presence of the College in the Peter Kiewit Institute and is visible in the form of research, teaching, and service/outreach initiatives in partnership with our public and private stakeholders in the community, other academic units across the University of Nebraska at Omaha, and the rest of the University of Nebraska system.

## General Information

### Overview of Degree Programs

The College of IS&T at UNO offers a top-notch education as a means of producing highly competent information specialists for leading technology, business, and engineering firms. Students will be prepared to enter the IT industry, apply technology in organizational environments, embrace life-long learning, and contribute to their communities.

The College is organized into three major units that manage the degree programs: the Department of Computer Science (CS), the Department of Information Systems and Quantitative Analysis (ISQA), and the School of Interdisciplinary Informatics (Si2).

### Degrees

The College of IS&T offers five undergraduate degree programs:

1. BS in Bioinformatics (BSBI)
2. BS in Computer Science (BSCS)
3. BS in Cybersecurity (BSIA)
4. BS in Information Technology Innovation (BITI)
5. BS in Management Information Systems (BIS)

### Minors

The College of IS&T also offers a minor in each of its five undergraduate degree programs.

### Concentrations

The College of IS&T offers optional concentrations in Information Assurance and Internet Technologies to students pursuing undergraduate degrees in Management Information Systems (MIS) or Computer Science (CS); the concentrations are designed to provide students an opportunity to add a more technical or applied dimension to their respective programs of study.

The ISQA Department offers additional optional concentrations to MIS degree-seeking students in the following areas: IT Audit and Control; i-Business Application Development and Management; and Global IT Leadership and Management.

The Computer Science Department offers two additional optional concentrations: one in Game Programming and Design, and one in Artificial Intelligence.

### Certificates

The College of IS&T currently offers three undergraduate certificate options to all students enrolled in the College. Students who hold an associate's degree from a community college in Information Technology or a related area may also enroll in one of these certificate programs:

1. Data Management Certificate
2. Systems Development Certificate
3. Information Technology Administration Certificate

### Cyber Operations Track

The University of Nebraska at Omaha's undergraduate Cybersecurity degree program is one of the few National Security Agency (NSA) certified

National Centers of Academic Excellence in Cyber Operations (CAE-CO) in the country. As a result, UNO's College of IS&T is able to offer undergraduate students majoring in Cybersecurity the option to pursue a specialized Cyber Operations (CO) track and complete the requirements set out by the NSA's CAE-CO program.

## Fast Track

The College of Information Science & Technology (CIST) has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate credit hours towards the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree (computer science, management information systems, bioinformatics, cybersecurity, IT innovation) desiring to pursue an MS in either the same or a related CIST program.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of the computer science MS which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS program. The application fee will be waived, the applicant must contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, they will be recommended for admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Honors Program

The College of Information Science and Technology actively supports the University of Nebraska at Omaha's University Honors Program. For more information, please visit the Honors Program's website [here \(https://www.unomaha.edu/honors-program/\)](https://www.unomaha.edu/honors-program/).

The Honors Program office is located in 208 Kayser Hall.  
Phone: 402.554.2696

## Accreditation Information

Major	Degree	Accreditation Body
Computer Science	BSCS	ABET
Management Information Systems	BIS	ABET

The College of IS&T's degree programs in Computer Science and Management Information Systems have been accredited by the Computing Accreditation Commission of ABET, Inc., the recognized accrediting body of college and university programs in applied science, computing, engineering, and technology. ABET accreditation demonstrates a program's commitment to providing its students with a quality education.

More information about the College's accreditation and educational objectives for specific ABET accredited programs in Computer Science and Management Information Systems can be found [here \(https://www.unomaha.edu/college-of-information-science-and-technology/academics/abet-accreditation.php\)](https://www.unomaha.edu/college-of-information-science-and-technology/academics/abet-accreditation.php).

All IS&T programs are also accredited as part of UNO's accreditation by the North Central Association/Higher Learning Commission.

## Choice of Catalog Policy

A student registering in the College of IS&T for the first time will work with an advisor to develop a matriculation form based on the current online catalog. The matriculation form is used to establish a plan of study for students in the College and will be the primary source for a student's most current academic plan, provided the student has continuous enrollment.

It is the responsibility of each student admitted to the College of Information Science & Technology to become familiar with the procedures and regulations in the undergraduate catalog for their degree program. The College of Information Science & Technology reserves the right, after due notice during the course of a student's work toward a degree, to institute and make effective any new ruling which may be necessary for the general good of the College and to substitute courses for those no longer offered.

## College Contact Information

Dean's Office: 402.554.2380  
Computer Science: 402.554.2423  
Information Systems and Quantitative Analysis: 402.554.4912  
School of Interdisciplinary Informatics: 402.554.4902  
Undergraduate Advising: 402.554.3819  
Graduate Advising: 402.554.3819

[Program Website \(http://www.ist.unomaha.edu\)](http://www.ist.unomaha.edu)

## Admission Requirements for the College of IS&T

Application deadlines for the College of Information Science & Technology are as follows:

Fall Semester - First day of fall semester classes  
Spring Semester - First day of spring semester classes  
Summer Sessions - July 1

Students may apply for entrance to the College of IS&T during initial registration by indicating their preference in the appropriate place on the University Application for Admission form. A minimum ACT score of 24 or an SAT score of 1110 (Verbal/Math) or a ranking in the top third of a graduating high school class is required for all incoming freshmen to be admitted to the College.

Transfer admission from other colleges or universities: Students may transfer into the College of Information Science & Technology from other institutions by completing the application process described above and

meeting the minimum cumulative grade point average (GPA) of 2.5 (on a 4.00 scale) with a minimum of 12 credit hours.

## Academic Requirements for Degrees in the College of IS&T

### Number of Hours to Graduate

A minimum of 120 credit hours is required for a Bachelor of Science degree in the College of IS&T. A maximum enrollment of 17 credit hours is allowed per semester. For the summer term, a maximum enrollment of 12 credit hours is allowed.

### Minimum GPA

A GPA of 2.5 or higher is required to graduate with a Bachelor of Science degree from the College of IS&T.

### College of IS&T Bachelor of Science Requirements

Please see individual College of IS&T degree subsections for specific Bachelor of Science requirements.

## Transfer Credit Policy

A maximum of 64 credit hours are accepted from an accredited community college. A minimum grade of C- is required to transfer credits toward College of IS&T degree programs with the exception of business courses and the equivalent of UNO's CIST 1400 and CSCI 1620, which require a grade of C or better.

### Unacceptable Credits

Courses such as ENGL 1090, ENGL 1100, MATH 1210, and orientation courses in other colleges or divisions may not be counted as part of the minimum 120 credit hours for College of IS&T degree programs. The course, US 1010 Critical Thinking and Problem Solving Skills for the Modern Day Student, can, however, be counted as elective credit if taken within the first 30 hours of the degree program. A maximum of four credit hours of different Physical Education Activities (PEA) courses may be applied toward the general elective area.

### Retroactive Credit Policy

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### Advanced Placement Credits

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### Military Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### International Baccalaureate (IB) Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

## Placement Exams and Credit by Examinations Policies/Practices

<https://nextcatalog.unomaha.edu/undergraduate/student-life-support-services/testing-center/> (p. 64)

## Residency Requirement

Thirty of the last 36 credit hours must be University of Nebraska at Omaha courses.

## Quality of Work

Students must obtain a grade of C- or better in each class for the purpose of meeting General Education, College of Information Science & Technology (IS&T), and Departmental requirements for College of IS&T degrees with

the exception of CIST 1400 and CSCI 1620, which require a minimum grade of C. A grade of C or better is also required for some courses taken in the College of Business Administration (CBA).

## Good Academic Standing Policy

A minimum cumulative grade point average (GPA) of 2.5 is required by the College of Information Science & Technology.

## Credit/No Credit (CR/NC) Grades

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Completion of an Incomplete Grade

To receive an incomplete, students must contact their instructor prior to the end of the semester, request a grade of incomplete, and make arrangements to complete the work. The rules which govern the issuance of an incomplete are as follows:

1. The grade "I" is used by an instructor at the end of a semester or summer session to designate incomplete work in a course. It is given when a student, due to circumstances such as illness, military service, hardship, or death in the immediate family, is unable to complete the requirements of the course in the term in which the student is registered for credit. Incompletes will only be given if the student has already substantially completed the major requirements of the course.
2. Each instructor will judge each situation. The instructor will also indicate by a departmental record with a copy to the student how the incomplete is to be removed. If the instructor is at the University at the time of removal, they will supervise the makeup work and report the permanent grade.
3. In the event the instructor is not available at the time of the student's application for removal of an incomplete, the department chairperson will supervise the removal of the incomplete and turn in the permanent grade for the student.
4. A student shall have no longer than the end of the next regular semester following receipt of the "I" to remove the incomplete. After that time, the "I" will automatically become a "W," or such other grade specified by the instructor depending on the amount and quality of the coursework previously completed. Exceptions to this rule will be permitted if initiated by the student and approved by the instructor, department chairperson, and dean. Exceptions to this rule will be made only in response to circumstances over which the student has no control, and these must be detailed.
5. In registering for courses, students receiving one or more "I" grades from the previous semester should take into account the time needed to complete the required work and plan their schedules accordingly.

## Repeatable Grades/Courses

A repeated course may count only once for graduation. Exceptions are internships, independent studies, physical education activity courses, and special topic courses.

For students repeating any Computer Science course (CSCI 1xxx-4xxx):

1. A formal warning shall be conveyed to the student upon receiving a grade below C- in CSCI courses (or a grade below C in the case of CSCI 1620) for a second time.
2. The student shall not be allowed to enroll in the course after receiving a grade below C- for the third time.

### Attendance Policy for Computer Science Courses

1. A formal warning shall be conveyed to the student upon the second instance (first instance for summer sessions) of unexcused absence from a class.

2. The student shall be withdrawn from the class after the third instance (second instance for summer sessions) of unexcused absence from the class.

## Grade Appeal Policy and Process

Students who wish to appeal a grade which they feel was erroneously given shall first discuss the matter with the course instructor. If a satisfactory agreement cannot be reached, the student may submit a written appeal to the department chairperson within 30 days of receipt of the grade report from the Registrar's Office. If a satisfactory agreement still cannot be reached, the Academic Evaluation Committee of the College of Information Science & Technology will hold a hearing to make a final determination based on the facts presented. The most current College of IS&T undergraduate grade appeal policy can be found here (<https://www.unomaha.edu/college-of-information-science-and-technology/student-resources/grade-appeal-policy.php>):

## Academic Amnesty

A student who did not perform well during one or two consecutive semesters (not necessarily the first and second ones) at the University of Nebraska Omaha (UNO), the University of Nebraska-Lincoln (UNL), or the University of Nebraska Kearney (UNK) may petition the College of IS&T for academic amnesty to have either one or both semesters' grades removed from their cumulative grade point average (GPA). To petition for academic amnesty, a student must have completed 24 semester hours (12 semester hours if the student is part-time) of coursework at UNO, UNL, or UNK with a GPA of 2.5 or better subsequent to the semester or semesters in question. In addition, a minimum of four years is required between the semester(s) being considered for amnesty and the petition for academic amnesty.

If the Academic Amnesty Committee agrees, those courses that were completed with a C- or better (or a C grade or better in the case of some College of Business Administration courses or CIST 1400 and CSCI 1620 beginning in the Fall 2019 semester) during the academic amnesty semester or semesters may still count toward graduation. Students who are granted academic amnesty may not graduate with academic honors.

## Academic Probation and Suspension

### Probation

Probation constitutes a period of formal warning that a student is doing unsatisfactory work. A student whose cumulative grade point average is below 2.0 after having attempted six or more semester hours of study will be placed on probation. Probationary status will remain in effect as long as the student's cumulative grade point average (GPA) remains below 2.0. No student will be allowed to enroll for any course on a Pass/Fail or Credit/No Credit basis while on probation.

The student is encouraged to use every opportunity while on probation to seek counsel and guidance from various university agencies which have been established to offer assistance and academic support. For information on such services, the student should consult with their academic advisor or counselor.

### Suspension

Students who are on probation will be suspended at the end of the spring semester if their semester grade point average is lower than 2.0 and their cumulative grade point average (GPA) falls below the following standards:

Hours Attempted	Cumulative GPA
0-12	No Suspension
13-45	1.75
46 or more	2.00

Academic suspension under these conditions will be automatic and will be for a minimum period of one year.

Students placed on suspension will be notified by the College of Information Science & Technology and given instructions on how to appeal, should they choose to do so, as well as any applicable deadlines associated with an appeal.

Appeals properly filed shall delay implementation of the suspension until the appropriate appeal committee has ruled on the appeal. However, if the appeal is denied, the student shall be disenrolled and tuition shall be refunded.

Students will only be suspended at the end of the spring term. This rule applies to all UNO colleges, including the Division of Continuing Studies and all University of Nebraska-Lincoln Omaha-based programs in the Colleges of Architecture, Agriculture, Education and Human Resources, and Engineering.

## Reinstatement Policy Following Academic Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Academic Advising

The College of IS&T's undergraduate academic advisors recognize that students have individual academic, career, and personal needs that may require special assistance. Below are some guidelines on how academic advisors help ensure success. Students are strongly encouraged to meet with their advisor regularly.

### What do IS&T academic advisors do?

IS&T academic advisors explain the rules and requirements of College of IS&T programs and help students understand how they apply to individual situations. The advisors prepare each student record so that students meet all the requirements for the degree in the final audit process. In addition, advisors provide advice about which degree-program specific courses and scheduling will be most helpful. They can also help with difficult situations such as concerns about grades, course instruction, time management, scheduling conflicts, or other academic issues.

### When should I see an academic advisor?

During freshman and sophomore year, students in the College of IS&T are required to meet with an advisor every semester. Juniors and seniors in good academic standing are strongly encouraged, though not required, to continue to meet with an advisor at least once per semester to plan their classes, to make sure all records are up-to-date, and to catch any problems early. All seniors are required to schedule a meeting for a senior check when they reach 91 earned hours. Students majoring in IT Innovation are required to meet with an academic advisor every semester.

Any student whose GPA falls below 2.5 will be required to meet with an academic advisor regardless of class standing.

## Advising Holds

Advising holds are automatically placed each semester for freshmen, sophomores, all IT Innovation students, and for any student whose GPA is below a 2.5.

## Student Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Senior Check

When students reach 91 hours of completed coursework, they must request a senior check to be done by an academic advisor. Assuming satisfactory completion of all approved courses and degree requirements, this process will assure the student's graduation date. Should this procedure not be followed, responsibility for meeting graduation requirements falls to the student and may prevent graduation on the anticipated date.

## Application for Degree

Each student who expects to receive a diploma must file an Application for Degree whether or not that student plans to attend the commencement ceremony. The Application for Degree is available online by logging in to MavLINK. Announcements about deadlines are also posted in MavLINK.

It is the responsibility of the student to inform the Registrar's Office of his or her graduation plans and to provide a diploma mailing address. Failure to meet these stipulations may necessitate postponement of graduation until the following semester.

## Computer Science

The Computer Science program provides a firm foundation in the theory and application of computing while allowing for additional concentration in areas of choice, such as information systems, mainframe computing, computer networking, telecommunications, data and knowledge engineering, and software development. This discipline is based on building software tools that make computers useful.

### Mission and Vision

The **mission** of the Department is

- to provide outstanding undergraduate and graduate education in computer science;
- to conduct research that advances the state of the art in computer science, to integrate our educational, research, and service activities with other programs in the College of Information Science and Technology, the University of Nebraska at Omaha, and the communities we serve to reflect the role of computer science in information science and technology, and
- to ensure our efforts are of value and relevance to those we serve by continual assessment and improvement.

The **vision** of the Department is to be recognized nationally and internationally for delivering outstanding computer science education and conducting research of high distinction, both of value and relevance to the communities we serve.

### Accreditation

The Computer Science program is accredited by the Computing Accreditation Commission of ABET, Inc., which is the recognized accreditor of college and university programs in applied science, computing, engineering, and engineering technology. ABET accreditation demonstrates a program's commitment to providing its students with a quality education.

## Bachelor of Science in Computer Science (BSCS)

The Bachelor of Science in Computer Science provides students with a solid background in the fundamentals of computing and prepares each individual for employment in a wide variety of positions and for graduate study in computer science. The content of the Department's courses is continually monitored to ensure they are consistent with the fast-changing developments in the discipline. Appropriate university and departmental computing resources are available to students taking computer sciences courses.

A minimum of 120 credit hours is required for a Bachelor of Science degree in Computer Science (BSCS). Thirty of the last 36 hours must be University of Nebraska at Omaha courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal. Students must have a C or better grade in CIST 1400 and CSCI 1620 to serve as the prerequisite for all subsequent Computer Science (CSCI) courses. For all other courses applied towards the major, a grade of C- or better will meet the prerequisite and degree requirements.

## Second Bachelor's Degree

### General Requirements

Students who have satisfied the requirements for a first bachelor's degree other than computer science at the University of Nebraska at Omaha must complete a **minimum** of 30 additional semester hours at the University for a second bachelor's degree.

To obtain computer science as a second bachelor's degree, students must complete academic requirements for the degree which include **18 credit hours of IS&T core courses, 27 credit hours of computer science core courses, 21 credit hours of a computer science core extension, and 16 credit hours of Mathematics courses**, provided that the first bachelor's degree is not in computer science. Students who are admitted to a second-degree program in Computer Science must meet with an academic advisor in the College of IS&T before beginning the degree to make a plan of study. Some transfer coursework may apply; however, 30 of the last 36 hours must be University of Nebraska at Omaha courses.

### Repeatable Grades/Courses

A repeated course may count only once for graduation. Exceptions are internships, independent studies, physical education activities courses, and special topic courses.

For students repeating any Computer Science courses (CSCI 1xxx-4xxx):

1. A formal warning shall be conveyed to the student upon receiving a grade below C- in CSCI courses for a second time.
2. The student shall not be allowed to enroll in the course after receiving a grade below C- for the third time.

### Attendance Policy for Computer Science Courses

1. A formal warning shall be conveyed to the student upon the second instance (first instance for summer session) of unexcused absence from a class.
2. The student shall be withdrawn from the class after the third instance (second instance for summer session) of unexcused absence from the class.

### Contact

For more information, contact the College of IS&T Academic Advising Office at 402.554.3819.

Website (<http://www.unomaha.edu/college-of-information-science-and-technology/academics/computer-science.php>)

### Degrees Offered

- Computer Science, Bachelor of Science (p. 644)

### Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Computer Science degree students must take CIST 3000.

### Minors Offered

- Computer Science Minor (p. 650)

### Computer Science Minor

A minor in computer science may be earned by completing 12 hours of core courses (CIST 1400, CSCI 1620, CSCI 2030 and CSCI 3320), including 6 hours of computer science at the 3000 level or above.

*Students are accountable for prerequisite courses.*

Computer Science is the study of computers and what they can do. Our ABET-accredited program in Computer Science covers the entire spectrum

of CS-related fields, from understanding the theory of computation to the design and construction of real-world software systems. With our Computer Science degree, we aim to do our part in developing a high tech workforce for 21st century careers.

### Careers Options:

Computer Science majors have gone on to become the following and more. We will prepare you for jobs that do not even exist yet.

- Software Engineers and Programmers
- Web and Mobile Application Developers
- Enterprise Architect
- Project Managers
- Network and Cloud Architects
- Database Developers
- Game Developers
- User Experience Designers
- Data Scientists
- Artificial Intelligence Engineers

### CSCI 1200 COMPUTER SCIENCE PRINCIPLES (3 credits)

This course introduces students to the foundational principles of computer science. It aims to help students learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. The exercises and projects make use of mobile devices and other emerging platforms.

**Prerequisite(s)/Corequisite(s):** MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better, or permission of the instructor

**Distribution:** Natural/Physical Sci General Education lecture

### CSCI 1204 COMPUTER SCIENCE PRINCIPLES LABORATORY (1 credit)

This is a laboratory course for students enrolled in CSCI 1200. It consists of programming exercises designed to help students practice computational thinking and apply computational solutions to practical problems. The exercises make use of mobile devices and other emerging platforms.

**Prerequisite(s)/Corequisite(s):** CSCI 1200, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

### CSCI 1280 INTRODUCTION TO COMPUTATIONAL SCIENCE (3 credits)

Introduction to Computational Science explores the role of computer science in scientific inquiry. Through the construction and analysis of block-based visual artifacts (e.g., pixel art and geometric patterns), this course aims to help students learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. When executed, these computer programs produce visual artifacts that can be displayed and interacted with using a variety of tools/software including LEGO Digital Designer, Minecraft, LDraw, 3D Builder, and Virtual Reality systems such as the HTC Vive.

**Prerequisite(s)/Corequisite(s):** Math 1220 (or equivalent)

**Distribution:** Natural/Physical Sci General Education lecture and Natural/Physical Science General Education course

### CSCI 1620 INTRODUCTION TO COMPUTER SCIENCE II (3 credits)

Advanced topics in programming; topics in data representation and manipulation, data structures, problem solving and algorithm design. This course has a required laboratory component; students must register for a laboratory section when enrolling in lecture.

**Prerequisite(s)/Corequisite(s):** (CIST 1400 with grade of C or better) AND (MATH 1930 or MATH 1950 with grade of C- or better)

### CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (3 credits)

This course introduces discrete mathematics concepts that are foundational for the study of computer science such as functions, relations, and sets, basic logic, methods of proof, mathematical induction, computational complexity, recursion, counting, recurrences, and relations.

**Prerequisite(s)/Corequisite(s):** (CIST 1400 with grade of C or better) AND (MATH 1930 or MATH 1950 with grade of C- or better)

### CSCI 2240 INTRODUCTION TO C PROGRAMMING (3 credits)

Programming in 'C' in a UNIX operating system environment; algorithm and program development and file manipulation using 'C'; UNIX-like utility development.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with grade of C or better

### CSCI 2310 VIDEO GAME DESIGN (3 credits)

The course will cover game design and theory techniques used by the gaming industry. This course is designed for students who have gone through the introductory programming course and have an interest in what it takes to design current games.

**Prerequisite(s)/Corequisite(s):** CIST 1400 with grade of C or better.

### CSCI 2410 INTRODUCTION TO DATA ANALYTICS USING PYTHON (3 credits)

This course is an introduction to the basic concepts and principles of data analytics using the Python programming language. The first part of the course covers major Python language topics including procedures and functions, iteration, recursion, arrays and matrices, strings, operational model of procedure and function calls, algorithms, exceptions, object-oriented programming, and file input/output. The coverage of Python language features are aimed mainly at the data analytics studies of this course. The second part of the course emphasizes applying Python and its rich functional libraries and special software packages to data munging, analysis, mining, and visualization, and machine learning techniques including statistical analysis, parameter estimation, regression, classification, predictive modeling construction, etc.

**Prerequisite(s)/Corequisite(s):** (CSCI 1620 with grade of C or better) AND (CIST 2500 or equivalent statistics course with grade of C- or better).

Not open to non-degree graduate students.

### CSCI 2510 INTRODUCTION TO GAME PROGRAMMING (3 credits)

The course will cover programming and development techniques used in a game programming environment. The course is designed for students who have an interest in game programming to be eased into the concepts in a familiar environment.

**Prerequisite(s)/Corequisite(s):** CSCI 2240 with C- or better. Not open to non-degree graduate students.

### CSCI 2620 2D GRAPHICS: IMAGE PROCESSING (3 credits)

This class introduces the 2D graphics area of image processing, which takes an image, creates an internal model of the image, modifies it using a computer program, and produces a new image. Specific techniques covered in this course include color spaces, image transformations, edge detection, file formats, object tracking, and background removal.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with grade of C or better

### CSCI 2840 C++ & OBJECT-ORIENTED PROGRAMMING (3 credits)

C++ and Object Oriented Programming (OOP) is taught in the UNIX environment. Topics include C++ as a 'Better C,' OOP with C++, classes and data abstraction, operator overloading, inheritance, virtual functions and polymorphism, C++ stream I/O.

**Prerequisite(s)/Corequisite(s):** CSCI 2240; High-level programming language like Pascal, Java, or C++; solid understanding of pointers & scope; ability to design & implement solutions to modest problems (with C- or better).

**CSCI 2850 PROGRAMMING ON THE INTERNET (3 credits)**

This course is an introduction to and overview of Internet-based application development focusing on the use of Java, Perl and other server-based programming languages. Software development in the context of the World Wide Web and other Internet services will be emphasized. Internet application development will also be discussed. Other techniques will be covered.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840.

**CSCI 2980 TOPICS IN COMPUTER SCIENCE (3 credits)**

A variable topic course in computer science at the sophomore level. Topics not covered in the computer science degree program, but suitable for sophomore-level students.

**Prerequisite(s)/Corequisite(s):** CSCI 1620. Permission of instructor. Additional prerequisites may be required for particular topic offerings with C- or better.

**CSCI 3100 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with CSCI 8105, MATH 3100, MATH 8105).

**Prerequisite(s)/Corequisite(s):** MATH 2030, MATH 2040, MATH 2230, or CSCI 2030 all with a C- or better. Mathematical logic; Set theory; Relations; Functions; Congruences; Inductive and recursive definitions; Discrete probability; sets, graphs, trees, & matrices

**CSCI 3300 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 8305, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 3320 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 8325)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 2030 or MATH 2030. Programming Languages: Java or C++ Topics: Arrays, Pointers, Introductory Lists, Storage Allocation (with C- or better).

**CSCI 3450 NATURAL LANGUAGE PROCESSING (3 credits)**

The course will provide overview of the topics in natural language processing such as word and sentence tokenization, syntactic parsing, semantic role labeling, text classification. We will discuss fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems. We will touch on such applications of natural language processing technology as information extraction and sentiment analysis. (Cross-listed with CYBR 3450).

**Prerequisite(s)/Corequisite(s):** Prereq: CSCI 2030 with C- or better; Co-req: CSCI 3320 with C- or better; Students should be comfortable w/ scripting (Python is the language extensively used in natural language processing tools including NLTK). Not open to non-degree graduate students.

**CSCI 3470 FUNDAMENTALS AND ALGORITHMS OF MACHINE LEARNING (3 credits)**

This course discusses the fundamentals and algorithms of machine learning and contains both theory and application. Machine learning, as a subset of artificial intelligence, is the scientific study of models that computer systems use to perform a specific task without explicit instructions. Topics in this course will include supervised learning such as Decision Tree, Perceptron, Support Vector Machine, Naive Bayes, and Regression, unsupervised learning such as clustering, dimensionality reduction, kernel methods, learning theory such as bias/variance trade-offs, Generalization and Overfitting and large margins. Other crucial topics will include discussions such as Stacking, Semi-Supervised Learning and Interactive Learning. This course will also discuss a few applications in problem domains such as in computer vision.

**Prerequisite(s)/Corequisite(s):** CSCI 2410 or instructor permission. Not open to non-degree graduate students.

**CSCI 3510 ADVANCED GAME PROGRAMMING (3 credits)**

This course is intended for those with an interest in video game programming. This course introduces the advanced concepts of game programming including 3D programming, game networking, and development of a multiplayer, networked game by learning and using the XNA environment.

**Prerequisite(s)/Corequisite(s):** CSCI 2510 and CSCI 3320 with C- or better, or Instructor permission. Not open to non-degree graduate students.

**CSCI 3550 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 8555).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 3660 THEORY OF COMPUTATION (3 credits)**

The course is intended to introduce the students to the theory of computation in a fashion that emphasizes breadth and away from detailed analysis found in a normal undergraduate automata course. The topics covered in the course include methods of proofs, finite automata, non-determinism, regular expressions, context-free grammars, pushdown automata, no-context free languages, Church-Turing Thesis, decidability, reducibility, and space and time complexity.

**Prerequisite(s)/Corequisite(s):** CSCI 3320

**CSCI 3710 INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION (3 credits)**

The course is intended to introduce the students to the topics found in introductory digital design and computer organization classes.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 (could be taken concurrently)

**CSCI 3830 ADVANCED JAVA PROGRAMMING (3 credits)**

This course teaches students web application development using advanced concepts in the Java programming language. It introduces students to distributed computing models such as the client-server model and how it is implemented in web applications using modern Java technology stacks.

**Prerequisite(s)/Corequisite(s):** (CSCI 1620 with C or better) AND (CSCI 3320 with C- or better (can be taken as a co-requisite)) AND (basic knowledge of HTML and SQL)

**CSCI 3850 FOUNDATIONS OF WEB SEARCH TECHNOLOGIES (3 credits)**

This course provides students a basic understanding of how search and information flow works on the web. Main topics include: document representation, inverted indexing, ranking of web search results, vector-space model, web graph, PageRank, search-based advertising, information cascades, and web crawling.

**Prerequisite(s)/Corequisite(s):** CSCI 2030 and CSCI 2850 with C- or better, or instructor Approval. Not open to non-degree graduate students.

**CSCI 4000 ASSESSMENT (0 credits)**

This course provides various resources to students about to graduate, and provides a mechanism that guarantees these students complete the final assessments required to maintain the currency and quality of the program. It is intended for undergraduate computer science majors in their last semester prior to graduation. It is required for all students entering after the spring 2004 semester. All degree requirements should be completed by the end of the semester during which this course is taken. Students taking this course will be expected to file an application for graduation during the semester.

**Prerequisite(s)/Corequisite(s):** All degree requirements should be completed by the end of the semester during which this course is taken. Students taking this course will be expected to file an application for graduation during the semester. Not open to non-degree graduate students.

**CSCI 4010 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 8016).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 4100 INTRODUCTION TO ALGORITHMS (3 credits)**

The course provides students a basic understanding of algorithm analyses. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, sorting and its lower bounds, dynamic programming, greedy algorithms, and graph traversal.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4150 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 8156, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** CSCI 2030 with a C- or better, or MATH 2030 with a C- or better, or MATH 2230 with a C- or better, or permission of instructor.

**CSCI 4220 PRINCIPLES OF PROGRAMMING LANGUAGES (3 credits)**

This course covers the foundational concepts and principles underlying the design and implementation of programming languages. Language constructs including assignment, equality, references, aggregations, scope, encapsulation, and parameter passing are discussed. A central theme is how a particular language construct relates to the concept of equational reasoning (referential transparency). Formal notations for describing syntax and semantics are presented.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and CSCI 3660 with C- or better.

**CSCI 4250 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 8256).

**Prerequisite(s)/Corequisite(s):** Either CSCI 3320 or ITIN 3330 with a grade of C- or better.

**CSCI 4260 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 8266, ITIN 4260, ITIN 8266).

**Prerequisite(s)/Corequisite(s):** Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ITIN 3330.

**CSCI 4300 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 8306, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 4310 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 8316, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 4350 COMPUTER ARCHITECTURE (3 credits)**

The course deals with: Computer evolution, top view of processor design, cache memory and organization, hierarchical memory design and management, performance metrics, RISC versus CISC architecture, and pipeline computer design and architecture. The course also covers analytic design alternatives as needed.

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320 or CSCI 8325 with C- or better.

**CSCI 4380 DIGITAL FORENSICS (3 credits)**

Digital forensics involves the preservation, identification, extraction, analysis and documentation of digital evidence stored on a variety of electronic devices. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a forensics investigation. Topics include: an introduction to digital forensics, data acquisition, first response, memory forensics, operating system forensics, and network forensics. Students will be required to perform several forensics analyses in a controlled lab environment, including acquiring forensically sound hard drive images, memory images and analyzing these using industry standard tools, such as Forensic Toolkit (FTK). The Digital Forensics class is designed for Cybersecurity, Computer Science and other qualified students to learn what actions are both appropriate and required for preserving, collecting and analyzing digital evidence in cases of intrusion, data theft or other cybercrimes. (Cross-listed with CYBR 4380).

**Prerequisite(s)/Corequisite(s):** The student must take the following before enrolling: CYBR 3600 or CIST 3600, CSCI 3550 or ISQA 3400, CYBR 3370, CYBR 3350. Alternatively, instructor permission can be sought for students who have not met all of the above requirements.

**CSCI 4430 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 8436, CYBR 4430).

**Prerequisite(s)/Corequisite(s):** Co-requisites: CYBR 3570 or CSCI 4560; or Instructor permission.

**CSCI 4440 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchroization constructs; and operating systems for parallel computers. (Cross-listed with CSCI 8446)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 which may be taken concurrently.

**CSCI 4450 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 8456).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4470 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 8476).

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 4480 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 8486).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 4500 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 8506).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 4510 ADVANCED OPERATING SYSTEMS (3 credits)**

State-of-the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500

**CSCI 4560 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 8566, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 4620 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 8626).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320

**CSCI 4660 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation, and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 8666, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 4700 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 8706).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and CSCI 4220 with C- or better. Recommended: CSCI 4500.

**CSCI 4760 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 8766).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 4830 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 8836).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4850 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 8856).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or equivalent with C- or better.

**CSCI 4890 DATA WAREHOUSING AND DATA MINING (3 credits)**

This course provides students with a theoretical foundation and practical methods for designing and constructing data warehouse and implementing data mining. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course gives students an opportunity to undertake a real-life data analysis project. (Cross-listed with ISQA 4890).

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850

**CSCI 4900 INTERNET SYSTEMS DEVELOPMENT (3 credits)**

This course focuses on contemporary techniques and technologies in the design, development, and integration of web-enabled information systems. This is a rapidly moving, hands-on course that mirrors real-world development of internet-based applications.

**Prerequisite(s)/Corequisite(s):** CSCI 1620, CSCI 2850, (recommended) CSCI 3830, CSCI 4830 with C- or better.

**CSCI 4950 INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in non-academic environments such as those found in business, industry and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas. The course is intended primarily for juniors and seniors in computer science.

**Prerequisite(s)/Corequisite(s):** Permission of the computer science program chair.

**CSCI 4970 CAPSTONE PROJECT (3 credits)**

The Capstone Project completes a Computer Science student's undergraduate experience. Students will work on a team-based real-world project, practicing software engineering skills and applying fundamental computer science principles acquired throughout their undergraduate study.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 with C- or better; Senior standing in Computer Science. Not open to non-degree graduate students.

**CSCI 4980 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior level. Topics not normally covered in the computer science degree program, but suitable for senior-level students. (Cross-listed with CSCI 8986).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 4990 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the Computer Science Undergraduate Program Committee at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required. Independent study proposals must be approved by the Undergraduate Program Committee.

## Computer Science, Bachelor of Science

The Bachelor of Science in Computer Science provides students with a solid background in the fundamentals of computing and prepares them for employment in a wide variety of positions and for graduate study in computer science. The content of the department's courses is continually monitored to ensure they are consistent with fast-changing developments in the discipline. Courses are offered in the day, evening, and some online sections for the convenience of our students. Appropriate university and

departmental computing resources are available to students taking computer science courses.

### Student Group

The Association of Computer Machinery (ACM) (<https://www.acm.org/>) is a major force in advancing the skills of information technology professionals and students worldwide, providing the industry's leading portal to computing literature and more.

### Requirements

A minimum of 120 credit hours is required for a Bachelor of Science degree in Computer Science (BSCS). Thirty of the last 36 hours must be University of Nebraska at Omaha courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal. Students must have a C or better grade in CIST 1400 and CSCI 1620 to serve as the prerequisite for all subsequent Computer Science (CSCI) courses. For all other courses applied towards the major, a grade of C- or better will meet the prerequisite and degree requirements.

To obtain a BSCS, a student must fulfill the University General Education, College, and Departmental requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites.)

Code	Title	Credits
46 hours of University General Education courses (13 hours of which can be satisfied by courses in the required areas below)		33
18 hours of College of IS&T Core courses		18
16 hours of Mathematics courses		16
27 hours of Computer Science Core courses		27
21 hours of Computer Science Core Extension courses		21
5 hours of elective/prerequisite courses		5
<b>Total Credits</b>		<b>120</b>

Code	Title	Credits
<b>Electives/Prerequisites</b>		
Select one of the following:		3-4
CSCI 1200 & CSCI 1204	COMPUTER SCIENCE PRINCIPLES and COMPUTER SCIENCE PRINCIPLES LABORATORY <sup>1</sup>	
CSCI 1280	INTRODUCTION TO COMPUTATIONAL SCIENCE	
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	

#### College of IS&T Core Courses for Computer Science Majors

The College of IS&T has developed a series of courses that are required for students wishing to obtain a degree from the College. The development and implementation of this core curriculum is unique; it serves as a basis for preparing students to enter more advanced courses. The core curriculum is as follows (students are accountable for prerequisite courses):

CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY <sup>2</sup>	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS <sup>3</sup>	3

#### Mathematics Courses

MATH 1950	CALCULUS I	5
MATH 1960	CALCULUS II	5
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
MATH 2050	APPLIED LINEAR ALGEBRA	3

**Department Requirements for the BSCS Degree  
Computer Science Required Courses**

CSCI 3320	DATA STRUCTURES	3
CSCI 3550	COMMUNICATION NETWORKS	3
CSCI 3660	THEORY OF COMPUTATION	3
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	3
CSCI 4350	COMPUTER ARCHITECTURE	3
CSCI 4500	OPERATING SYSTEMS	3
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	3
CSCI 4970	CAPSTONE PROJECT	3
CSCI 4000	ASSESSMENT (MFT) <sup>4</sup>	0

**Computer Science Core Extension Courses**

See "Computer Science Core Extension Courses" below. 21

**Total Credits 85-86**

<sup>1</sup> NOTE: CSCI 1200, CSCI 1204 and CSCI 1280 count toward the Natural and Physical Sciences requirement.

<sup>2</sup> NOTE: CIST 2100 counts toward Social Science requirement.

<sup>3</sup> NOTE: CIST 3110 counts toward Humanities requirement.

<sup>4</sup> **MFT- Major Field Test** - The Computer Science Department uses the MFT to statistically compare our graduates to graduates from other institutions of higher education nationwide. The test consists of 60 multiple-choice questions. Individual scores on the MFT give an effective metric to measure levels of achievement and allow students to compare their scores with national comparative data. The Computer Science Department uses the scores to assist in its ongoing, detailed curriculum review and evaluation. All results are confidential.

<sup>5</sup> Note: MATH 1950 is required for this degree program. This course will also satisfy UNO's General Education Quantitative Literacy requirement. Students who do not place into MATH 1950 are responsible for prerequisite courses MATH 1220, MATH 1320, and MATH 1330. MATH 1120/STEM 1120, MATH 1130, and STAT 1530 will not serve as prerequisites for MATH 1950. These courses will satisfy the General Education Quantitative Literacy requirement; however, they do not satisfy the Math requirement for the degree program. Students are highly encouraged to consult with their academic advisor before enrolling in a particular course.

**Computer Science Core Extension Courses (21 hours)**

Various core extensions and areas of emphasis for the Computer Science Core Extension may be taken to form an area of specialization, such as the Information Systems Engineering track. A core extension of at least 21 semester hours must be completed to obtain a Bachelor of Science degree in Computer Science. At least 12 of the 21 hours selected must be approved upper-division computer science courses (courses with numbers of 3000 or higher). The remaining hours must be in an area of emphasis consistent with the computer science degree. They may include additional upper division computer science courses or courses selected from a different academic area.

- 12 credit hours must be upper-division (3000+) Computer Science courses

- 9 credit hours must be related courses and can be selected from 2000 to 4000 level courses

**Computer Science Upper-Division Courses (12 hours)**

Code	Title	Credits
CSCI/MATH 3100	APPLIED COMBINATORICS	3
CSCI/MATH 3300	NUMERICAL METHODS	3
CSCI 3510	ADVANCED GAME PROGRAMMING	3
CSCI/CYBR 3450	NATURAL LANGUAGE PROCESSING	3
CSCI 3470	FUNDAMENTALS AND ALGORITHMS OF MACHINE LEARNING	3
CSCI 3830	ADVANCED JAVA PROGRAMMING	3
CSCI 3850	FOUNDATIONS OF WEB SEARCH TECHNOLOGIES	3
CSCI/MATH 4010	INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS	3
CSCI 4100	INTRODUCTION TO ALGORITHMS	3
CSCI/MATH 4150	GRAPH THEORY & APPLICATIONS	3
CSCI 4250	HUMAN COMPUTER INTERACTION	3
CSCI 4260	USER EXPERIENCE DESIGN	3
CSCI/MATH 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	3
CSCI/MATH 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
CSCI/CYBR 4380	DIGITAL FORENSICS	3
CSCI 4430	QUANTUM COMPUTING AND CRYPTOGRAPHY	3
CSCI 4440	INTRODUCTION TO PARALLEL COMPUTING	3
CSCI 4450	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	3
CSCI 4470	PATTERN RECOGNITION	3
CSCI 4480	ALGORITHMS FOR ROBOTICS	3
CSCI 4510	ADVANCED OPERATING SYSTEMS	3
CSCI/MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	3
CSCI 4620	COMPUTER GRAPHICS	3
CSCI/MATH 4660	AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES	3
CSCI 4700	COMPILER CONSTRUCTION	3
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	3
CSCI 4890	DATA WAREHOUSING AND DATA MINING	3
CSCI 4900	INTERNET SYSTEMS DEVELOPMENT	3
CSCI 4950	INTERNSHIP IN COMPUTER SCIENCE	1-3
CSCI 4980	TOPICS IN COMPUTER SCIENCE	1-3
CSCI 4990	INDEPENDENT STUDIES	1-3

**Additional Computer Science Core Extension Courses (9 hours)**

Code	Title	Credits
CSCI 2310	VIDEO GAME DESIGN	3
CSCI 2410	INTRODUCTION TO DATA ANALYTICS USING PYTHON	3
CSCI 2510	INTRODUCTION TO GAME PROGRAMMING	3
CSCI 2620	2D GRAPHICS: IMAGE PROCESSING	3
CSCI 2840	C++ & OBJECT-ORIENTED PROGRAMMING	3

CSCI 2850	PROGRAMMING ON THE INTERNET	3
CSCI 2980	TOPICS IN COMPUTER SCIENCE	1-3

### Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Computer Science degree students must take CIST 3000

## Computer Science Elective Tracks and Concentrations

Students may incorporate one of the elective tracks or one of the concentrations below as their Core Extension focus.

### Computer Science (CSCI) Tracks

- Software Engineering Track (p. 647)
- Computer Networking and Communications Track (p. 648)
- Information Systems Engineering Track (p. 648)
- Internet and Intranet Software Application Development Track (p. 648)

### Core Extension Elective Tracks from Other Academic Areas. From the following selected tracks, a maximum of 9 hours can be applied towards the core extension area:

- Cybersecurity (CYBR) Track (p. 678)
- Bioinformatics (BIOI) Track (p. 673)
- IT Innovation (ITIN) Track (p. 684)
- Information Systems & Quantitative Analysis (ISQA) Track (p. 648)
- Mathematics (MATH) Track (p. 648)
- Computer and Electronics Engineering (ECEN) Track (p. 648)

### Other Elective Areas

Other elective areas may be acceptable. The entire core extension must be approved by the Computer Science Undergraduate Program Committee (UPC), and should be submitted at the end of the sophomore year. Completed core extension proposals should be turned into the IS&T Undergraduate Advising Office in PKI 170. Allow at least one month to receive a response from the UPC.

### Optional Concentrations or Electives (\*some courses may apply towards the CS core extension area)

See your advisor for more information on this option.

- Artificial Intelligence Concentration (p. 649)
- Game Programming Concentration (p. 649)
- Internet Technologies (iT) Concentration for Computer Science Majors (p. 650)
- Information Assurance Concentration (p. 650)

### Computer Science - Start 1300-1200-1280

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
CIST 1300 or CSCI 1200 or CSCI 1280	INTRODUCTION TO WEB DEVELOPMENT or COMPUTER SCIENCE PRINCIPLES or INTRODUCTION TO COMPUTATIONAL SCIENCE	3
MATH 1950	CALCULUS I <sup>1</sup>	5
Free Elective		1
<b>Credits</b>		<b>15</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
MATH 1960	CALCULUS II	5
Natural/Physical Sciences Requirement		4
<b>Credits</b>		<b>15</b>

#### Sophomore

##### Fall

CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
US Diversity/Social Sciences Requirement		3
Natural/Physical Sciences Requirement		3
<b>Credits</b>		<b>15</b>

##### Spring

CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
Core Extension/Specialization Elective		3
Social Sciences Requirement		3
<b>Credits</b>		<b>15</b>

#### Junior

##### Fall

MATH 2050	APPLIED LINEAR ALGEBRA	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
CSCI 3320	DATA STRUCTURES	3
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
Humanities & Fine Arts Requirement		3
<b>Credits</b>		<b>15</b>

##### Spring

CSCI 3550	COMMUNICATION NETWORKS	3
CSCI 3660	THEORY OF COMPUTATION	3
CSCI 4350	COMPUTER ARCHITECTURE	3
Global Diversity/Humanities & Fine Arts Requirement		3
Core Extension/Specialization Elective		3
<b>Credits</b>		<b>15</b>

#### Senior

##### Fall

CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	3
CSCI 4500	OPERATING SYSTEMS	3
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	3
Core Extension/ Specialization Elective		3
Core Extension/ Specialization Elective		3
<b>Credits</b>		<b>15</b>

##### Spring

CSCI 4000	ASSESSMENT	0
CSCI 4970	CAPSTONE PROJECT	3
Core Extension/ Specialization Elective		3
Core Extension/ Specialization Elective		3
Core Extension/ Specialization Elective		3

Free Elective	3
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>120</b>

**Computer Science - Start 1400****Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
MATH 1950	CALCULUS I <sup>1</sup>	5
Elective		1
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
MATH 1960	CALCULUS II	5
Natural/Physical Sciences Requirement		4
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
US Diversity/Social Sciences Requirement		3
Natural/Physical Sciences Requirement		3
<b>Credits</b>		<b>15</b>

**Spring**

CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CSCI 3320	DATA STRUCTURES	3
Free Elective		3
Social Sciences Requirement		3
<b>Credits</b>		<b>15</b>

**Junior**

<b>Fall</b>		
MATH 2050	APPLIED LINEAR ALGEBRA	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
Core Extension/Specialization Elective		3
Humanities & Fine Arts Requirement		3
<b>Credits</b>		<b>15</b>

**Spring**

CSCI 3550	COMMUNICATION NETWORKS	3
CSCI 3660	THEORY OF COMPUTATION	3
CSCI 4350	COMPUTER ARCHITECTURE	3
Core Extension/Specialization Elective		3
Global Diversity/Humanities & Fine Arts Requirement		3
<b>Credits</b>		<b>15</b>

**Senior****Fall**

CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	3
CSCI 4500	OPERATING SYSTEMS	3
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	3
Core Extension/Specialization Elective		3
Core Extension/Specialization Elective		3
<b>Credits</b>		<b>15</b>

**Spring**

CSCI 4000	ASSESSMENT	0
CSCI 4970	CAPSTONE PROJECT	3
Core Extension/Specialization Elective		3
Core Extension/Specialization Elective		3
Core Extension/Specialization Elective		3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> MATH 1950 - Satisfies General Education Quantitative Literacy requirement

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific degree program to determine all requirements for the program. In order to graduate on time (four years for an undergraduate degree), you need to take 30 credit hours each year.

**Placement Exams:** For Math, English, and Foreign Languages, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

Please note that transfer credit or placement exam scores may change a suggested plan of study.

## Software Engineering Track

This track will provide students with knowledge of software development methods and techniques including planning, managing, developing, implementing, testing and documenting a large project.

<b>Code</b>	<b>Title</b>	<b>Credits</b>
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	3
CSCI 4980	TOPICS IN COMPUTER SCIENCE	1-3
CSCI 4250	HUMAN COMPUTER INTERACTION	3
CSCI 4260	USER EXPERIENCE DESIGN	3
<b>Total Credits</b>		<b>10-12</b>

## Computer Networking and Communications Track

This track will provide students with knowledge of networking computers in different network topologies such as local and wide area networks, the OSI model, data communication hardware, software and applications, network protocols and standards, performance analysis, etc.

Code	Title	Credits
CSCI/MATH 4150	GRAPH THEORY & APPLICATIONS	3
CSCI/MATH 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	3
CSCI/MATH 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	3
CSCI 4440	INTRODUCTION TO PARALLEL COMPUTING	3
<b>Total Credits</b>		<b>12</b>

## Information Systems Engineering Track

This track will provide students with the knowledge to identify IS problems, decompose problems, communicate concepts, develop alternative solutions, evaluate alternatives, conceptualize designs and build, test, validate and deliver information systems.

Code	Title	Credits
CSCI 4250	HUMAN COMPUTER INTERACTION	3
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	3
<b>Total Credits</b>		<b>6</b>

## Internet and Intranet Software Application Development Track

This track will provide students with methods and techniques for developing software application systems on the Internet and intranet.

Code	Title	Credits
CSCI 2850	PROGRAMMING ON THE INTERNET	3
CSCI 4250	HUMAN COMPUTER INTERACTION	3
CSCI 4260	USER EXPERIENCE DESIGN	3
<b>Total Credits</b>		<b>9</b>

## Mathematics (MATH) Track

Code	Title	Credits
MATH 1970	CALCULUS III	4
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH/CSCI 3100	APPLIED COMBINATORICS <sup>1</sup>	3
MATH 3230	INTRODUCTION TO ANALYSIS	3
<b>Total Credits</b>		<b>13</b>

<sup>1</sup> MATH 3100: A course cross listed with CSCI cannot be used as both upper-division computer science and elective credit.

Other mathematics electives are acceptable. Currently, MATH 1970 and 3000/4000 level courses constitute acceptable MATH Core Extension Elective Track choices.

## Computer and Electronics Engineering (CEEN) Track

Code	Title	Credits
Select nine hours of acceptable ECEN electives from the following:		9
ECEN 2130	ELECTRICAL CIRCUITS I	
ECEN 2140	ELECTRICAL CIRCUITS II	
ECEN 2184	ELECTRICAL CIRCUITS LABORATORY I	
ECEN 2220	ELECTRONIC CIRCUITS I	
ECEN 2920	INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING II	
ECEN 2940	SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING II	
ECEN 3100	DIGITAL DESIGN AND INTERFACING	
ECEN 3130	SWITCHING CIRCUITS THEORY	
ECEN 3250	COMMUNICATIONS SYSTEMS	
ECEN 3280	APPLIED FIELDS AND LINES I	
ECEN 3290	APPLIED FIELDS AND LINES II	
ECEN 3520	ELECTRONIC CIRCUITS II	
ECEN 3550	SIGNALS AND LINEAR SYSTEMS	
ECEN 3620	DATA AND TELECOMMUNICATIONS TRANSCEIVERS	
ECEN 3920	INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING III	
ECEN 3940	SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING III	
ECEN 4610	DIGITAL COMMUNICATIONS MEDIA	
ECEN 4710	COMPUTER COMMUNICATION NETWORKS	
ECEN 4760	WIRELESS COMMUNICATIONS	
ECEN 4790	OPTICAL FIBER COMMUNICATIONS	
ECEN 4920	INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING IV	
<b>Total Credits</b>		<b>9</b>

## Information Systems & Quantitative Analysis (ISQA) Track

Code	Title	Credits
Select nine hours of acceptable ISQA electives from the following:		9
ISQA 2000	SPECIAL TOPICS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS	
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	
ISQA 3900	WEB APPLICATION DEVELOPMENT	
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS	
ISQA 4010	BUSINESS INTELLIGENCE	

ISQA 4100	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION
ISQA 4110	INFORMATION SYSTEMS ANALYSIS
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION
ISQA 4130	INFORMATION TECHNOLOGY FOR DEVELOPMENT
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T
ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING
ISQA 4180	ELECTRONIC COMMERCE
ISQA 4190	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY
ISQA 4200	INFORMATION AND DATA QUALITY MANAGEMENT
ISQA 4300	DATABASE ADMINISTRATION
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS
ISQA 4500	SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS
ISQA 4730	DECISION SUPPORT SYSTEMS
ISQA/ITIN 4880	SYSTEMS SIMULATION AND MODELING
ISQA 4900	FULL STACK DEVELOPMENT

**Total Credits****9**

<sup>1</sup> These courses cannot be accepted if courses with similar names are used in the 12 CSCI upper division electives.

## Artificial Intelligence Concentration

The Artificial Intelligence concentration is intended to enable students to learn about the principal technologies and methods for programming autonomous behavior on software agents and robots as well as learn about the computational approaches towards solving problems that deemed to require human intelligence. Students will gain knowledge about the reasoning, planning and learning techniques and algorithms used by software agents for natural language understanding, and by robots and game-avatars for problem solving, mobility, and strategic decision making. Taking courses in this track will provide students the essential skills for writing programs for real-world problems that require software programs and robots to mimic human behavior and assist humans in performing complex, risky and tedious tasks. Students will also have an opportunity to participate in national and international AI and game programming competitions and do capstone course projects to explore selective topics in more in-depth manner.

**Requirements**

Code	Title	Credits
<b>Required</b>		
CSCI 3450	NATURAL LANGUAGE PROCESSING	3
CSCI 4450	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	3
<b>Electives</b>		
Select 4 courses from the following		12
PHIL 2010	SYMBOLIC LOGIC	
CSCI 2410	INTRODUCTION TO DATA ANALYTICS USING PYTHON	
CSCI 2510	INTRODUCTION TO GAME PROGRAMMING	
CSCI 3510	ADVANCED GAME PROGRAMMING	

CSCI 3850	FOUNDATIONS OF WEB SEARCH TECHNOLOGIES
CSCI 4100	INTRODUCTION TO ALGORITHMS
CSCI 4150	GRAPH THEORY & APPLICATIONS
CSCI 4250	HUMAN COMPUTER INTERACTION
CSCI 4470	PATTERN RECOGNITION
CSCI 4480	ALGORITHMS FOR ROBOTICS
CSCI 4760	TOPICS IN APPLIED MATHEMATICS
CSCI 4850	DATABASE MANAGEMENT SYSTEMS
CSCI 4890	DATA WAREHOUSING AND DATA MINING
ISQA 4010	BUSINESS INTELLIGENCE
MATH 4450	INTRODUCTION TO MACHINE LEARNING AND DATA MINING

**Total Credits****18**

## Game Programming Concentration

The game programming concentration provides students with the basic concepts involved in the video game development process. The required courses give the student an introductory knowledge of both 2D and 3D game programming, as well as resource management, concepts of designing games, and general graphics theory. The elective courses allow the student to focus on a particular aspect of game development: game design, game/player interaction, game programming, or graphics. This concentration is only open to undergraduate Computer Science majors in the College of IS&T.

**Requirements**

Code	Title	Credits
<b>Required Courses</b>		
CSCI 2510	INTRODUCTION TO GAME PROGRAMMING	3
CSCI 3510	ADVANCED GAME PROGRAMMING	3
CSCI 4620	COMPUTER GRAPHICS	3
<b>Elective Courses <sup>1</sup></b>		
Select 9 hours from the following (limit of 1 non-CSCI course):		9
CSCI 1280	INTRODUCTION TO COMPUTATIONAL SCIENCE	
CSCI 2310	VIDEO GAME DESIGN	
CSCI 2620	2D GRAPHICS: IMAGE PROCESSING	
CSCI 4250	HUMAN COMPUTER INTERACTION	
CSCI 4260	USER EXPERIENCE DESIGN	
CSCI 4450	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
CSCI 4480	ALGORITHMS FOR ROBOTICS	
CSCI/MATH 4660	AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES	
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	
ART 3140	COMPUTER GENERATED IMAGERY	
ART 3160	GAME DESIGN AS ART	

**Total Credits****18**

<sup>1</sup> NOTE: This list of electives is not exhaustive. Students can take other courses as electives under approval of the UPC.

# Internet Technologies (iT) Concentration for Computer Science Majors

The internet technologies (iT) concentration supplements the Computer Science (CS) curriculum by focusing on the concepts and technologies needed to implement modern web applications. The concentration is designed to supplement the CS core curriculum by introducing the programming aspects as well as the theoretical concepts needed to build the infrastructure for web systems such as search engines, social networking sites, etc. The iT concentration provides extensive hands-on, project-based experience for students.

## Prerequisite Course

(NOTE: This is in addition to the prerequisite courses that accompany each of the courses in the concentration.)

Code	Title	Credits
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3

## Requirements

Code	Title	Credits
Required Courses		
CSCI 2850	PROGRAMMING ON THE INTERNET	3
CSCI 3830	ADVANCED JAVA PROGRAMMING	3
CSCI 3850	FOUNDATIONS OF WEB SEARCH TECHNOLOGIES	3
<b>Elective Courses</b> <sup>1</sup>		
Select 9 hours from the following:		9
CSCI/CYBR 3450	NATURAL LANGUAGE PROCESSING	
CSCI 4100	INTRODUCTION TO ALGORITHMS	
CSCI/MATH 4150	GRAPH THEORY & APPLICATIONS	
CSCI 4250	HUMAN COMPUTER INTERACTION	
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	
CSCI 4900	INTERNET SYSTEMS DEVELOPMENT	
CSCI 4470	PATTERN RECOGNITION	
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	
CSCI 4890	DATA WAREHOUSING AND DATA MINING	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> The list of electives is not exhaustive. Students can take other relevant courses as electives under the approval of the computer science undergraduate program committee.

## Rationale for Courses

The iT concentration is aimed at providing students the knowledge of fundamental concepts underlying the World Wide Web infrastructure. CSCI 2850 focuses on software development on the Web and internet application development. CSCI 3830 focuses on client-server and distributed architectures. CSCI 3850 provides students with the basic concepts underlying internet search engines, page ranking, and advertising on the internet. The elective courses allow the student to gain broad knowledge in related technologies that leverage the capabilities afforded by the web, such as database and data mining techniques, security on the internet, understanding the semantics of text documents, etc. While students have the flexibility to pick and choose among these courses, there are some logical groupings that advisors can recommend to students based on their interests. For example, CSCI 3450, CSCI 4150, and CSCI 4100 courses build on the CSCI 3850 course by introducing students the

advanced concepts in text processing, efficient algorithms that drive the internet, and graph-theoretic analysis of web-based relationships. By choosing CSCI 4250, CYBR 4460, and CSCI 4900, students will be able to build secure and user-friendly open source web-based applications. Taking 3 courses out of CSCI 3450, CSCI 4470, CSCI 4850, and CSCI 4890 provides students an understanding of big data-related analysis capabilities, including unstructured text processing, data mining, and machine learning concepts needed to build services that utilize the vast amount of data on the web.

# Information Assurance Concentration

The information assurance concentration is intended for students who wish to specialize in the security aspects of the computer science field. The concentration focuses on fundamental principles, worked examples, theory, and skills necessary to analyze, design, and construct secure information systems. The courses in this concentration address fundamental technologies, security policy, assurance, and ethics involved in the protection of the information systems. Hands-on experience is gained through numerous programming exercises associated with each course.

Code	Title	Credits
<b>Required Courses</b>		
CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
CSCI/CYBR 4380	DIGITAL FORENSICS	3
<b>Electives Courses</b> <sup>1</sup>		
Select 9 hours from the following:		9
CYBR 2600	SYSTEM ADMINISTRATION	
CYBR 4450	HOST-BASED VULNERABILITY DISCOVERY	
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	
CIST/CYBR 4540	COMPUTER SECURITY MANAGEMENT	
CSCI/MATH 4560 or CYBR 3570	NUMBER THEORY & CRYPTOGRAPHY CRYPTOGRAPHY	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> This list of electives is not exhaustive. Students can take other relevant courses as electives with the approval of the Computer Science Undergraduate Program Committee.

Note: CSCI majors may complete the above concentration and apply selected courses toward the computer science core extension requirement.

# Computer Science Minor

## Requirements

A minor in computer science can be obtained by completing the following 18 hours:

Code	Title	Credits
<b>Core Courses</b>		
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 3320	DATA STRUCTURES	3

**Elective Computer Science Courses**

Select 6 hours at the 3000 level or above (see below) 6

**Total Credits** 18**Electives Courses – 3000 Level or above (6 hours)**

Code	Title	Credits
CSCI 3100	APPLIED COMBINATORICS	
CSCI 3300	NUMERICAL METHODS	
CSCI 3450	NATURAL LANGUAGE PROCESSING	
CSCI 3470	FUNDAMENTALS AND ALGORITHMS OF MACHINE LEARNING	
CSCI 3510	ADVANCED GAME PROGRAMMING	
CSCI 3550	COMMUNICATION NETWORKS	
CSCI 3660	THEORY OF COMPUTATION	
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	
CSCI 3830	ADVANCED JAVA PROGRAMMING	
CSCI 3850	FOUNDATIONS OF WEB SEARCH TECHNOLOGIES	
CSCI 4010	INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS	
CSCI 4100	INTRODUCTION TO ALGORITHMS	
CSCI 4150	GRAPH THEORY & APPLICATIONS	
CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	
CSCI 4250	HUMAN COMPUTER INTERACTION	
CSCI 4260	USER EXPERIENCE DESIGN	
CSCI 4300	DETERMINISTIC OPERATIONS RESEARCH MODELS	
CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS	
CSCI 4350	COMPUTER ARCHITECTURE	
CSCI 4380	DIGITAL FORENSICS	
CSCI 4430	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CSCI 4440	INTRODUCTION TO PARALLEL COMPUTING	
CSCI 4450	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
CSCI 4470	PATTERN RECOGNITION	
CSCI 4480	ALGORITHMS FOR ROBOTICS	
CSCI 4500	OPERATING SYSTEMS	
CSCI 4510	ADVANCED OPERATING SYSTEMS	
CSCI 4560	NUMBER THEORY & CRYPTOGRAPHY	
CSCI 4620	COMPUTER GRAPHICS	
CSCI 4660	AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES	
CSCI 4700	COMPILER CONSTRUCTION	
CSCI 4760	TOPICS IN APPLIED MATHEMATICS	
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	
CSCI 4890	DATA WAREHOUSING AND DATA MINING	
CSCI 4900	INTERNET SYSTEMS DEVELOPMENT	
CSCI 4950	INTERNSHIP IN COMPUTER SCIENCE	
CSCI 4970	CAPSTONE PROJECT	

CSCI 4980 TOPICS IN COMPUTER SCIENCE

CSCI 4990 INDEPENDENT STUDIES

In all cases, students are responsible for completing any courses identified as prerequisites or co-requisite for the courses in the minor.

In addition, students must have a grade of C- or better in any prerequisite for a CSCI course.

## Information Systems and Quantitative Analysis

The study of Information Systems and Quantitative Analysis involves application of computers, mathematics, statistics, and other quantitative techniques in the solutions of a wide variety of business problems. While computer science often concentrates on building the computer tools which make computers useful, it is information systems and quantitative analysis that specifically focus on effectively applying these tools in the solutions of everyday business problems.

### Accreditation Information

The Bachelor of Science in Management Information Systems (MIS) has been accredited by the Computing Accreditation Commission of ABET, Inc., the recognized accreditor of college and university programs in applied science, computing, engineering, and technology. ABET accreditation demonstrates a program's commitment to providing its students with a quality education.

General information about the College of IS&T's accreditation as well as specific educational objectives for its ABET accredited program in Management Information Systems can be found h (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/abet-accreditation.php>)ere (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/abet-accreditation.php>).

### Bachelor of Science in Management Information Systems

The Bachelor of Science in Management Information Systems (BIS) degree will provide students with the educational background for pursuing an exciting career in applying information technology in business and government to process data and solve a wide variety of business problems.

Managers can be more effective and efficient when assisted by computer-based information systems. The student will learn how information technology can be applied to produce information both for controlling the day-to-day operations of a business and for planning for the future of that business. Information systems and quantitative analysis provide the educational background appropriate for pursuing career opportunities in business data management, management information systems, information centers, systems analysis, systems design, decision support, information security, electronic commerce, and other related areas.

A minimum of 120 credit hours is required for the degree. Thirty of the last 36 hours must be University of Nebraska at Omaha courses. Registering for courses without having taken the stated prerequisites may result in administrative withdrawal. To obtain a BIS, a student must fulfill certain University, College and Departmental requirements.

### Second Bachelor's Degree

#### General Requirements

Students who have satisfied the requirements for a first bachelor's degree, other than one in Management Information Systems (MIS) at the University of Nebraska at Omaha or another academic institution, must complete a **minimum** of 30 additional semester hours at the University for a second bachelor's degree.

To obtain an MIS degree as a second bachelor's degree, students must complete academic requirements for the degree which include **15 credit hours of IS&T core courses, 24 credit hours of MIS core courses, 12 credit hours of specialization courses, 6 credit hours of mathematics and applied statistics courses, and 15 hours of business co-requisite courses.** International students may be required to complete nine hours of English composition courses and any relevant pre-requisites as determined by the English Placement and Proficiency Exam (EPPE). Students who are admitted to a second degree program in MIS must meet with an academic advisor in the College of IS&T before beginning the degree to make a plan of study. Some transfer coursework may apply; however, 30 of the last 36 hours must be University of Nebraska at Omaha courses.

## Student Groups

The Management Information Systems Student Organization (MISSO), was founded in 1999 and has been an active part of UNO ever since. MISSO regularly hosts guest speakers from a variety of information systems-related companies and organizations. MISSO also sponsors field trips, workshops, and a variety of social events.

MISSO's goals are:

- To provide a sense of community and camaraderie among students enrolled in and/or interested in the MIS program.
- To provide MIS students with career development advice and contacts through professional and social events.
- To provide students with presentations by professionals and valuable contacts in business and industry.

MISSO has a general meeting once a month, featuring a guest speaker or other activities. MISSO membership and attendance at MISSO meetings is open to all UNO and UNL students in all majors who are interested in the field of information systems. Learn more about MISSO here (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/student-involvement/>).

## Contact

For more information about the MIS undergraduate program, contact the academic advising office at 402.554.3819.

Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/management-information-systems.php>)

## Degrees Offered: Bachelor of Science in Management Information Systems

The discipline of Management Information Systems (MIS) includes the acquisition, deployment, and management of information systems resources. MIS encompasses the development, implementation, and management of computers, communications, and data for organization-wide systems as well as departmental and individual technology systems. It also includes the responsibility for acquiring new information technology and incorporating it in the organization's strategy, planning, and practices.

MIS also includes the development and evolution of organizational infrastructure and systems to support organizational processes by applying methods, techniques, and technology. The creation of information systems requires innovative and quality human-machine systems and also involves recognition of socio-technical design issues and change management.

- Management Information Systems, Bachelor of Science (p. 655)

## Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Management Information Systems degree students must take CIST 3000.

## Minors Offered

- Minor in Management Information Systems (p. 659)
- Minor in Enterprise Resource Planning (ERP) Systems (p. 660)

## Minor in Management Information Systems

A minor in Management Information Systems may be obtained by completing ISQA 3310, ISQA 3910 and ISQA 4110, plus six hours of upper-division Information Systems and Quantitative Analysis (ISQA) courses. A grade of "C-" or better is required in each course applied toward this minor in Management Information Systems. (Note: Some ISQA elective courses may have prerequisites that require a grade of "C" or better.)

## Minor in Enterprise Resource Planning (ERP) Systems

Enterprise Resource Planning (ERP) systems such as SAP, PeopleSoft or Oracle are used to integrate internal and external management of information across an entire organization, including finances, accounting, manufacturing, sales and service, customer relationship management, etc. The purpose of ERP is to facilitate the flow of information between all business functions inside the boundaries of the organization and to manage the connections to outside stakeholders. The College of IS&T offers courses that utilize ERP systems as a technology platform to apply course concepts.

## Certificates Offered

- Data Management Certificate (p. 660)
- Systems Development Certificate (p. 660)
- Information Technology Administration Certificate (p. 661)

Undergraduate certificates allow the College of IS&T to offer a path for individuals who do not hold a bachelor's degree to advance their education along a focused, profession-oriented course of study and to have those studies acknowledged, documented, and later, should the student so desire, applied to a related bachelor's degree program.

The goal of the certificate is to provide non-traditional and traditional students an opportunity to take a focused set of undergraduate courses and earn a certificate of completion. For prospective certificate students already in the workforce who have earned an associate's degree, such certifications may fit with organizational professional development requirements and could be used, at the discretion of the organization, as professional development units (PDUs).

## Data Management

Data Management (DM) is the practice of managing data-related issues for an organization. Data management practitioners seek to optimize the design, storage, and use of organizational data.

## Systems Development

The Systems Development certificate courses focus on the optimization of the design, implementation, and use of information systems for organizational purposes.

## Information Technology Administration

The undergraduate certificate in Information Technology (IT) Administration is designed for students who are interested in managing the complex technical infrastructure of today's organizations. The certificate is offered in partnership with the University of Agder in Norway (UiA), a sister university to UNO. The certificate consists of 12 credit hours of courses covering such areas as systems administration, network administration, database administration, security administration, and distributed systems. All courses are offered online. Students will take courses taught by both UNO and UiA instructors and will have the opportunity to work with students residing in a country other than their own.

The Bachelor of Science in Management Information Systems degree will provide students with the educational background to solve problems using technology for businesses, government, and nonprofit organizations.

Computers are incredible tools for reaching customers, automating tasks, processing data, and helping people make good decisions. A major in Management Information Systems prepares students to be leaders in employing technology to support decisions and drive business operations, and in managing the technological decisions and projects in an organization.

#### Career Options:

- Business Process Analyst
- Chief Information Officer
- Data Scientist
- Database Administrator
- Information Systems Manager
- IT Consultant
- IT Security Manager
- IT Technical Support Officer
- Network Architect
- Quality Assurance Specialist
- Software Engineer
- Systems Analyst

#### **ISQA 2000 SPECIAL TOPICS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS (1-5 credits)**

The course content and topic will vary. Please contact the ISQA department office for specific course offerings.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

#### **ISQA 2620 EVALUATING AND CLEANING DATA (1 credit)**

Evaluating and cleaning data sets for analysis is a core skill for professionals in data analytics and other technical fields. The course will enable students to assess the state of existing data sets, identify appropriate remediation strategies to prepare data for analysis, and perform common data cleaning procedures.

**Prerequisite(s)/Corequisite(s):** ISQA 2610

#### **ISQA 3150 PRINCIPLES OF QUANTITATIVE ANALYSIS (3 credits)**

An introduction to structuring real-life situations into mathematical models. The class covers four groups of decision making models: decision trees, inventory, linear programming, network planning, and winning strategy. A number of the existing commercial computer software packages will be used in the course.

**Prerequisite(s)/Corequisite(s):** CIST 2500

#### **ISQA 3310 MANAGING THE DATABASE ENVIRONMENT (3 credits)**

Introduction to business database design and management functions. The focus is on the use of current database management systems (DBMS) to support the data management function of an organization. Topics include data modeling, database design, SQL, data management and database administration. Hands-on experience in database design, creation, and use is provided.

**Prerequisite(s)/Corequisite(s):** CIST 2100.

#### **ISQA 3340 SQL FOR DATA ANALYTICS (1 credit)**

Using the Structured Query Language (SQL) to access and manipulate data is a core competency in data management, data analytics, data science, and other data-intensive fields. Starting with an overview of the relational model of database systems, the course will enable students use SQL to create database tables, and store, retrieve, and manipulate data at both basic and advanced levels.

#### **ISQA 3400 INFORMATION TECHNOLOGY INFRASTRUCTURE (3 credits)**

This course provides an introduction to IT infrastructure issues. It covers topics related to both computer and systems architecture and communication networks, with an overall focus on the services and capabilities that IT infrastructure solutions enable in an organizational context.

**Prerequisite(s)/Corequisite(s):** CIST 2100

#### **ISQA 3420 MANAGING IN A DIGITAL WORLD (3 credits)**

This course introduces the fundamentals of information systems/technology (IS/T) management. Students are introduced to the various roles, responsibilities, skills, and concepts essential to successful management of IS/T in the context of a dynamic environment of technology workforce diversity, a global economy, and concern for ethics and social responsibility in the development of systems.

**Prerequisite(s)/Corequisite(s):** CIST 2100

**Distribution:** Global Diversity General Education course

#### **ISQA 3520 GRAPHICAL USER INTERFACE DESIGN (3 credits)**

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 8525)

**Prerequisite(s)/Corequisite(s):** CIST 1300

#### **ISQA 3900 WEB APPLICATION DEVELOPMENT (3 credits)**

This course focuses on contemporary techniques and technologies in the design, development, and integration of web-enabled information systems. Topics include: Multi-tiered systems architecture; agile application development; object-oriented analysis and design; prototyping; testing, verification, and validation; lifecycle models; and component-based development. This is a rapidly moving, hands-on course that mirrors real-world development.

**Prerequisite(s)/Corequisite(s):** CIST 1300 or CSCI 2850, CIST 1400, ISQA 3310 or CSCI 4850 (or concurrent enrollment)

#### **ISQA 3910 INTRODUCTION TO PROJECT MANAGEMENT (3 credits)**

This course will cover the basics of project planning, scheduling and control. Earned value management techniques and project quality will be covered. Risk management will also be covered. The student will be introduced to the IEEE Standards for Project Management. The purpose of the course is to provide students with an introduction to the tools and techniques used to manage projects to achieve successful completion. The project management methods taught are suitable for a wide variety of project types such as software development or engineering projects (e.g. construction).

**Prerequisite(s)/Corequisite(s):** CIST 2100; or equivalent.

#### **ISQA 4000 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 8086)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

#### **ISQA 4010 BUSINESS INTELLIGENCE (3 credits)**

The course focuses on the various topics on knowledge management by utilizing both behavioral approaches and information technology tools. It includes data collection and analysis, intelligent agents, business concerns on data warehousing and data mining, customer relationship management. The course will also cover information overload, human expert systems vs. artificial intelligent systems and intelligent decision making.

**Prerequisite(s)/Corequisite(s):** CIST 1400; CIST 2500

**ISQA 4100 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)**

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 8106)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 4110 INFORMATION SYSTEMS ANALYSIS (3 credits)**

This course examines and applies the principles of information systems analysis, following a structured systems development methodology. It surveys project management, feasibility and analysis and systems requirement definition using modern systems analysis techniques and automated tools. Course utilizes a case approach where students initiate the analysis and logical design of a limited-scope information system.

**Prerequisite(s)/Corequisite(s):** CIST 2100, ISQA 3910, and ISQA 3310; only ISQA 3310 can be taken concurrently.

**ISQA 4120 SYSTEM DESIGN AND IMPLEMENTATION (3 credits)**

This is the second course in a sequence in computer information systems analysis, design, and implementation. This course extends the basic foundations of systems development started in ISQA 4110 and examines the activities comprising the design, construction and implementation of information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 3310 and ISQA 4110

**ISQA 4130 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 8136)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background : CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 4150 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 8156)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 4160 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 8166, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 4180 ELECTRONIC COMMERCE (3 credits)**

Critical examination of the issues, technologies, standards and business and social implications of electronic commerce in Cyberspace.

**Prerequisite(s)/Corequisite(s):** ISQA 3400 or equivalent.

**ISQA 4190 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 8196.)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 4200 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 8206)

**Prerequisite(s)/Corequisite(s):** CIST 2500 and CIST 2100.

**ISQA 4300 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 8306)

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 4380 DISTRIBUTED TECHNOLOGIES AND SYSTEMS (3 credits)**

The course introduces students to concepts, issues and tools needed to develop distributed computing systems. Topics include distributed systems architecture, middleware, Internet-based systems development, security and performance. Hands-on systems development using current technologies is provided.

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or equivalent and knowledge of database design and SQL.

**ISQA 4500 SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS (2-3 credits)**

Individual investigation of specific problems in information systems and quantitative analysis and related areas.

**Prerequisite(s)/Corequisite(s):** Senior standing and permission of program chair.

**ISQA 4510 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application of their academic studies in the business world to help prepare them for their professional career and to provide a view of the challenges they will face.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing and permission of department.

**ISQA 4590 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 8596)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 4730 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 8736)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 4880 SYSTEMS SIMULATION AND MODELING (3 credits)**

The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ITIN 4880)

**Prerequisite(s)/Corequisite(s):** CIST 1400 and CIST 2500 or equivalent

**ISQA 4890 DATA WAREHOUSING AND DATA MINING (3 credits)**

This course provides students with a theoretical foundation and practical methods for designing and constructing data warehouse and implementing data mining. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course gives students an opportunity to undertake a real-life data analysis project. (Cross-listed with CSCI 4890).

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850

**ISQA 4900 FULL STACK DEVELOPMENT (3 credits)**

Full stack development is the development of both client side and server side portions of web applications. Most organizations go beyond simply using HTML web pages with a small amount of JavaScript in applications and have moved to developing modern web applications with backend APIs and frontend JavaScript frameworks such as Vue.js. Students will learn how to build a backend application and REST APIs. Students will take that backend framework knowledge and learn to securely integrate these backend APIs with frontend JavaScript frameworks to build single page apps and hybrid mobile applications.

**Prerequisite(s)/Corequisite(s):** CIST 1300 - Web Development or CSCI 2850 Programming on the Internet ISQA 3310 Managing the Database Environment or CSCI 4850 Database Management ISQA 3900 Web Application Development or equivalent

## Management Information Systems, Bachelor of Science

The Bachelor of Science in Management Information Systems (BIS) degree provides students with the educational background for pursuing an exciting career in applying computers in business and government to process data and solve a wide variety of business problems.

The computer is an important tool, which processes information for management decision making. Managers can be more effective and efficient when assisted by computer-based information systems. Students pursuing a degree in Management Information Systems will learn how the computer can be applied to produce information both for controlling the day-to-day operations of a business and for planning for the future of that business. With a Management Information Systems degree, the study of information systems and quantitative analysis prepares students for pursuing career opportunities in business data management, management

information systems, systems analysis, systems design, decision support, information security, electronic commerce, and other related areas.

**Website** (<http://www.unomaha.edu/college-of-information-science-and-technology/academics/management-information-systems.php>)

### Student Group

**MIS Student Organization: MISSO**

The Management Information Systems Student Organization (MISSO) (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/student-involvement/>) was founded in 1999 and has been an active part of UNO ever since.

### Requirements

A minimum of 120 credit hours is required for a Bachelor of Science degree in Management Information Systems (BIS). Thirty of the last 36 hours must be University of Nebraska at Omaha (UNO) courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BIS, a student must fulfill the University, College and Departmental requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites; students are accountable for all prerequisite courses.)

Code	Title	Credits
46 hours of University General Education courses (18 hours of which can be satisfied by courses in the required areas below)		28
15 hours of College of IS&T Core courses for MIS majors		15
24 hours of MIS Core courses		24
6 hours of Mathematics and Statistics courses		6
15 hours of Co-Requisite Business courses		15
12 hours of upper-level Specialization courses		12
20 hours of elective/prerequisite and optional concentration courses		20
<b>Total Credits</b>		<b>120</b>

### College of IS&T Core Courses for MIS Majors (15 hours)

The College of IS&T has developed a series of courses that are required for students wishing to obtain a Management Information Systems degree from the College. The development and implementation of this core curriculum is unique and serves as a basis for preparing students to enter more advanced courses. The core curriculum is as follows:

Code	Title	Credits
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY <sup>1</sup>	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I <sup>2</sup>	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY <sup>3</sup>	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS <sup>4</sup>	3
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> NOTE: CYBR 1100 counts toward the Global Diversity requirement.

<sup>2</sup> NOTE: A minimum grade of C is required for CIST 1400 (and CSCI 1620) as a prerequisite for all subsequent CSCI courses.

<sup>3</sup> NOTE: CIST 2100 counts toward a Social Science requirement.

<sup>4</sup> NOTE: CIST 3110 counts toward a Humanities requirement.

**MIS Core Courses (24 hours)**

Code	Title	Credits
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	3
ISQA 3420	MANAGING IN A DIGITAL WORLD	3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4110	INFORMATION SYSTEMS ANALYSIS	3
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION	3
ISQA 4900	FULL STACK DEVELOPMENT <sup>1</sup>	3

<sup>1</sup> Students may substitute CSCI 1620 for ISQA 4900.  
NOTE: A minimum grade of C is required for CSCI 1620 as a prerequisite for all subsequent CSCI courses.

**Math and Statistics Courses (6 hours)**

Code	Title	Credits
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES <sup>1</sup>	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

<sup>1</sup> NOTE: MATH 1930 is required for this degree program. This course will also satisfy UNO's General Education Quantitative Literacy requirement. Students who do not place into MATH 1930 are responsible for prerequisite courses MATH 1220 and MATH 1320. MATH 1120/STEM 1120, MATH 1130, and MATH 1530 will not serve as prerequisites for MATH 1930. These courses will satisfy the General Education Quantitative Literacy requirement; however, they do not satisfy the Math requirement for the MIS degree program. Students are highly encouraged to consult with their academic advisor before enrolling in a particular course.

**Co-Requisite Courses from the College of Business Administration (15 hours)**

The Management Information Systems degree is cross-disciplinary in nature; students therefore need to have an understanding of economics, accounting, and business functions. These areas are covered by required co-requisite courses offered through the College of Business Administration (CBA). All CBA courses require a grade of C or better.

Code	Title	Credits
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) <sup>1</sup>	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) <sup>1</sup>	3

<sup>1</sup> NOTE: ECON 2200/ECON 2220 count toward Social Science requirements.

**Upper-Level Business Courses: Select three credit hours from the following:**

Code	Title	Credits
ACCT 3080	ACCOUNTING INFORMATION SYSTEMS	3
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
FNBK 3250	PRINCIPLES OF FINANCIAL MANAGEMENT	3
MKT 3310	PRINCIPLES OF MARKETING	3

MGMT 4030	HUMAN RESOURCE MANAGEMENT	3
MGMT/ITIN 4090	PRINCIPLES OF COLLABORATION	3

**Upper-Level Specialization Courses: Select 12 credit hours from the following:**

Code	Title	Credits
CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
CYBR/CIST 4540	COMPUTER SECURITY MANAGEMENT	3
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	3
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	1-5
ISQA 4010	BUSINESS INTELLIGENCE	3
ISQA 4100	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	3
ISQA 4130	INFORMATION TECHNOLOGY FOR DEVELOPMENT	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING	3
ISQA 4180	ELECTRONIC COMMERCE	3
ISQA 4190	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	3
ISQA 4200	INFORMATION AND DATA QUALITY MANAGEMENT	3
ISQA 4300	DATABASE ADMINISTRATION	3
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	3
ISQA 4500	SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS	2-3
ISQA 4510	INFORMATION SYSTEMS INTERNSHIP	1-3
ISQA 4590	IT AUDIT AND CONTROL	3
ISQA 4730	DECISION SUPPORT SYSTEMS	3
ISQA 4880	SYSTEMS SIMULATION AND MODELING	3
ISQA 4890	DATA WAREHOUSING AND DATA MINING	3

<sup>1</sup> NOTE: ISQA 4000 covers different topics each semester. This course may be repeated, but no topic may be taken more than once. Check the class schedule for specific topics offered during a particular semester.

**Optional Concentrations**

The Management Information Systems (MIS) degree includes 20 credit hours that can be used for prerequisite classes, free-choice elective classes, optional minors, optional MIS concentrations and certificates, or a combination of any of the aforementioned areas.

Upper-division Information Systems and Quantitative Analysis (ISQA) courses that are not part of the MIS core requirements and satisfy MIS concentration requirements also satisfy upper-level Specialization Courses required for the MIS degree. CYBR 3600, CYBR 4360, and CYBR/CIST 4540, which are required for the optional Information Assurance concentration, may also satisfy upper-level Specialization Course requirements for the MIS degree.

**Internet Technologies Concentration for MIS Majors (18 Hours)**

The Internet Technologies (IT) concentration is only available to Management Information Systems (MIS) majors and supplements the MIS curriculum by focusing on the expertise needed to implement solutions that involve contemporary internet technologies and software applications. The

concentration is designed to accommodate the differing backgrounds of MIS students, while providing the necessary knowledge to pursue the IT concentration. The IT concentration provides extensive hands-on, project-based experience for students.

Students are responsible for completing the prerequisites for all courses taken for the Internet Technologies concentration.

### Requirements

Code	Title	Credits
<b>Core Courses</b>		
CSCI 2850	PROGRAMMING ON THE INTERNET	3
CSCI 3830	ADVANCED JAVA PROGRAMMING	3
<b>Elective Courses</b>		
Select 9 hours from the following:		9
CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS	
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 4180	ELECTRONIC COMMERCE	
ISQA 4300	DATABASE ADMINISTRATION	
ISQA 4730	DECISION SUPPORT SYSTEMS	
ISQA/ITIN 4880	SYSTEMS SIMULATION AND MODELING	
ISQA/CSCI 4890	DATA WAREHOUSING AND DATA MINING	
<b>Capstone Course</b>		
CIST 4910	SYSTEMS DEVELOPMENT IN OPEN SOURCE COMMUNITIES	3
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> NOTE: The ISQA 4000 topic MUST be related to Internet Technologies. Approval from the Undergraduate Program Committee is required prior to taking this course.

### Global IT Leadership and Management (18 Hours)

The education and training of globally savvy professionals in science, engineering and information technology (IT) are important for the long-term viability of many American firms today. Future business leaders must:

- appreciate the challenges and opportunities of IT management in the context of 21st century global organizations.
- understand the international aspects of IT leadership and management as a basis for integrating a global and multi-cultural view.
- learn about the various roles, responsibilities, skills, and concepts essential to being a successful IT manager in the context of a dynamic technological environment, a diverse workforce, a global economy, and a concern for ethics and social responsibility in the development and deployment of systems.

The College of Information Science and Technology (CIST) and UNO's International Studies (INST) have collaborated to offer an interdisciplinary Global IT Leadership and Management (GITLM) concentration in both the International Studies undergraduate program and the CIST undergraduate program in Management Information Systems (MIS). The GITLM concentration also fosters the integration of technology and internationalization through an interdisciplinary program offered through inter-campus collaboration with UNO's sister universities in Norway, India, Germany, Austria, and China. GITLM brings a global perspective to the

Information Technology (IT) curriculum and adds a technology component to the International Studies major.

Students are responsible for completing the prerequisites for all courses taken for the Global IT Leadership and Management concentration.

### Prerequisite Courses <sup>1</sup>

Code	Title	Credits
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
INST 2130	GLOBAL CHALLENGES	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> NOTE: MIS and INST majors take a majority of these courses as part of their regular degree requirements.

### Requirements

Code	Title	Credits
<b>Core Courses</b>		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 3420	MANAGING IN A DIGITAL WORLD	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	3
INST 3000	PERSPECTIVES IN INTERNATIONAL STUDIES <sup>1</sup>	3
<b>Capstone Course</b>		
ISQA 4500	SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS	3
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> NOTE: For students unable to study abroad, ISQA 4130 should be substituted.

### i-Business Application Development and Management

The i-Business Application Development and Management concentration is only available to Management Information Systems (MIS) majors and provides students with the technical, organizational, and managerial background to plan, develop, and manage internet-based applications. The concentration includes courses that give students an understanding of the issues, concepts, and technologies involved in establishing and implementing a corporate strategy for electronic businesses. These courses address issues of organizational strategy, process re-engineering, and information systems architecture support. Students will also learn and apply technical skills needed to develop internet-based distributed applications.

Students are responsible for completing the prerequisites for all courses taken for the i-Business Application Development and Management concentration.

**Requirements**

Code	Title	Credits
<b>Core Courses</b>		
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4180	ELECTRONIC COMMERCE	3
<b>Elective Courses</b>		
Select 9 hours from the following:		9
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 4100	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	
ISQA 4190	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
CYBR/CIST 3600	INFORMATION SECURITY POLICY AND AWARENESS	
<b>Capstone Course</b>		
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	3
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> NOTE: The ISQA 4000 topic MUST be related to i-Business. Approval from the Undergraduate Program Committee is required prior to taking this course.

**Information Assurance Concentration for MIS Majors (18 Hours)**

The Information Assurance concentration is only available to Management Information Systems (MIS) majors and supplements and extends the MIS curriculum by focusing on the foundational principles, worked examples, theory, and skills necessary to analyze, design, and construct secure information systems. The courses in the concentration address the fundamental technologies, policies, assurance, and ethics involved in the protection of information systems. Hands-on experience is gained through laboratory exercises associated with courses.

Students are responsible for completing the prerequisites for all courses taken for the Information Assurance concentration.

**Requirements**

Code	Title	Credits
<b>Core Courses</b>		
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	3
CYBR 2600	SYSTEM ADMINISTRATION	3
CYBR/CIST 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
CYBR/CIST 4540	COMPUTER SECURITY MANAGEMENT	3
<b>Total Credits</b>		<b>18</b>

**IT Audit and Control (18 Hours)**

The IT Audit and Control concentration is only available to Management Information Systems (MIS) majors. It provides students with the technical, organizational, accounting/auditing, and managerial background to plan and conduct IT audit and control activities. The concentration covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, basic types of controls required in a business system to control IT risks, controls associated with top management, system development, quality assurance, boundary controls, and communications. Issues associated with

new system control risks created by the use of the internet for business applications and electronic business will also be covered in one or more courses. Students learn to apply and integrate the technical, managerial, and conceptual skills needed to plan and conduct IT audits and to establish appropriate controls.

Students are responsible for completing the prerequisites for all courses taken for the IT Audit and Control concentration.

**Prerequisite Courses**

Code	Title	Credits
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
or MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	
<b>Total Credits</b>		<b>6</b>

**Requirements**

Code	Title	Credits
<b>Core Courses</b>		
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
CYBR/CIST 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
ACCT 4080	PRINCIPLES OF AUDITING	3
<b>Elective Courses</b>		
Select 9 hours from the following:		9
ACCT 4060	ADVANCED MANAGERIAL ACCOUNTING	
ACCT 4090	INFORMATION SYSTEMS AUDITING	
CYBR 2600	SYSTEM ADMINISTRATION	
CYBR 4540	COMPUTER SECURITY MANAGEMENT	
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 4190	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 4500	SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 4510	INFORMATION SYSTEMS INTERNSHIP <sup>1</sup>	

<sup>1</sup> NOTE: ISQA 4000/ISQA 4500/ISQA 4510 topics MUST be related to IT Audit and Control. Prior approval from the ISQA Department is required to use these courses in the concentration.

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES <sup>1</sup>	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
Credits		15

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
Humanities & Fine Arts/US Diversity Requirement		3
Free Elective		3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3

CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
Free Elective		3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 3420	MANAGING IN A DIGITAL WORLD	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
Specialization Elective		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4900	FULL STACK DEVELOPMENT	3
Business Co-requirement: See list of approved courses		3
Free Elective		3
Natural & Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ISQA 4110	INFORMATION SYSTEMS ANALYSIS	3
Natural and Physical Science with Lab		4
Specialization Elective		3
Humanities & Fine Arts		3
Free Elective		2
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION	3
Free Elective		3
Free Elective		3
Specialization Elective		3
Specialization Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> MATH 1930 - Satisfies General Education Quantitative Literacy requirement

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific degree program to determine all requirements for the program. In order to graduate on time (four years for an undergraduate degree), you need to take 30 credit hours each year.

**Placement Exams:** For Math, English, and Foreign Languages, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

Please note that transfer credit or placement exam scores may change a suggested plan of study.

## Management Information Systems Minor

### Requirements

A grade of "C-" or better is required in each course applied toward the minor in Management Information Systems (MIS). Students are responsible for completing the prerequisites for all courses taken for the minor in MIS.

A minor in Management Information Systems may be obtained by completing the following courses:

### Requirements

Code	Title	Credits
<b>Core Courses</b>		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4110	INFORMATION SYSTEMS ANALYSIS	3
<b>Electives</b>		
Select 6 hours from the following:		6
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
ISQA 3420	MANAGING IN A DIGITAL WORLD	
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	
ISQA 3900	WEB APPLICATION DEVELOPMENT	
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS	
ISQA 4010	BUSINESS INTELLIGENCE	
ISQA 4100	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION	
ISQA 4130	INFORMATION TECHNOLOGY FOR DEVELOPMENT	
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	
ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING	
ISQA 4180	ELECTRONIC COMMERCE	
ISQA 4200	INFORMATION AND DATA QUALITY MANAGEMENT	

ISQA 4300	DATABASE ADMINISTRATION
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS
ISQA 4730	DECISION SUPPORT SYSTEMS
ISQA 4880	SYSTEMS SIMULATION AND MODELING
ISQA/CSCI 4890	DATA WAREHOUSING AND DATA MINING
CIST 4910	SYSTEMS DEVELOPMENT IN OPEN SOURCE COMMUNITIES

## Enterprise Resource Planning (ERP) Systems Minor

### Requirements

Enterprise Resource Planning (ERP) systems such as SAP, PeopleSoft and Oracle are used to integrate internal and external management of information across an entire organization and encompass finances, accounting, manufacturing, sales and service, customer relationship management, etc. The purpose of ERP is to facilitate the flow of information between all business functions inside the boundaries of the organization and to manage the connections to outside stakeholders. The College of IS&T offers a variety of courses that use ERP systems as technology platforms to apply course concepts.

A grade of "C-" or better is required in each course applied toward the minor in Enterprise Resource Planning Systems with the exception of courses offered through the College of Business Administration, which require a grade of "C" or better.

Students are responsible for completing the prerequisites for all courses taken for the minor in ERP Systems.

A minor in ERP Systems may be obtained by completing the following courses:

### Prerequisite Courses

Code	Title	Credits
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
or BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
Select one of the following:		3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	
MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	
ACCT 3080	ACCOUNTING INFORMATION SYSTEMS	

### Requirements

Code	Title	Credits
<b>Core Courses</b>		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING	3
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (ERP Configuration Using SAP) <sup>1</sup>	3
ISQA 4200	INFORMATION AND DATA QUALITY MANAGEMENT	3
<b>Elective Courses</b>		
Select 3 hours from the following:		3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	

CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS
ISQA 4000	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>
ISQA 4190	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY
<b>Total Credits</b>	<b>15</b>

<sup>1</sup> ISQA 4000: Topic must be ERP Configuration Using SAP.

<sup>2</sup> ISQA 4000: Topic must be related to ERP but not special topic ERP Configuration Using SAP.

## Data Management Certificate

Data Management (DM) is the practice of managing data-related issues for an organization. Data management practitioners seek to optimize the design, storage, and use of organizational data.

The certificate in Data Management is open to anyone with an associate's or bachelor's degree in IT. UNO students enrolled in the Division of Continuing Studies' Bachelor of Multidisciplinary Studies degree program with an IT-related concentration and students in any of the College of IS&T undergraduate degree programs are also eligible to enroll in this certificate program.

Students are responsible for completing the prerequisites for all courses taken for the Data Management Certificate.

### Prerequisite Courses

Code	Title	Credits
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T (or equivalent)	3
Introduction to Management Information Systems:		
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY (or test-out exam)	3
or MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	

### Requirements

Code	Title	Credits
<b>Core Courses</b>		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 4200	INFORMATION AND DATA QUALITY MANAGEMENT	3
ISQA 4300	DATABASE ADMINISTRATION	3
ISQA 4890	DATA WAREHOUSING AND DATA MINING	3
<b>Elective Course</b>		
Select one of the following:		3
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	
ISQA 4730	DECISION SUPPORT SYSTEMS	

**Total Credits** **15**

## Systems Development Certificate

Systems development practitioners seek to optimize the design, implementation, and use of information systems for organizational purposes.

The certificate in Systems Development is open to anyone with an associate's or bachelor's degree in IT. UNO students enrolled in the Division

of Continuing Studies' Bachelor of Multidisciplinary Studies degree program with an IT-related concentration and students in any of the College of IS&T undergraduate degree programs are also eligible to enroll in this certificate program.

Students are responsible for completing the prerequisites for all courses taken for the Systems Development Certificate.

Code	Title	Credits
<b>Prerequisite Courses</b> <sup>1</sup>		
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY (or test-out exam)	3
or MGMT 3100	MANAGEMENT INFORMATION SYSTEMS	
<b>Requirements</b>		
Core Courses		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4110	INFORMATION SYSTEMS ANALYSIS	3
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION	3
Total Credits		15

<sup>1</sup> Note: One semester of programming (in addition to CIST 1300) or equivalent work experience is required.

## Information Technology Administration Certificate

The undergraduate certificate in Information Technology (IT) Administration is designed for students who are interested in managing the complex technical infrastructure of today's organizations. The certificate is offered in partnership with the University of Agder in Norway (UiA), a sister university to UNO. The certificate consists of 12 credit hours of courses covering such areas as systems administration, network administration, database administration, security administration, and distributed systems. All courses are offered online. Students will take courses taught by both UNO and UiA instructors and will have the opportunity to work with students residing in a country other than their own.

The certificate in Information Technology (IT) Administration is open to anyone with an associate's or bachelor's degree in IT. UNO students enrolled in the Division of Continuing Studies' Bachelor of Multidisciplinary Studies degree program with an IT-related concentration and students in any of the College of IS&T undergraduate degree programs are also eligible to enroll in this certificate program.

Students are responsible for completing the prerequisites for all courses taken for the IT Administration Certificate.

Code	Title	Credits
<b>Prerequisite Courses</b>		
Two semesters of programming or equivalent work experience		
One semester of database management:		3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
or IS 201	Data Modeling and Database Systems	
<b>Requirements</b>		
Core Courses		
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE <sup>1</sup>	3

ISQA 4300	DATABASE ADMINISTRATION <sup>1</sup>	3
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	3
CYBR 2600	SYSTEM ADMINISTRATION <sup>1</sup>	3
Total Credits		12

<sup>1</sup> NOTE: The following substitutions will be accepted:  
 IS 212 (UiA) IT Resource Operations (3 hours) in place of ISQA 3400.  
 IS 309 (UiA) Advanced Database Systems (3 hours) in place of ISQA 4300 (<http://catalog.unomaha.edu/search/?P=ISQA%204300>).  
 IS 213 (UiA) Open Source (3 hours) in place of CYBR 2600.

## Interdisciplinary Informatics (Si2)

The mission of the School of Interdisciplinary Informatics (Si2) is to provide students and faculty the opportunity to pursue their passions, to use technology in all its facets, and to be transformative. We collaborate to deliver individualized education, world class research, and immersive experiences to create and harmonize knowledge from multiple disciplines.

The School of Interdisciplinary Informatics is a key driver in taking the College of Information Science & Technology (IS&T) to the next level. The School is a hub for technology innovation for undergraduate and graduate students. It provides opportunities for collaboration with other disciplines through sharing curriculum and collaborative applied research.

The School is also an "IT solution-finding" resource for our community partners in the areas of cybersecurity, healthcare, bioinformatics, public health informatics, business, and government.

The School provides a unique opportunity for undergraduate students to integrate education, research, and outreach into their college experience. For example, many students have been involved in a public health informatics project that focuses on providing an emergency response system for public health laboratories. Students are able to earn academic credit working on this project and also have opportunities to do research and publish papers.

Faculty also engage students with community partners through our service learning initiatives. Students have worked with the Douglas County Correctional Center, KIDS Can! Alegent Health, Douglas County Health Services, and Nebraska Family and Children Services, to name a few.

These initiatives are a win/win situation for everyone involved: the students, the community partners, and the schools. Ultimately, they have a positive economic impact that flows throughout the community and the state.

The School of Interdisciplinary Informatics reflects the role and mission of UNO's College of Information Science & Technology, The Peter Kiewit Institute, and the University of Nebraska at Omaha in a number of ways. It is a direct response to the opportunities and challenges presented by information technology as it relates to economic growth for the state and region in applied IT areas such as medical informatics and cybersecurity. The School encourages the enhancement and fostering of new educational, research and creative activities by bringing together practitioners, researchers and students in interdisciplinary fields of importance to the state and the University. The School is unique in the country and leads to increased national visibility of the University of Nebraska in the area of interdisciplinary applications of information technology.

The School of Interdisciplinary Informatics addresses the following needs and demands of our academic, business, and community stakeholders:

1. Promotion of growth of interdisciplinary areas;
2. Facilitation of innovative partnerships with external constituents, including leveraging the expertise of the local community;

3. Diversity of personnel;
4. Reduction of barriers to collaboration;
5. Flexible and agile structure for quick response to opportunities;
6. Solidification of regional and national recognition as an important resource for the study and advancement of IT in the domain of healthcare, biosciences, and information security;
7. Visibility of the college and its interdisciplinary focus;
8. A magnet for collaborative external funding;
9. Development of the next generation workforce to address local, regional and national needs in exciting, new interdisciplinary domains.

## Second Bachelor's Degree for Bioinformatics

### General Requirements

Students who have satisfied the requirements for a first bachelor's degree other than Bioinformatics at the University of Nebraska at Omaha must complete a **minimum** of 30 additional semester hours at the University for a second bachelor's degree.

### Bioinformatics Requirements (89 hours)

To obtain Bioinformatics as a second bachelor's degree, students must complete academic requirements for the degree which include 24 credit hours of IS&T core courses, 11 credit hours of Math courses, 16 credit hours of Biology courses, 14 credit hours of Chemistry courses, and 24 credit hours of Bioinformatics courses. Students must consult an academic advisor in the College of IS&T prior to starting this program. Some transfer coursework may apply; however, 30 of the last 36 hours for the degree must be University of Nebraska at Omaha courses.

## Second Bachelor's Degree for Cybersecurity

### General Requirements

Students who have satisfied the requirements for a first bachelor's degree other than Cybersecurity at the University of Nebraska at Omaha must complete a **minimum** of 30 additional semester hours at the University for a second bachelor's degree.

### Cybersecurity Requirements (83 hours)

To obtain Cybersecurity (CYBR) as a second Bachelor's degree, students must complete academic requirements for the degree, which include 9 credit hours of IS&T core courses, 21 credit hours of required Computer Science core courses, 27 credit hours of required Cybersecurity core courses, and 8 hours of Mathematics courses. Students must also complete 18 credit hours of required Cybersecurity electives. Students must consult an academic advisor in the College of IS&T prior to starting this program. Some transfer coursework may apply; however, 30 of the last 36 hours for the degree must be University of Nebraska at Omaha courses.

## Second Bachelor's Degree for IT Innovation

### General Requirements

Students who have satisfied the requirements for a first bachelor's degree other than IT Innovation (ITIN) at the University of Nebraska at Omaha must complete a **minimum** of 30 additional semester hours at the University for a second bachelor's degree.

### IT Innovation Requirements (87 hours)

To obtain IT Innovation as a second Bachelor's degree, students must complete academic requirements for the degree which include 6 credit hours of Mathematics courses, 48 credit hours of required IS&T core courses, and 33 credit hours of area of emphasis courses. (Approval of the area of emphasis courses by the ITIN Undergraduate Program Committee is required prior to course enrollment.) Students must consult an academic advisor in the College of IS&T prior to starting this program. Some transfer

coursework may apply; however, 30 of the last 36 hours for the degree must be University of Nebraska at Omaha courses.

## Contact

For more information, contact the College of IS&T Academic Advising Office at 402.554.3819.

Website (<http://www.unomaha.edu/college-of-information-science-and-technology/school-of-interdisciplinary-informatics/>)

## Degrees Offered

The three degrees offered by the School are:

- Bioinformatics, Bachelor of Science (p. 668)
- Cybersecurity, Bachelor of Science (p. 673)
- Information Technology (IT) Innovation, Bachelor of Science (p. 679)

The three degrees above all have three very important common characteristics:

First, they each have interdisciplinary components in their curriculum.

Second, they rely on working collaboratively with other disciplines and the community.

Third, according to the Bureau of Labor Statistics, all of these career areas have tremendous growth potential over the next ten years.

## Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Students must take CIST 3000.

## Minors Offered

- IT Innovation Minor (p. 684)
- Cybersecurity Minor (p. 678)
- Bioinformatics Minor (p. 672)

### IT Innovation (ITIN) Minor

The objective of the IT innovation (ITIN) minor is to provide students across the university with a substantive qualification in information technology to augment their respective majors and allow them to be even more innovative as to the application of IT to their learning and career choices.

### Cybersecurity (CYBR) Minor

Cybersecurity is the practice of managing information-related risks by ensuring confidentiality, integrity, and availability of information. The minor will provide students across the University with an opportunity to earn credits in CYBR, and it will enable them to understand the nuances of everyday cybersecurity issues. The CYBR minor will also provide students an opportunity to strengthen their portfolio, resulting in increased job opportunities.

### Bioinformatics Minor

Bioinformatics is a rapidly expanding interdisciplinary field focused on collecting, processing, and analyzing vast amounts of biological and biomedical data and has become an indispensable component of biomedical research. The minor in Bioinformatics offers an opportunity for students majoring in other disciplines to acquire the foundations of the field and add in-demand skills to their portfolio.

### Bachelor of Science in Bioinformatics

Graduates from UNO's Bioinformatics (BIOI) program in the College of IS&T will be able to use their preparation to apply and investigate technology to solve bioinformatics problems in a comprehensive, competitive and effective way. Students with an undergraduate degree in bioinformatics can expect

to have a foundational knowledge in computer science, biology, statistics, and database administration.

The job outlook for Bioinformatics majors is excellent. Versatile and greatly in demand, our graduates have gone on to become programmers, data analysts, and senior-level scientists. Employment is available with private and public industries, research institutions, government institutions, non-profits, and universities around the globe. The Bioinformatics degree can also serve as a springboard to graduate work, opening the door to academic careers and other careers that require informatics skills coupled with biological background.

#### Careers Options:

- Bioinformatics Scientist/Analyst
- Scientific Curator
- Computational Biologist
- Database Programmer
- Database Administrator
- Software Developer
- Consultant
- Network Analyst
- Structural Analyst
- Biostatistician
- Software Engineer
- Research Scientist
- Data Scientist
- Biotech Entrepreneur

### Bachelor of Science in Cybersecurity

Cybersecurity (or CYBR for short) is a rapidly expanding field focused on keeping critical infrastructure, systems, and users safe. From phishing attacks on individuals to large-scale attacks on facilities like power plants, government systems, and industrial control systems, threats abound in the 21st century global economy. Adapting to these changing threat environments is a continual activity that companies, and governments must engage with. These organizations rely on cybersecurity practitioners to identify threats, determine risk, and implement mitigating protections in their software, hardware, and online systems - such as those on mobile, web and Internet of Things (IoT) platforms. It is also important to build protections into new software and hardware during the design and development process, track and monitor developed systems for on-going risk, and assess them forensically when something goes wrong. The CYBR degree program at UNO focuses on technical curricula that prepare students for pathways into a range of careers that address these topics.

#### Careers Options:

- Entry Level
  - Cybersecurity Specialist/Technician
  - Cyber Crime Analyst/Investigator
  - Incident Analyst / Responder
  - IT Auditor
  - Secure Applications Developer
- Mid-Level
  - Cybersecurity Analyst
  - Cybersecurity Consultant
  - Penetration and Vulnerability Tester
  - Secure Systems Integrator
  - Cybersecurity Lead Programmer
- Advanced level
  - Cybersecurity Manager/Administrator
  - Cybersecurity Engineer
  - Cybersecurity Architect
  - Chief Information Security Officer

### Bachelor of Science in Information Technology (IT) Innovation

The IT Innovation (ITIN) major involves the study of entrepreneurship as it relates to IT and an individual field of interest.

#### Careers Options:

In addition to more general IT professions, students in the IT Innovation program have found employment in the IT Innovation field as:

- Applications Designer
- Digital Artist
- Founder
- Graphics/Web Designer
- Innovation Consultant
- Innovation Evangelist
- IT Applications Consultant
- New Product Designer/Developer
- New Ventures Specialist
- Product Innovation Specialist
- User Experience Designer
- Video Game Designer

### Bioinformatics

#### BIOI 1000 INTRODUCTION TO BIOINFORMATICS (3 credits)

Bioinformatics is a scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing rapidly with the advancement in molecular technology to sequence the genomes of many different organisms. This course will provide an introduction to the field and will examine some of the problems of interest to bioinformaticians and how these relate to biology, computer science, mathematics and engineering. Topics will include an overview of the biology, mathematics and computer science needed to understand these and tools.

**Distribution:** Natural/Physical Science General Education course

#### BIOI 2000 FOUNDATIONS OF BIOINFORMATICS (3 credits)

Bioinformatics is a new scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing quickly due to rapid advances in sequencing and other biological techniques that allow the genomes of different organisms to be easily sequenced. This course provides an overview of the field and covers the chemical, biological, mathematical and computational foundations of bioinformatics upon which later courses will depend. In addition, it introduces problems of interest to bioinformaticians and the methods and tools used to address them.

**Prerequisite(s)/Corequisite(s):** BIOI 1000 or BIOL 1450

#### BIOI 3000 APPLIED BIOINFORMATICS (3 credits)

This course will provide students with the practical skills needed for the analysis of -omics data. Topics covered will include biological databases, molecular biology tools (e.g., primer design, contig assembly), gene prediction and mining, database searches, genome comparison, sequence alignments, phylogenetic inference, gene expression data analyses, functional annotation of protein sequences, protein structure and modeling. Specialized software (e.g., Vector NTI) and widely used web-based computation tools (e.g., Entrez, BLAST, ClustalX, Phylip, PyMOL, and SwissPDBviewer) will be illustrated. Multiple approaches for solving particular problems will be presented.

**Prerequisite(s)/Corequisite(s):** BIOI 2000 and CIST 1400; or permission of instructor.

**BIOI 3500 ADVANCED BIOINFORMATICS PROGRAMMING (3 credits)**

Because of the volume and complexity of biological data, advanced programming skills are required for researchers in order to get the most out of their data analyses. This course will provide the expanded programming skills necessary to develop software that can exploit the complex information landscape of bioinformatics. Specific topics covered will include molecular biology basics, Unix/Linux shell programming, Perl and BioPerl, databases and using the Perl DBI, and data visualization.

**Prerequisite(s)/Corequisite(s):** BIOI 3000 and CSCI 1620; or permission of instructor. CSCI 3320 is strongly recommended but not required.

**BIOI 4500 INDEPENDENT STUDY (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Junior or Senior within the Bioinformatics undergraduate program. Not open to non-degree graduate students.

**BIOI 4510 BIOINFORMATICS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Bioinformatics undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of Director of the School of Interdisciplinary Informatics. Not open to non-degree graduate students.

**BIOI 4860 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BMI 8866).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BIOI 4870 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with CSCI 8876).

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or permission of instructor. Not open to non-degree graduate students.

**BIOI 4890 COMPUTERIZED GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the class will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor. Not open to nondegree students.

**BIOI 4950 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)**

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 4950 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Prerequisites of a specific offering of BIOI 4950 will be determined by the supervising faculty member and identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required for registration.

**BIOI 4970 SENIOR PROJECT IN BIOINFORMATICS I (1 credit)**

This course is the first part of a two-part series that allows students to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to decide on a research topic and to write a detailed proposal based on this topic that outlines the goals and objectives of the proposed research. The topic and proposal will be approved by the supervising faculty member.

**Prerequisite(s)/Corequisite(s):** BIOI 4860 and BIOI 4870; BIOI 4870 can be taken concurrently. Senior level status in the Bioinformatics program. Not open to nondegree students.

**BIOI 4980 SENIOR PROJECT IN BIOINFORMATICS II (2 credits)**

This course is the second part of a two-part series that allows the student to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to perform the research proposed in Part I of the course and to present the results of his or her work. Presentations will be made in the form of a report, written as a scientific research paper, and an oral defense.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor.

**BIOI 4990 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for the junior or senior bioinformatics major who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing, permission of supervising faculty member & approval of Bioinformatics UG Prog Comm Chair. A formal description of the problem area to be investigated, the resources to be used, & the results to be produced must be prepared.

## Cybersecurity

**CYBR 1100 INTRODUCTION TO INFORMATION SECURITY (3 credits)**

This course emphasizes our current dependence on information technology and how its security in cyberspace (or lack thereof) is shaping the global landscape. Several historical and contemporary global events that have been influenced by the exploitation of information technology motivates topics on cyber crime, malware, intrusion detection, cryptography, among others, and how to secure one's own data and computer system. Several aspects of this course are geared towards developing an understanding of the "cyberspace" as a new medium that breaks all geographical boundaries, while highlighting noticeable influences on it from social, political, economic and cultural factors of a geographical region.

**Distribution:** Global Diversity General Education course

**CYBR 2250 LOW-LEVEL PROGRAMMING (3 credits)**

This course will teach the cybersecurity (CYBR) students low-level programming in the 'C' and assembly languages, and the interrelationship between these two programming paradigms. The student will learn the various control structures in 'C' and how they are implemented in machine code, memory allocation and management, and the basics of allocation classes such as static versus automatic variables. The students will also learn assembly language in the 'C' environment and will be able to write useful, functional, stand-alone assembly language programs with no help from external libraries.

**Prerequisite(s)/Corequisite(s):** CSCI 1620. Not open to non-degree graduate students.

**CYBR 2600 SYSTEM ADMINISTRATION (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various computer management requirements using both Windows and Linux operating systems on both physical and virtual machines. Topics include installation, creating and maintaining file systems, user and group administration, backup and restore processes, network configuration, system services, virtualization, and security administration.

**Prerequisite(s)/Corequisite(s):** CIST 1400 or Instructor Permission

**CYBR 2980 SPECIAL TOPICS IN CYBERSECURITY (1-3 credits)**

The course provides a format for exploring subject areas in Cybersecurity and related fields for sophomore undergraduate students. Specific topics vary, in keeping with research interests of faculty and students. Examples include network configuration, network security, forensics, regulatory compliance, web services and applications, vulnerability assessments, cloud computing security, and other issues in Cybersecurity.

**Prerequisite(s)/Corequisite(s):** Instructor permission required. Not open to non-degree graduate students.

**CYBR 3350 SECURITY ADMINISTRATION - LINUX (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the a Linux-based Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission.

**CYBR 3370 SECURITY ADMINISTRATION - WINDOWS (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the Windows Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission

**CYBR 3450 NATURAL LANGUAGE PROCESSING (3 credits)**

The course will provide overview of the topics in natural language processing such as word and sentence tokenization, syntactic parsing, semantic role labeling, text classification. We will discuss fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems. We will touch on such applications of natural language processing technology as information extraction and sentiment analysis. (Cross-listed with CSCI 3450).

**Prerequisite(s)/Corequisite(s):** Prereq: CSCI 2030 with C- or better; Co-req: CSCI 3320 with C- or better; Students should be comfortable w/ scripting (Python is the language extensively used in natural language processing tools including NLTK). Not open to non-degree graduate students.

**CYBR 3570 CRYPTOGRAPHY (3 credits)**

The course will provide a broad overview of the concepts, fundamental ideas, vocabulary, and literature base central to the study and development of cryptography and cryptanalysis. This course will explore historical development of cryptography, as well as methods used to defeat it. In addition, the course will cover the mathematical foundations of cryptography today, as well as some current uses of such cryptography, such as public key infrastructures, the Internet Key Exchange protocol, and more.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or ISQA 3300. Not open to non-degree graduate students.

**CYBR 3600 INFORMATION SECURITY, POLICY AND AWARENESS (3 credits)**

This course will cover the planning and development for information governance, security policies and procedures, and security awareness. (Cross-listed with CIST 3600)

**Prerequisite(s)/Corequisite(s):** CIST 2100; CIST 3110, which may be taken concurrently.

**CYBR 4000 CENTER OF ACADEMIC EXCELLENCE-CYBER OPERATIONS COMPLETION CERTIFICATE (0 credits)**

This course is utilized to provide a specific designation for students that have completed the Center of Academic Excellence - Cyber Operations coursework. It is a zero credit hour class used to designate the completion of this focus area in the cybersecurity curriculum.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. The program committee will work w/ the UG advisors to verify that the student has fulfilled the requirements for this designation. If the student has fulfilled (or will soon) all the requirements, they may register for this class.

**CYBR 4360 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 8366, CSCI 8366).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CYBR 4380 DIGITAL FORENSICS (3 credits)**

Digital forensics involves the preservation, identification, extraction, analysis and documentation of digital evidence stored on a variety of electronic devices. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a forensics investigation. Topics include: an introduction to digital forensics, data acquisition, first response, memory forensics, operating system forensics, and network forensics. Students will be required to perform several forensics analyses in a controlled lab environment, including acquiring forensically sound hard drive images, memory images and analyzing these using industry standard tools, such as Forensic Toolkit (FTK). The Digital Forensics class is designed for Cybersecurity, Computer Science and other qualified students to learn what actions are both appropriate and required for preserving, collecting and analyzing digital evidence in cases of intrusion, data theft or other cybercrimes. (Cross-listed with CSCI 4380).

**Prerequisite(s)/Corequisite(s):** The student must take the following before enrolling: CYBR 3600 or CIST 3600, CSCI 3550 or ISQA 3400, CYBR 3370, CYBR 3350. Alternatively, instructor permission can be sought for students who have not met all of the above requirements.

**CYBR 4390 MOBILE DEVICE FORENSICS (3 credits)**

Mobile device forensics is the science of recovering digital evidence from a mobile device under forensically sound conditions using accepted methods. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a mobile device forensics investigation. Topics include: an introduction to digital and mobile device forensics, mobile forensics standards, acquisition methods (manual, logical, physical and provider-side), Android and iOS filesystem analysis, decoding approaches, application data analysis, and report writing. Students will be required to perform several investigations in a controlled lab environment, including acquiring forensically sound evidence and analyzing these using industry standard tools. (Cross-listed with CYBR 8396).

**Prerequisite(s)/Corequisite(s):** CYBR 4380/8386 - Computer and Network Forensics or Instructors Permission

**CYBR 4430 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 8436, CSCI 4430).

**Prerequisite(s)/Corequisite(s):** Co-requisites: CYBR 3570 or CSCI 4560; or Instructor permission.

**CYBR 4440 INDUSTRIAL CONTROL SYSTEM SECURITY (3 credits)**

The objective of this course is to research vulnerabilities into, and provide guidance for securing, industrial control systems (ICS). ICS is a general term that encompasses several types of control systems, including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system items such as Programmable Logic Controllers (PLC). The student will learn to identify network and device vulnerabilities and potential countermeasures to these weaknesses. (Cross-listed with CYBR 8446)

**Prerequisite(s)/Corequisite(s):** CSCI 3550.

**CYBR 4450 HOST-BASED VULNERABILITY DISCOVERY (3 credits)**

The class will cover security issues at an implementation and hardware level. The students will learn assembly language and the use of a reverse assembler and debugger. This will allow the student to analyze various "packing" algorithms for computer viruses, the viruses themselves, operating system "hooking", "fuzzing", and other machine code, host-based exploits. The class will be using both Windows and Linux as operating systems. (Cross-listed with CYBR 8456.)

**Prerequisite(s)/Corequisite(s):** CSCI 3710 and CYBR 2250

**CYBR 4460 NETWORK-BASED VULNERABILITY DISCOVERY (3 credits)**

The course is an advanced class in which the students learn various techniques for testing for and identifying security flaws in network software and web applications. Internet technologies such as HTTP, DNS, DHCP, and others are examined in the context of cyber security. Students are expected to participate in numerous hands-on experiments related to Information Assurance with respect to web technologies. (Cross-listed with CYBR 8466)

**Prerequisite(s)/Corequisite(s):** CSCI 3550

**CYBR 4540 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST 4540, CYBR 8546, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CYBR 4580 CERTIFICATION AND ACCREDITATION OF SECURE SYSTEMS (CAPSTONE) (3 credits)**

This is the BSIA capstone course where students extend and apply their knowledge in defining, implementing, and assessing secure information systems. Students will demonstrate their ability to specify, apply, and assess different types of countermeasures at different points in the enterprise with a special focus on system boundaries. Students will complete and defend a Certification and Accreditation package.

**Prerequisite(s)/Corequisite(s):** CIST 3600 or CYBR 3600; CIST 4360; CYBR 3350 or CYBR 3370; and CIST 4540 or CYBR 4540 may be taken prior to or concurrently. Not open to non-degree graduate students.

**CYBR 4950 INTERNSHIP IN CYBERSECURITY (1-3 credits)**

The course provides a format for a student to work with a local or national industry partner in a cyber-security oriented position, and to receive credit for this practical experience. The internship may or may not be a paid position, but will definitely be directly related to the Cybersecurity degree program. The class is proposed and organized by the student, with participating faculty supervising and input provided by the industry partner.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 4980 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research. (Cross-listed with CYBR 8986)

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 4990 INDEPENDENT STUDY IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. The class is designed for students that would like to explore specific Information Assurance topics at a greater depth, or topics which are not currently a part of the IA curriculum. The class is proposed and organized by the student, with participating faculty mentoring.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**IT Innovation****ITIN 1010 ACTIVATING INNOVATION IN SOCIETY (3 credits)**

This course surveys and applies the use of qualitative methods, especially interview-based research, in order to maximize the insight that informs and activates the innovation process, with emphasis on technological innovation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**ITIN 1110 INTRODUCTION TO IT INNOVATION (3 credits)**

In almost every modern human endeavor, creativity and Information Technology are essential. In the Internet age, information has become a commodity that is available to everyone. Similarly, current technology has largely become commoditized. Therefore, creating new value is becoming the basis for successful professionals. This course introduces students to tools, techniques, and methods for generating innovative information technology ideas and solutions. It teaches them to think about future possibilities and equips them with the ability to critically evaluate proposed innovations and ideas. The goal of the course is to increase students' ability to creatively solve challenging problems in new ways using information technology. This class is inherently interdisciplinary as IT now touches every aspect of modern academic pursuits.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2150 AUDIO FOR MULTIMEDIA (3 credits)**

This course provides an overview of audio production techniques as they pertain to multimedia.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2220 APPLIED IT INNOVATION (3 credits)**

The course extends the concepts learned in the Introduction to IT Innovation course and focuses on market dynamics and monetizing innovations. It moves past idea generation and focuses on identifying and gathering resources, innovation implementation, sustainable innovation models and how ideas can be monetized. The goal is for students to take their original ideas from concept to initial implementation with thoughts towards commercialization. Upon completing the course, students will have created at least a rudimentary implementation of an original idea and have a defensible plan for how the idea can be monetized.

**Prerequisite(s)/Corequisite(s):** ITIN 1110 & CIST 1400. Not open to non-degree graduate students.

**ITIN 2990 IT INNOVATION SYMPOSIUM (1 credit)**

The seminar exposes students to information technology innovators from multiple industries and varied backgrounds. It teaches the practical aspects of IT Innovation from those that have done it and are doing it in both research and practice. The purpose is to cause students to reflect on applying innovation to the real-world, connect them to the innovation community and to equip them with best practices and tools to make their innovations a reality.

**Prerequisite(s)/Corequisite(s):** Enrollment in the IT Innovation Major or IT Innovation Minor. Not open to non-degree graduate students.

**ITIN 3100 MUSIC INFORMATICS (3 credits)**

Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with MUS 3100).

**Prerequisite(s)/Corequisite(s):** Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

**ITIN 3180 DIGITAL SYNTHESIS (3 credits)**

An exploration of the potentials of computer music synthesis. Concepts of music synthesis are presented through the use of a computer, keyboard, and appropriate software. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with MUS 3180).

**ITIN 3330 PRODUCT DESIGN AND DEVELOPMENT (3 credits)**

This course will cover elements and principles of excellent product design and development. The history of design will be reviewed and overarching tenets of design will be introduced. The course will particularly focus on innovation and students will be expected to develop an original concept and create quality designs and low-fidelity prototype implementations of their unique idea. The proposed solutions must be novel and meet a real-world market need. This course will be hands-on and will examine developmental models for innovation.

**Prerequisite(s)/Corequisite(s):** ITIN 2220. Not open to non-degree graduate students.

**ITIN 4000 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 8006).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ITIN 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, MGMT 4090).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**ITIN 4260 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 8266).

**Prerequisite(s)/Corequisite(s):** Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ITIN 3330.

**ITIN 4440 AGILE DEVELOPMENT METHODS (3 credits)**

The course presents an introduction to agile development methods for IT application development. Students will also learn Unified Modeling Techniques as they go through the agile iterations. This course is a foundation course for the IT Innovation capstone course.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or ISQA 3310. Not open to non-degree graduate students.

**ITIN 4500 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Undergraduate Program Committee at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required.

**ITIN 4510 INFORMATION TECHNOLOGY INNOVATION INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the ITIN undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of School of interdisciplinary Informatics Director. Not open to non-degree graduate students.

**ITIN 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ITIN 1110 and junior standing or above or by instructor permission.

**ITIN 4880 SYSTEMS SIMULATION AND MODELING (3 credits)**

The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ISQA 4880).

**Prerequisite(s)/Corequisite(s):** CIST 1400, CIST 2500, or equivalent.

**ITIN 4980 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I (3 credits)**

This course serves as Part 1 of the capstone project for the Information Technology Innovation program. As such the student will design a prototype of an IT product or service as well as a business case pertaining to what is required to launch their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4440. ITIN 4980 is for seniors who are enrolled in the BS in IT innovation degree. Before enrolling in ITIN 4980, a student must gain approval from the ITIN Program Committee, of their Area of Emphasis. Not open to non-degree graduate students.

**ITIN 4990 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II (3 credits)**

This course serves as Part 2 of the capstone project for the Information Technology Innovation program. Following the designs and business plan developed in Part I ITIN 4980, the student will create a prototype of an IT product or service as well as refine and implement the required business aspects involved in launching their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4980. This course is for seniors who are enrolled in the BS in IT Innovation degree. Not open to non-degree graduate students.

## Bioinformatics, Bachelor of Science (College of Information Science & Technology)

Bioinformatics is an exciting and rapidly-growing field that uses techniques from the computer and information sciences to interrogate biological systems. It is an interdisciplinary science, bringing together aspects of computer science, molecular biology, chemistry, and mathematics. Specifically, it is the science of developing and utilizing computer databases and algorithms to facilitate and expedite biological research, particularly in the areas of genomics, transcriptomics, proteomics, and more.

The Bioinformatics program in the College of Information Science and Technology (IS&T) specifically equips students with a strong foundation in computer science, scripting/programming, algorithms, database development, data management, and reproducible workflow implementation. In addition, fundamental courses in biology, genetics,

molecular biology, chemistry, statistics, and discrete mathematics provide students with the ability to analyze and interpret many different types of data. The program curriculum aims to align with and meet the current demand for professionals equipped with bioinformatics computing skills. The national demand for bioinformatics professionals exceeds current supply, and individuals with the interdisciplinary training that a bioinformatics degree provides are in high demand.

Graduates of our IS&T Bioinformatics degree program go on to careers in software development and engineering, database development and implementation, and positions in the agricultural sector, among other career pathways; our graduates also pursue graduate research and other professional degrees, including medical school (with the addition of only a few courses). The interdisciplinary nature of our program also allows our graduates to transition easily into informatics-adjacent careers in health informatics, public health, and health information technology. Students also have the opportunity to take up to nine graduate credits toward a College of IS&T Master's degree in Biomedical Informatics through our Fast Track program.

### Program Educational Objectives

The goals of the Bioinformatics program in the College of IS&T are stated as Program Educational Objectives (PEOs) and are based on the needs of the program's constituencies. PEOs describe the career and professional accomplishments that our program is preparing graduates to achieve. PEOs are used to align the program with the requirements of accrediting bodies such as the Higher Learning Commission (HLC) and Accreditation Board for Engineering and Technology (ABET), which accredits programs in applied science, computing, engineering, and technology.

Graduates of the UNO IS&T Bachelor of Science in Bioinformatics program will:

1. Prepare a portfolio demonstrating strong analytic, problem solving, and critical thinking skills.
2. Apply the scientific method to draw evidence-based conclusions in digital health and biosystems-related areas.
3. Demonstrate proficiency in communication of digital health and biosystems-related topics in both written and oral formats.
4. Exhibit commitment to strong ethical and moral standards in the field.
5. Demonstrate professional competency on current real-world digital health and biosystems-related perspectives.
6. Demonstrate ability to design, implement, deliver, and manage technical solutions to digital health and biosystems-related problems.
7. Apply skills such as reading primary literature, developing testable hypotheses, designing experiments, and analyzing algorithms.
8. Demonstrate proficiency in statistical and quantitative methods in the field.

### Student Research and Teaching Opportunities

The College of IS&T Bioinformatics (BIOI) and Biomedical Informatics (BMI) faculty, staff, and students are invited to participate in a weekly professional journal club and research group meeting, the BIOI Research Group. The BIOI Research Group meets year round and sustains our UNO Bioinformatics community with components of a typical journal club, including research dissemination, practice of student science communication skills, discussion of current events, and planning of social events. Overall, this meeting serves as a venue for support and collaboration between the UNO IS&T Bioinformatics group members.

All Bioinformatics and Biomedical Informatics faculty in the College of IS&T regularly provide opportunities for students to perform research in their respective areas of expertise.

Students in the Bioinformatics degree program are also encouraged to participate in K-12 student mentorship and teaching opportunities through our outreach activities. Our faculty and staff have been involved

in outreach activities facilitated by the College of IS&T for many years and continue to participate in them year round to encourage awareness of the Bioinformatics and Biomedical Informatics disciplines. These activities include but are not limited to CodeCrush, iSTEM Afterschool Program, and our Summer Internship Program.

## Student Group

The Mav Club for Bioinformatics (MCBI) provides students with a space to participate in their local UNO community, build fellowship, and support one another in a more informal way. The Club has a student president and a faculty advisor who work together to offer monthly academic seminars as well as recreational events and opportunities for students to socialize informally.

## Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Bioinformatics degree students must take CIST 3000 (<https://catalog.unomaha.edu/search/?P=CIST%203000>).

## Degree Requirements

A minimum of 120 credit hours is required for a Bachelor of Science degree in Bioinformatics (BSBI). Thirty of the last 36 hours must be University of Nebraska at Omaha courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BSBI, a student must fulfill the University, College and Departmental requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites.)

Code	Title	Credits
46 hours of University General Education courses (13 hours of which can be satisfied by courses also required by the degree in the areas below; students take 6 hours of coursework that satisfy both the US and global diversity and distribution requirements)		27
24 hours of College of IS&T Core courses		24
24 hours of Bioinformatics courses		24
11 hours of Mathematics courses		11
16 hours of Biology courses		16
14 hours of Chemistry courses		14
4 hours of elective/prerequisite credits		4
<b>Total Credits</b>		<b>120</b>

Code	Title	Credits
<b>Elective/Prerequisite</b>		
Select one of the following:		3-4

CSCI 1200 & CSCI 1204	COMPUTER SCIENCE PRINCIPLES and COMPUTER SCIENCE PRINCIPLES LABORATORY	
--------------------------	--	--

CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	
-----------	---------------------------------	--

### College of IS&T Core Courses for Bioinformatics Majors

CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I <sup>1</sup>	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II <sup>1</sup>	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS <sup>2</sup>	3
CSCI 3320	DATA STRUCTURES	3
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	3

CSCI 4850	DATABASE MANAGEMENT SYSTEMS	3
Select one of the following:		3

CSCI/MATH 4150	GRAPH THEORY & APPLICATIONS	
ISQA/CSCI 4890	DATA WAREHOUSING AND DATA MINING	

Mathematics Courses		
MATH 1950	CALCULUS I <sup>3</sup>	5
MATH 2030 or CSCI 2030	DISCRETE MATHEMATICS MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3

Bioinformatics Courses		
BIOI 1000	INTRODUCTION TO BIOINFORMATICS <sup>4</sup>	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	3
BIOI 3000	APPLIED BIOINFORMATICS	3
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING	3
BIOI 4860	BIOINFORMATICS ALGORITHMS	3
BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	3
BIOI 4890	COMPUTERIZED GENETIC SEQUENCE ANALYSIS	3
BIOI 4970	SENIOR PROJECT IN BIOINFORMATICS I	1
BIOI 4980	SENIOR PROJECT IN BIOINFORMATICS II	2

Biology Courses		
BIOL 1450	BIOLOGY I	5
BIOL 2140	GENETICS	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 4130 or BIOL 4140	MOLECULAR GENETICS CELLULAR BIOLOGY	4

Chemistry Courses <sup>5</sup>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY <sup>6</sup>	5
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	5
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4

<b>Total Credits</b>	<b>92-93</b>
----------------------	--------------

<sup>1</sup> NOTE: A minimum grade of C is required for CIST 1400 and CSCI 1620 as a prerequisite for all subsequent CSCI courses.

<sup>2</sup> NOTE: CIST 3110 counts toward a Humanities requirement.

<sup>3</sup> NOTE: MATH 1950 is required for this degree program. This course will also satisfy UNO's General Education Quantitative Literacy requirement. Students who do not place into MATH 1950 are responsible for prerequisite courses MATH 1220, MATH 1320, and MATH 1330. MATH 1120/STEM 1120, MATH 1130, and STAT 1530 will not serve as prerequisites for MATH 1950. These courses will satisfy the General Education Quantitative Literacy requirement; however, they do not satisfy the Math requirement for the degree program. Students are highly encouraged to consult with their academic advisor before enrolling in a particular course.

<sup>4</sup> NOTE: BIOI 1000 counts toward a Natural and Physical Sciences requirement.

<sup>5</sup> NOTE: Students pursuing the pre-med requirements for the Bioinformatics degree take CHEM 2250, CHEM 2260 and CHEM 2274 in place of CHEM 2210 and CHEM 2214. Pre-Med majors also take either CHEM 4610 Biochemistry of Metabolism **or** two semesters of Biochemistry and the accompanying labs (CHEM 4650, CHEM 4654, CHEM 4660, and CHEM 4664) in place of CHEM 3650 and CHEM 3654 to satisfy the chemistry requirements for the BIOI major.

<sup>6</sup> NOTE: CHEM 1140 and CHEM 1144 count toward the Natural and Physical Sciences lecture and lab requirement.

## Minor Offered:

- Bioinformatics Minor (p. 672)

### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
BIOI 1000	INTRODUCTION TO BIOINFORMATICS	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
MATH 1950	CALCULUS I <sup>1</sup>	5

**Credits** **14**

### Spring

BIOL 1450	BIOLOGY I	5
MATH 2030 or CSCI 2030	DISCRETE MATHEMATICS or MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	3

**Credits** **14**

### Sophomore

Fall		
ENGL 1160	ENGLISH COMPOSITION II	3
BIOI 3000	APPLIED BIOINFORMATICS	3
CSCI 3320	DATA STRUCTURES	3
CHEM 1140	FUNDAMENTALS OF COLLEGE CHEMISTRY	4
CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	1

**Credits** **14**

### Spring

CMST 1110	PUBLIC SPEAKING FUNDS	3
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING	3
BIOL 2140	GENETICS	4
CHEM 2210	FUNDAMENTALS OF ORGANIC CHEMISTRY	4
CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	1

**Credits** **15**

### Junior

Fall		
BIOI 4860	BIOINFORMATICS ALGORITHMS	3
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
CSCI 4850	DATABASE MANAGEMENT SYSTEMS	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

Social Sciences 3

Free Elective	1
<b>Credits</b>	<b>16</b>

### Spring

BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	3
CHEM 3650	FUNDAMENTALS OF BIOCHEMISTRY	3
CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	1
BIOI 4890	COMPUTERIZED GENETIC SEQUENCE ANALYSIS	3

Free Elective	3
Humanities & Fine Arts	3

**Credits** **16**

### Senior

Fall		
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
BIOI 4970	SENIOR PROJECT IN BIOINFORMATICS I	1
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3

CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
Humanities & Fine Arts/US Diversity		3
Social Sciences		3

**Credits** **16**

### Spring

CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	3
BIOI 4980	SENIOR PROJECT IN BIOINFORMATICS II	2
BIOL 4130 or BIOL 4140	MOLECULAR GENETICS or CELLULAR BIOLOGY	4
CSCI 4150 or CSCI 4890	GRAPH THEORY & APPLICATIONS or DATA WAREHOUSING AND DATA MINING	3

Social Sciences/Global Diversity		3
----------------------------------	--	---

**Credits** **15**

**Total Credits** **120**

<sup>1</sup> MATH 1950 - Satisfies General Education Quantitative Literacy requirement

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific degree program to determine all requirements for the program. In order to graduate on time (four years for an undergraduate degree), you need to take 30 credit hours each year.

**Placement Exams:** For Math, English, and Foreign Languages, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

Please note that transfer credit or placement exam scores may change a suggested plan of study.

## Overview

Graduates of UNO's Bioinformatics (BIOI) program in the College of Information Science & Technology (IS&T) will be able to use their degree to investigate and apply technology to solve bioinformatics problems effectively. Due to a great demand for experts in bioinformatics, the job outlook for those with appropriate training is excellent. The Bioinformatics degree can also serve as a springboard to graduate work or other careers requiring informatics skills coupled with a biological background.

In Nebraska, many current careers in Bioinformatics are classified by the Nebraska Department of Labor as H3 jobs (High Wage, High Skill, High Demand). According to their website, "Occupations are high wage when at least half of their wage measures are at or above the regional average for all occupations. Occupations that require some college, no degree, or a higher level of educational attainment are high skill, as well as occupations that require a high school diploma or equivalent plus long-term on-the-job training, an apprenticeship, or internship/residency. The number of annual openings, net change in employment, and growth rate determine whether an occupation is high demand. An occupation must be High Wage, High Skill, and High Demand to be an H3 occupation."

Jobs in software development and engineering, biostatistics, and bioinformatics are all currently qualified as H3 jobs in Nebraska. Nationally, the need for people with degrees in Bioinformatics is even more apparent, with institutions such as the National Institutes of Health (NIH) integrating the large need for a trained and competent biomedical data science workforce as a central theme in their current strategic plan. The College of IS&T's Bioinformatics degree program is one of the only programs in the Midwest that provides this type of preparation at the undergraduate level.

Examples of careers for graduates of our undergraduate Bioinformatics degree program include:

- Bioinformatics Specialist \*
- Statistician/Biostatistician\*
- Software Application Developer\*
- Bioinformatics Scientist/Analyst
- Scientific Curator
- Computational Biologist
- Database Programmer
- Database Administrator\*
- Consultant
- Data Scientist/Wrangler
- Software Engineer
- Research Scientist\*
- Biotech Entrepreneur
- Professor

\*Classified by the Nebraska Department of Labor as an H3 Career

## Bioinformatics Curriculum Advisory Committee

The College of IS&T's Bioinformatics (BIOI) and Biomedical Informatics (BMI) faculty hosts an annual BIOI/BMI Curriculum Advisory Committee (CAC) meeting. The CAC is designed to involve alumni and community stakeholders from industry, academia, government, and non-profit organizations to aid the BIOI Undergraduate Program Committee (UPC), BMI Graduate Program Committee (GPC), and BMI Doctoral Program Committee (DPC) in decisions regarding curriculum for each committee's respective program. The CAC's objectives are:

- To review the program curriculum and provide recommendations on how to develop or change programs to address the needs of students in making them "workforce ready."
- To discuss opportunities and potential pathways for students to transition into the workforce through formal (internships, apprenticeships) and informal means.

- To provide input to curriculum committees on how to manage or improve student recruitment to our programs.
- To provide input to curriculum committees on how to manage or improve student retention in our programs.
- To support and encourage involvement of the Omaha metropolitan community in our BIOI/BMI programs.

### BIOI 1000 INTRODUCTION TO BIOINFORMATICS (3 credits)

Bioinformatics is a scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing rapidly with the advancement in molecular technology to sequence the genomes of many different organisms. This course will provide an introduction to the field and will examine some of the problems of interest to bioinformaticians and how these relate to biology, computer science, mathematics and engineering. Topics will include an overview of the biology, mathematics and computer science needed to understand these and tools.

**Distribution:** Natural/Physical Science General Education course

### BIOI 2000 FOUNDATIONS OF BIOINFORMATICS (3 credits)

Bioinformatics is a new scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing quickly due to rapid advances in sequencing and other biological techniques that allow the genomes of different organisms to be easily sequenced. This course provides an overview of the field and covers the chemical, biological, mathematical and computational foundations of bioinformatics upon which later courses will depend. In addition, it introduces problems of interest to bioinformaticians and the methods and tools used to address them.

**Prerequisite(s)/Corequisite(s):** BIOI 1000 or BIOL 1450

### BIOI 3000 APPLIED BIOINFORMATICS (3 credits)

This course will provide students with the practical skills needed for the analysis of -omics data. Topics covered will include biological databases, molecular biology tools (e.g., primer design, contig assembly), gene prediction and mining, database searches, genome comparison, sequence alignments, phylogenetic inference, gene expression data analyses, functional annotation of protein sequences, protein structure and modeling. Specialized software (e.g., Vector NTI) and widely used web-based computation tools (e.g., Entrez, BLAST, ClustalX, Phylip, PyMOL, and SwissPDBviewer) will be illustrated. Multiple approaches for solving particular problems will be presented.

**Prerequisite(s)/Corequisite(s):** BIOI 2000 and CIST 1400; or permission of instructor.

### BIOI 3500 ADVANCED BIOINFORMATICS PROGRAMMING (3 credits)

Because of the volume and complexity of biological data, advanced programming skills are required for researchers in order to get the most out of their data analyses. This course will provide the expanded programming skills necessary to develop software that can exploit the complex information landscape of bioinformatics. Specific topics covered will include molecular biology basics, Unix/Linux shell programming, Perl and BioPerl, databases and using the Perl DBI, and data visualization.

**Prerequisite(s)/Corequisite(s):** BIOI 3000 and CSCI 1620; or permission of instructor. CSCI 3320 is strongly recommended but not required.

### BIOI 4500 INDEPENDENT STUDY (1-3 credits)

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Junior or Senior within the Bioinformatics undergraduate program. Not open to non-degree graduate students.

**BIOI 4510 BIOINFORMATICS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Bioinformatics undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of Director of the School of Interdisciplinary Informatics. Not open to non-degree graduate students.

**BIOI 4860 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BMI 8866).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BIOI 4870 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "-omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with CSCI 8876).

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or permission of instructor. Not open to non-degree graduate students.

**BIOI 4890 COMPUTERIZED GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the class will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor. Not open to nondegree students.

**BIOI 4950 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)**

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 4950 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Prerequisites of a specific offering of BIOI 4950 will be determined by the supervising faculty member and identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required for registration.

**BIOI 4970 SENIOR PROJECT IN BIOINFORMATICS I (1 credit)**

This course is the first part of a two-part series that allows students to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to decide on a research topic and to write a detailed proposal based on this topic that outlines the goals and objectives of the proposed research. The topic and proposal will be approved by the supervising faculty member.

**Prerequisite(s)/Corequisite(s):** BIOI 4860 and BIOI 4870; BIOI 4870 can be taken concurrently. Senior level status in the Bioinformatics program. Not open to nondegree students.

**BIOI 4980 SENIOR PROJECT IN BIOINFORMATICS II (2 credits)**

This course is the second part of a two-part series that allows the student to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to perform the research proposed in Part I of the course and to present the results of his or her work. Presentations will be made in the form of a report, written as a scientific research paper, and an oral defense.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor.

**BIOI 4990 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for the junior or senior bioinformatics major who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing, permission of supervising faculty member & approval of Bioinformatics UG Prog Comm Chair. A formal description of the problem area to be investigated, the resources to be used, & the results to be produced must be prepared.

## Bioinformatics Minor

Bioinformatics is a rapidly expanding interdisciplinary field focused on collecting, processing, and analyzing vast amounts of biological and biomedical data, and it has become an indispensable component of biomedical research. The Minor in Bioinformatics offers an opportunity for students majoring in other disciplines to acquire the foundations of the field and add in-demand skills to their portfolio.

Students are responsible for completing the prerequisites for all courses taken for the Bioinformatics minor.

### Requirements

#### Prerequisites

Code	Title	Credits
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I <sup>1</sup>	3
BIOL 1450	BIOLOGY I	5
<b>Total Credits</b>		<b>8</b>

#### Required Courses

Code	Title	Credits
<b>Core Courses</b>		
BIOI 1000	INTRODUCTION TO BIOINFORMATICS	3
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	3
BIOI 3000	APPLIED BIOINFORMATICS	3
<b>Elective Courses</b>		
Select 9 hours from the following:		9
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING	
BIOI 4500	INDEPENDENT STUDY <sup>2</sup>	
BIOL 4050	SUPERVISED RESEARCH IN BIOLOGY <sup>2</sup>	
BIOI 4860	BIOINFORMATICS ALGORITHMS	

BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS
BIOI 4890	COMPUTERIZED GENETIC SEQUENCE ANALYSIS
BIOI 4950	SPECIAL TOPICS IN BIOINFORMATICS
BIOI 4970	SENIOR PROJECT IN BIOINFORMATICS I
BIOI 4980	SENIOR PROJECT IN BIOINFORMATICS II
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL
BIOL 4130	MOLECULAR GENETICS
BIOL 4140	CELLULAR BIOLOGY
CSCI/MATH 4150	GRAPH THEORY & APPLICATIONS
CSCI 4850	DATABASE MANAGEMENT SYSTEMS

**Total Credits** 18

- <sup>1</sup> A minimum grade of C is required for CIST 1400 and CSCI 1620 as a prerequisite for all subsequent CSCI classes.
- <sup>2</sup> The number of combined credits from BIOI 4500 and BIOL 4050 cannot exceed 3.

## Bioinformatics (BIOI) Track

### Bioinformatics (BIOI) Track

Code	Title	Credits
<b>Select nine hours from the following:</b>		<b>9</b>
BIOI 2000	FOUNDATIONS OF BIOINFORMATICS	
BIOI 3000	APPLIED BIOINFORMATICS	
BIOI 3500	ADVANCED BIOINFORMATICS PROGRAMMING	
BIOI 4860	BIOINFORMATICS ALGORITHMS	
BIOI 4870	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	
BIOI 4890	COMPUTERIZED GENETIC SEQUENCE ANALYSIS	
BIOI 4950	SPECIAL TOPICS IN BIOINFORMATICS	
<b>Total Credits</b>		<b>9</b>

## Cybersecurity, Bachelor of Science

### Bachelor of Science in Cybersecurity

Cybersecurity (CYBR) is an emerging, rapidly expanding science that addresses problems in the fundamental understanding of the design, development, implementation and lifecycle support of secure information systems. The need for secure information systems has become a paramount concern as the computer-enabled, internet-connected, digital-based global society of the 21st century continues to emerge. The lack of adequately secure information systems has been cited as one of the likely impediments to the emergence of the digital society.

### Cyber Operations Track (Optional)

The University of Nebraska at Omaha's undergraduate Cybersecurity degree program is one of the few National Security Agency (NSA) certified National Centers of Academic Excellence in Cyber Operations (CAE-CO). As a result, UNO's College of Information Science and Technology (IS&T) is able to offer undergraduate students majoring in Cybersecurity the option to pursue a specialized Cyber Operations (CO) track and complete the requirements set out by the NSA's CAE-CO program. Students already enrolled in the Bachelor of Science in Cybersecurity degree program have

very few additional requirements to meet in order to complete the Cyber Operations track.

### Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. Cybersecurity degree students must take CIST 3000.

### Student Groups

**NULLify** is UNO's student-led computer security group. Contact the group at [atunonullify@gmail.com](mailto:atunonullify@gmail.com).

Visit NULLify on Facebook at [nullifyuno](https://www.facebook.com/nullifyuno).

### Degree Requirements

#### Bachelor of Science in Cybersecurity

A minimum of 120 credit hours is required for a Bachelor of Science degree in Cybersecurity (BSIA). Thirty of the last 36 hours must be University of Nebraska at Omaha courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a Bachelor of Science in Cybersecurity, a student must fulfill the University General Education, College, and Departmental requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites.)

Code	Title	Credits
46 hours of University General Education courses (16 hours of which can be satisfied by courses in the required areas below)		30
9 hours of College of IS&T Core courses		9
8 hours of Mathematics courses		8
21 hours of Computer Science Core courses		21
27 hours of Cybersecurity Core courses		27
18 hours of Cybersecurity Elective courses		18
7 hours of elective/prerequisite courses		7
<b>Total Credits</b>		<b>120</b>

Code	Title	Credits
<b>Prerequisite / Free Electives</b>		
Select one of the following:		3-4
CSCI 1200 & CSCI 1204	COMPUTER SCIENCE PRINCIPLES and COMPUTER SCIENCE PRINCIPLES LABORATORY <sup>1</sup>	
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	

#### College of IS&T Core Courses for CYBR Majors

CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY <sup>2</sup>	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS <sup>3</sup>	3

#### Mathematics Courses

MATH 1950	CALCULUS I <sup>5</sup>	5
MATH 2030	DISCRETE MATHEMATICS	3
or CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	

#### Computer Science Core Courses

CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CYBR 2250	LOW-LEVEL PROGRAMMING	3
CSCI 3320	DATA STRUCTURES	3
CSCI 3550	COMMUNICATION NETWORKS	3

CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
CSCI 4350	COMPUTER ARCHITECTURE	3
CSCI 4500	OPERATING SYSTEMS	3
<b>Cybersecurity Core Courses</b>		
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY <sup>4</sup>	3
CYBR 2600	SYSTEM ADMINISTRATION	3
CYBR/CIST 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 3570	CRYPTOGRAPHY	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
CYBR/CSCI 4380	DIGITAL FORENSICS	3
CYBR 4450	HOST-BASED VULNERABILITY DISCOVERY	3
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	3
CYBR 4580	CYBERSECURITY CAPSTONE	3
<b>Cybersecurity Elective Courses</b>		
Select 18 hours from the following:		18
<b>CYBR Electives</b>		
CYBR 2980/4980	SPECIAL TOPICS IN CYBERSECURITY	
CYBR 3450	NATURAL LANGUAGE PROCESSING	
CYBR 4390	MOBILE DEVICE FORENSICS	
CYBR 4430	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CYBR 4440	INDUSTRIAL CONTROL SYSTEM SECURITY	
CIST/CYBR 4540	COMPUTER SECURITY MANAGEMENT	
CYBR 4950	INTERNSHIP IN CYBERSECURITY	
CYBR 4990	INDEPENDENT STUDY IN INFORMATION ASSURANCE	
<b>CSCI Electives</b>		
CSCI 3660	THEORY OF COMPUTATION (NSA Cyber Operations Track)	
CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	
CSCI/MATH 4560	NUMBER THEORY & CRYPTOGRAPHY	
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	
<b>ISQA Electives</b>		
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	
ISQA 4380	DISTRIBUTED TECHNOLOGIES AND SYSTEMS	
<b>PSCI Electives</b>		
PSCI 4250	INTELLIGENCE AND NATIONAL SECURITY (NSA Cyber Operations Track)	
PSCI 4260	INTERNATIONAL LAW (NSA Cyber Operations Track)	
<b>Total Credits</b>		<b>86-87</b>

<sup>1</sup> NOTE: CSCI 1200 and CSCI 1204 count toward the Natural and Physical Sciences requirement.

<sup>2</sup> NOTE: CIST 2100 counts toward Social Science requirement.

<sup>3</sup> NOTE: CIST 3110 counts toward Humanities requirement.

<sup>4</sup> NOTE: CYBR 1100 counts toward Global Diversity requirement.

<sup>5</sup> Note: MATH 1950 is required for this degree program. This course will also satisfy UNO's General Education Quantitative Literacy requirement. Students who do not place into MATH 1950 are responsible for prerequisite courses MATH 1220, MATH 1320, and MATH 1330. MATH 1120/STEM 1120, MATH 1130, and STAT 1530 will not serve as prerequisites for MATH 1950. These courses will satisfy the General Education Quantitative Literacy requirement; however, they do not satisfy the Math requirement for the degree program. Students are highly encouraged to consult with their academic advisor before enrolling in a particular course.

### Cyber Operations Track (Optional)

Students already enrolled in the Bachelor of Science in Cybersecurity degree have the following additional requirements to meet in order to complete the Cyber Operations track:

- PSCI 4250 Intelligence and National Security\*
- PSCI 4260 International Law\*
- CSCI 3660 Theory of Computation \*
- CYBR 8410 Distributed Systems and Network Security\*\*
- CYBR 8420 Software Assurance \*\*
- CSCI 8620 Mobile Computing and Wireless Networking\*\*
- CYBR 8480 Secure Mobile and Internet of Things Development\*\*
- CYBR 8000 Center of Academic Excellence -Cyber Operations Completion Certificate\*\*

\*These courses also apply towards the Cybersecurity elective requirements.

\*\*Graduate level courses required for Cyber Operations track. Graduate level courses can be taken with special permission.

### Minor Offered

- Cybersecurity Minor (p. 678)

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
MATH 1950	CALCULUS I <sup>1</sup>	5
<b>Credits</b>		<b>14</b>

#### Spring

ENGL 1160	ENGLISH COMPOSITION II	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Sciences		3
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CYBR 2250	LOW-LEVEL PROGRAMMING	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
Free Elective		3

Natural & Physical Sciences	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
CIST 3110 INFORMATION TECHNOLOGY ETHICS	3
CSCI 3320 DATA STRUCTURES	3
CSCI 3710 INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
Social Sciences/US Diversity	3
Natural & Physical Sciences with Lab	4
<b>Credits</b>	<b>16</b>
<b>Junior</b>	
<b>Fall</b>	
CYBR 2600 SYSTEM ADMINISTRATION	3
CYBR 3600 INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 3570 CRYPTOGRAPHY	3
CSCI 3550 COMMUNICATION NETWORKS	3
Cybersecurity Elective	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
CSCI 4350 COMPUTER ARCHITECTURE	3
CYBR 4360 FOUNDATIONS OF CYBERSECURITY	3
CYBR 4450 HOST-BASED VULNERABILITY DISCOVERY	3
Cybersecurity Elective	3
Cybersecurity Elective	3
<b>Credits</b>	<b>15</b>
<b>Senior</b>	
<b>Fall</b>	
CYBR 4460 NETWORK-BASED VULNERABILITY DISCOVERY	3
CSCI 4500 OPERATING SYSTEMS	3
Cybersecurity Elective	3
Cybersecurity Elective	3
Humanities & Fine Arts	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
CYBR 4580 CYBERSECURITY CAPSTONE	3
CYBR 4380 DIGITAL FORENSICS	3
Cybersecurity Elective	3
Humanities & Fine Arts	3
Free Elective	3
<b>Credits</b>	<b>15</b>
<b>Total Credits</b>	<b>120</b>

<sup>1</sup> MATH 1950 - Satisfies General Education Quantitative Literacy requirement

#### Cybersecurity with Cyber Operations Track - Optional

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150 ENGLISH COMPOSITION I		3
MATH 1950 CALCULUS I <sup>1</sup>		5
CYBR 1100 INTRODUCTION TO INFORMATION SECURITY		3

CIST 1400 INTRODUCTION TO COMPUTER SCIENCE I	3
<b>Credits</b>	<b>14</b>
<b>Spring</b>	
ENGL 1160 ENGLISH COMPOSITION II	3
CSCI 1620 INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
Natural & Physical Sciences	3
Social Sciences	3
<b>Credits</b>	<b>15</b>
<b>Summer</b>	
CMST 1110 PUBLIC SPEAKING FUNDS or CMST 2120 or ARGUMENTATION AND DEBATE	3
Free Elective	3
<b>Credits</b>	<b>6</b>
<b>Sophomore</b>	
<b>Fall</b>	
CIST 2100 ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CYBR 2250 LOW-LEVEL PROGRAMMING	3
CIST 3000 ADVANCED COMPOSITION FOR IS&T	3
Natural & Physical Sciences with Lab	4
Free Elective	3
<b>Credits</b>	<b>16</b>
<b>Spring</b>	
CIST 3110 INFORMATION TECHNOLOGY ETHICS	3
CSCI 3320 DATA STRUCTURES	3
CSCI 3710 INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
Cybersecurity Elective	3
Social Sciences/US Diversity	3
<b>Credits</b>	<b>15</b>
<b>Summer</b>	
Humanities & Fine Arts	3
Cybersecurity Elective	3
<b>Credits</b>	<b>6</b>
<b>Junior</b>	
<b>Fall</b>	
CYBR 2600 SYSTEM ADMINISTRATION	3
CYBR 3600 INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 3570 CRYPTOGRAPHY	3
CSCI 3550 COMMUNICATION NETWORKS	3
PSCI 4250 INTELLIGENCE AND NATIONAL SECURITY	3
<b>Credits</b>	<b>15</b>
<b>Spring</b>	
CSCI 3660 THEORY OF COMPUTATION	3
CSCI 4350 COMPUTER ARCHITECTURE	3
CYBR 4360 FOUNDATIONS OF CYBERSECURITY	3
CYBR 4450 HOST-BASED VULNERABILITY DISCOVERY	3
PSCI 4260 INTERNATIONAL LAW	3
<b>Credits</b>	<b>15</b>

<b>Summer</b>		
CSCI 4500	OPERATING SYSTEMS	3
	<b>Credits</b>	<b>3</b>
<b>Senior Fall</b>		
CYBR 4380	DIGITAL FORENSICS	3
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	3
Cybersecurity Elective		3
CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	3
CYBR 8420	SOFTWARE ASSURANCE	3
	<b>Credits</b>	<b>15</b>
<b>Spring</b>		
CYBR 4580	CYBERSECURITY CAPSTONE	3
CSCI 8620	MOBILE COMPUTING AND WIRELESS NETWORKS	3
CYBR 8480	SECURE MOBILE DEVELOPMENT	3
CYBR 8000	CENTER OF ACADEMIC EXCELLENCE- CYBER OPERATIONS COMPLETION CERTIFICATE	0
Humanities & Fine Arts		3
	<b>Credits</b>	<b>12</b>
	<b>Total Credits</b>	<b>132</b>

<sup>1</sup> MATH 1950 - Satisfies General Education Quantitative Literacy requirement

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific degree program to determine all requirements for the program. In order to graduate on time (four years for an undergraduate degree), you need to take 30 credit hours each year.

**Placement Exams:** For Math, English, and Foreign Languages, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

Please note that transfer credit or placement exam scores may change a suggested plan of study.

#### CYBR 1100 INTRODUCTION TO INFORMATION SECURITY (3 credits)

This course emphasizes our current dependence on information technology and how its security in cyberspace (or lack thereof) is shaping the global landscape. Several historical and contemporary global events that have been influenced by the exploitation of information technology motivates topics on cyber crime, malware, intrusion detection, cryptography, among others, and how to secure one's own data and computer system. Several aspects of this course are geared towards developing an understanding of the "cyberspace" as a new medium that breaks all geographical boundaries, while highlighting noticeable influences on it from social, political, economic and cultural factors of a geographical region.

**Distribution:** Global Diversity General Education course

#### CYBR 2250 LOW-LEVEL PROGRAMMING (3 credits)

This course will teach the cybersecurity (CYBR) students low-level programming in the 'C' and assembly languages, and the interrelationship between these two programming paradigms. The student will learn the various control structures in 'C' and how they are implemented in machine code, memory allocation and management, and the basics of allocation classes such as static versus automatic variables. The students will also learn assembly language in the 'C' environment and will be able to write useful, functional, stand-alone assembly language programs with no help from external libraries.

**Prerequisite(s)/Corequisite(s):** CSCI 1620. Not open to non-degree graduate students.

#### CYBR 2600 SYSTEM ADMINISTRATION (3 credits)

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various computer management requirements using both Windows and Linux operating systems on both physical and virtual machines. Topics include installation, creating and maintaining file systems, user and group administration, backup and restore processes, network configuration, system services, virtualization, and security administration.

**Prerequisite(s)/Corequisite(s):** CIST 1400 or Instructor Permission

#### CYBR 2980 SPECIAL TOPICS IN CYBERSECURITY (1-3 credits)

The course provides a format for exploring subject areas in Cybersecurity and related fields for sophomore undergraduate students. Specific topics vary, in keeping with research interests of faculty and students. Examples include network configuration, network security, forensics, regulatory compliance, web services and applications, vulnerability assessments, cloud computing security, and other issues in Cybersecurity.

**Prerequisite(s)/Corequisite(s):** Instructor permission required. Not open to non-degree graduate students.

#### CYBR 3350 SECURITY ADMINISTRATION - LINUX (3 credits)

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the a Linux-based Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission.

#### CYBR 3370 SECURITY ADMINISTRATION - WINDOWS (3 credits)

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the Windows Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission

#### CYBR 3450 NATURAL LANGUAGE PROCESSING (3 credits)

The course will provide overview of the topics in natural language processing such as word and sentence tokenization, syntactic parsing, semantic role labeling, text classification. We will discuss fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems. We will touch on such applications of natural language processing technology as information extraction and sentiment analysis. (Cross-listed with CSCI 3450).

**Prerequisite(s)/Corequisite(s):** Prereq: CSCI 2030 with C- or better; Co-req: CSCI 3320 with C- or better; Students should be comfortable w/ scripting (Python is the language extensively used in natural language processing tools including NLTK). Not open to non-degree graduate students.

**CYBR 3570 CRYPTOGRAPHY (3 credits)**

The course will provide a broad overview of the concepts, fundamental ideas, vocabulary, and literature base central to the study and development of cryptography and cryptanalysis. This course will explore historical development of cryptography, as well as methods used to defeat it. In addition, the course will cover the mathematical foundations of cryptography today, as well as some current uses of such cryptography, such as public key infrastructures, the Internet Key Exchange protocol, and more.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or ISQA 3300. Not open to non-degree graduate students.

**CYBR 3600 INFORMATION SECURITY, POLICY AND AWARENESS (3 credits)**

This course will cover the planning and development for information governance, security policies and procedures, and security awareness. (Cross-listed with CIST 3600)

**Prerequisite(s)/Corequisite(s):** CIST 2100; CIST 3110, which may be taken concurrently.

**CYBR 4000 CENTER OF ACADEMIC EXCELLENCE-CYBER OPERATIONS COMPLETION CERTIFICATE (0 credits)**

This course is utilized to provide a specific designation for students that have completed the Center of Academic Excellence - Cyber Operations coursework. It is a zero credit hour class used to designate the completion of this focus area in the cybersecurity curriculum.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. The program committee will work w/ the UG advisors to verify that the student has fulfilled the requirements for this designation. If the student has fulfilled (or will soon) all the requirements, they may register for this class.

**CYBR 4360 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 8366, CSCI 8366).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CYBR 4380 DIGITAL FORENSICS (3 credits)**

Digital forensics involves the preservation, identification, extraction, analysis and documentation of digital evidence stored on a variety of electronic devices. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a forensics investigation. Topics include: an introduction to digital forensics, data acquisition, first response, memory forensics, operating system forensics, and network forensics. Students will be required to perform several forensics analyses in a controlled lab environment, including acquiring forensically sound hard drive images, memory images and analyzing these using industry standard tools, such as Forensic Toolkit (FTK). The Digital Forensics class is designed for Cybersecurity, Computer Science and other qualified students to learn what actions are both appropriate and required for preserving, collecting and analyzing digital evidence in cases of intrusion, data theft or other cybercrimes. (Cross-listed with CSCI 4380).

**Prerequisite(s)/Corequisite(s):** The student must take the following before enrolling: CYBR 3600 or CIST 3600, CSCI 3550 or ISQA 3400, CYBR 3370, CYBR 3350. Alternatively, instructor permission can be sought for students who have not met all of the above requirements.

**CYBR 4390 MOBILE DEVICE FORENSICS (3 credits)**

Mobile device forensics is the science of recovering digital evidence from a mobile device under forensically sound conditions using accepted methods. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a mobile device forensics investigation. Topics include: an introduction to digital and mobile device forensics, mobile forensics standards, acquisition methods (manual, logical, physical and provider-side), Android and iOS filesystem analysis, decoding approaches, application data analysis, and report writing. Students will be required to perform several investigations in a controlled lab environment, including acquiring forensically sound evidence and analyzing these using industry standard tools. (Cross-listed with CYBR 8396).

**Prerequisite(s)/Corequisite(s):** CYBR 4380/8386 - Computer and Network Forensics or Instructors Permission

**CYBR 4430 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 8436, CSCI 4430).

**Prerequisite(s)/Corequisite(s):** Co-requisites: CYBR 3570 or CSCI 4560; or Instructor permission.

**CYBR 4440 INDUSTRIAL CONTROL SYSTEM SECURITY (3 credits)**

The objective of this course is to research vulnerabilities into, and provide guidance for securing, industrial control systems (ICS). ICS is a general term that encompasses several types of control systems, including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system items such as Programmable Logic Controllers (PLC). The student will learn to identify network and device vulnerabilities and potential countermeasures to these weaknesses. (Cross-listed with CYBR 8446)

**Prerequisite(s)/Corequisite(s):** CSCI 3550.

**CYBR 4450 HOST-BASED VULNERABILITY DISCOVERY (3 credits)**

The class will cover security issues at an implementation and hardware level. The students will learn assembly language and the use of a reverse assembler and debugger. This will allow the student to analyze various "packing" algorithms for computer viruses, the viruses themselves, operating system "hooking", "fuzzing", and other machine code, host-based exploits. The class will be using both Windows and Linux as operating systems. (Cross-listed with CYBR 8456.)

**Prerequisite(s)/Corequisite(s):** CSCI 3710 and CYBR 2250

**CYBR 4460 NETWORK-BASED VULNERABILITY DISCOVERY (3 credits)**

The course is an advanced class in which the students learn various techniques for testing for and identifying security flaws in network software and web applications. Internet technologies such as HTTP, DNS, DHCP, and others are examined in the context of cyber security. Students are expected to participate in numerous hands-on experiments related to Information Assurance with respect to web technologies. (Cross-listed with CYBR 8466)

**Prerequisite(s)/Corequisite(s):** CSCI 3550

**CYBR 4540 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST 4540, CYBR 8546, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CYBR 4580 CERTIFICATION AND ACCREDITATION OF SECURE SYSTEMS (CAPSTONE) (3 credits)**

This is the BSIA capstone course where students extend and apply their knowledge in defining, implementing, and assessing secure information systems. Students will demonstrate their ability to specify, apply, and assess different types of countermeasures at different points in the enterprise with a special focus on system boundaries. Students will complete and defend a Certification and Accreditation package.

**Prerequisite(s)/Corequisite(s):** CIST 3600 or CYBR 3600; CIST 4360; CYBR 3350 or CYBR 3370; and CIST 4540 or CYBR 4540 may be taken prior to or concurrently. Not open to non-degree graduate students.

**CYBR 4950 INTERNSHIP IN CYBERSECURITY (1-3 credits)**

The course provides a format for a student to work with a local or national industry partner in a cyber-security oriented position, and to receive credit for this practical experience. The internship may or may not be a paid position, but will definitely be directly related to the Cybersecurity degree program. The class is proposed and organized by the student, with participating faculty supervising and input provided by the industry partner.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 4980 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research. (Cross-listed with CYBR 8986)

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 4990 INDEPENDENT STUDY IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. The class is designed for students that would like to explore specific Information Assurance topics at a greater depth, or topics which are not currently a part of the IA curriculum. The class is proposed and organized by the student, with participating faculty mentoring.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

# Cybersecurity Minor

## Requirements

### Prerequisite Courses

Code	Title	Credits
MATH 2030 or CSCI 2030	DISCRETE MATHEMATICS MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 2240 or CYBR 2250	INTRODUCTION TO C PROGRAMMING LOW-LEVEL PROGRAMMING	3
CSCI 3320 or ISQA 3400	DATA STRUCTURES INFORMATION TECHNOLOGY INFRASTRUCTURE	3

### Required Courses

Code	Title	Credits
<b>Core Courses</b>		
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CYBR/CIST 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
<b>Elective Courses</b>		
Select 9 hours with 6 hours above 3XXX from the following: <sup>1</sup>		9
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	
CYBR 2600	SYSTEM ADMINISTRATION	
CYBR 3450	NATURAL LANGUAGE PROCESSING	
CYBR 3570	CRYPTOGRAPHY	
CYBR/CSCI 4380	DIGITAL FORENSICS	
CYBR 4390	MOBILE DEVICE FORENSICS	
CYBR 4430	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CYBR 4440	INDUSTRIAL CONTROL SYSTEM SECURITY	
CYBR 4450	HOST-BASED VULNERABILITY DISCOVERY	
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	
CYBR/CIST 4540	COMPUTER SECURITY MANAGEMENT	
CYBR 4980	SPECIAL TOPICS IN INFORMATION ASSURANCE	
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> This list of electives is not exhaustive. Students may take other relevant courses as electives with the approval of the Cybersecurity undergraduate program committee (CYBR UPC). Students are accountable for prerequisite of all courses listed for the Cybersecurity minor.

## Cybersecurity (CYBR) Track

### Cybersecurity (CYBR) Track

Code	Title	Credits
<b>Select nine hours from the following:</b>		<b>9</b>
CYBR 2600	SYSTEM ADMINISTRATION	
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	
CYBR 3570	CRYPTOGRAPHY	
CYBR 3600	INFORMATION SECURITY, POLICY AND AWARENESS	
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	
CYBR 4390	MOBILE DEVICE FORENSICS	
CYBR 4440	INDUSTRIAL CONTROL SYSTEM SECURITY	
CYBR 4450	HOST-BASED VULNERABILITY DISCOVERY	
CYBR 4460	NETWORK-BASED VULNERABILITY DISCOVERY	
CYBR 4540	COMPUTER SECURITY MANAGEMENT	
CYBR 4980	SPECIAL TOPICS IN INFORMATION ASSURANCE	
<b>Total Credits</b>		<b>9</b>

# Information Technology (IT) Innovation, Bachelor of Science

The IT Innovation (ITIN) program involves the study of entrepreneurship as it relates to IT and an individual field of interest. Courses in this degree program are listed in the catalog as IT Innovation (ITIN).

## Why major in IT Innovation?

- To have flexibility in designing your own curriculum
- To be able to take more courses that are aligned with your career goals
- To be prepared to be an entrepreneur (an ambitious leader who combines his/her ideas with labor and capital to create and market new goods or services)
- To be prepared to be an intrapreneur (using entrepreneurial skills as an employee within an established organization)
- To have a degree that appeals to a wide variety of potential employers

## The IT Innovation degree has three simple but distinguishing features:

1. You pick 33 credit hours from anywhere on campus that line up with your career goals.
2. You participate in seminars, workshops, and conferences on entrepreneurship.
3. You take a solid core of IT courses, plus a two-semester senior capstone course where:
  - You have an idea for a new IT product or service.
  - You document your idea's technical and market feasibility.
  - You carry your idea through to prototype stage.

## Career outcomes from the IT Innovation program

In addition to the more general IT professions, students in the IT Innovation program have found employment in the more specific field of IT Innovation such as a(an) applications designer, digital artist, founder, graphics/web designer, innovation consultant, innovation evangelist, IT applications consultant, new product designer/developer, new ventures specialist, user experience designer, video game designer, and other similar fields.

## Writing in the Discipline

All UNO students are required to take a writing-in-the-discipline course within their major. ITIN degree students must take CIST 3000.

## Student Groups

UNO's IT Innovation students are invited to join the Information Technology Innovation Group (IT Inc.) (<https://www.unomaha.edu/college-of-information-science-and-technology/school-of-interdisciplinary-informatics/student-involvement/>)

## Requirements

A minimum of 120 credit hours is required for a Bachelor of Science degree in IT Innovation (BITI). Thirty of the last 36 hours must be University of Nebraska at Omaha (UNO) courses. Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BITI, a student must fulfill the university, college and departmental requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once, thereby reducing the total number of credit hours for the degree to 120. (This total does not include prerequisites.)

Code	Title	Credits
46 hours of University General Education courses (16 hours of which can be satisfied by courses in the required areas below)		26
48 hours of College of IS&T Core courses		48
33 Area of Emphasis hours		33
6 hours of Mathematics courses (The specific math courses that are required depend on which track the student selects.) See Math Tracks.		6
5-7 hours of elective/prerequisite courses		5-7
Total Credits		120

## Math Tracks

Each ITIN student must fulfill requirements for one of the following **math tracks**. Each **math track** corresponds to an **ITIN track**. The three tracks are Software Development, Analytics and Statistics and Digital Humanities. Note about the three math tracks and the three corresponding ITIN tracks: when a student selects one of the three math tracks, a student must also fulfill requirements for the corresponding ITIN track of the same name (see the three **ITIN tracks** below).

## Software Development Track

Code	Title	Credits
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
or MATH 1950	CALCULUS I	
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

## Data Analytics and Statistics Track

Code	Title	Credits
MATH 1320	PRE-CALCULUS ALGEBRA	3
STAT 1530	ELEMENTARY STATISTICS	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

## Digital Humanities Track

Code	Title	Credits
MATH 1320	PRE-CALCULUS ALGEBRA	3
STAT 1530	ELEMENTARY STATISTICS	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

## College of IS&T Courses for ITIN Majors, prerequisites/electives, and Area of Emphasis Courses

Code	Title	Credits
<b>Prerequisite / Electives</b>		
Select one of the following:		3-4
CSCI 1200 & CSCI 1204	COMPUTER SCIENCE PRINCIPLES and COMPUTER SCIENCE PRINCIPLES LABORATORY <sup>1</sup>	
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	
<b>College of IS&amp;T Courses for ITIN Majors</b>		
ITIN 1010	ACTIVATING INNOVATION IN SOCIETY <sup>3</sup>	3
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY <sup>2</sup>	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3

CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY <sup>3</sup>	3
ITIN 2220	APPLIED I.T. INNOVATION	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM <sup>5</sup>	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS <sup>4</sup>	3
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ITIN 4440	AGILE DEVELOPMENT METHODS	3
ITIN 4980	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I	3
ITIN 4990	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II	3

**Area of Emphasis\***

Approval of ITIN Undergraduate Program Committee members required prior to enrollment in courses	33
--	----

<b>Total Credits</b>	<b>78-79</b>
----------------------	--------------

**ITIN Tracks**

In addition to the above IS&T courses, ITIN core courses, and the Area of Emphasis courses, all of which are required of all ITIN majors, each ITIN major must also select a track (below). Each track has separate additional course requirements. The three tracks are Software Development, Analytics and Statistics and Digital Humanities. Note about the three tracks and math requirements: when a student selects one of the three tracks below, a student must also fulfill requirements for the corresponding math requirement track of the same name (see math requirements above).

**Software Development ITIN Track**

Code	Title	Credits
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3

**Data Analytics and Statistics ITIN Track**

Code	Title	Credits
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CIST 1600	INTRODUCTION TO PROGRAMMING USING PRACTICAL SCRIPTING	3

**Digital Humanities ITIN Track**

Code	Title	Credits
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
ISQA 4900	FULL STACK DEVELOPMENT	3

**Total Credits with Elected Track**  
84–85

<sup>1</sup> NOTE: CSCI 1200 and CSCI 1204 count toward the Natural and Physical Sciences requirement.

<sup>2</sup> NOTE: CYBR 1100 counts toward Global Diversity requirement.

<sup>3</sup> NOTE: CIST 2100 and ITIN 1010 counts toward Social Sciences requirement.

<sup>4</sup> NOTE: CIST 3110 counts toward Humanities requirement.

<sup>5</sup> ITIN 2990 is normally a 1 credit course that is taken three times, for a total of 3 credits

\* Students are encouraged to submit their area of emphasis proposal at the end of their sophomore year and/or after they complete or are about to complete ITIN 2220. Proposed courses for the area of emphasis cannot include courses that are already part of the required core curriculum for ITIN and the required core curriculum for all IS&T majors (including prerequisites like IS&T 1300, etc.). In addition, the student cannot include a course that is already being used to satisfy general education requirements. The Program Committee expects courses to be mostly upper level, although it is understood that, sometimes, lower level courses are appropriate (because they may be the only place where necessary skills can be learned, or they may be required perquisites for necessary upper level courses, or they are sufficiently rigorous despite their lower level designation).

**Minor Offered**

- ITIN Minor (p. 684)

**IT Innovation with Data Analytics and Statistics Track**

**Freshman**

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
ITIN 1010	ACTIVATING INNOVATION IN SOCIETY	3
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
MATH 1320	PRE-CALCULUS ALGEBRA (or test out)	3
CIST 1600	INTRODUCTION TO PROGRAMMING USING PRACTICAL SCRIPTING	3
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

**Sophomore**

Fall		
ITIN 2220	APPLIED I.T. INNOVATION	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
Free Elective		3
<b>Credits</b>		<b>13</b>

**Spring**

CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Humanities & Fine Arts		3
Free Elective		2
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>16</b>

**Junior**

Fall		
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	3

CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Humanities & Fine Arts		3
Area of Emphasis		3
Social Sciences/US Diversity Requirement		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ITIN 4440	AGILE DEVELOPMENT METHODS	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ITIN 4980	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ITIN 4990	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

#### IT Innovation with Digital Humanities Track

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
ITIN 1010	ACTIVATING INNOVATION IN SOCIETY	3
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
MATH 1320	PRE-CALCULUS ALGEBRA (or test out)	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
ITIN 2220	APPLIED I.T. INNOVATION	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1

CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Humanities & Fine Arts		3
Free Elective		2
Social Sciences/US Diversity		3
<b>Credits</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	3
ISQA 4900	FULL STACK DEVELOPMENT	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Area of Emphasis		3
Humanities & Fine Arts		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ITIN 4440	AGILE DEVELOPMENT METHODS	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
ITIN 4980	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ITIN 4990	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

#### IT Innovation with Software Development Track

**Freshman**

<b>Fall</b>		<b>Credits</b>
ENGL 1150	ENGLISH COMPOSITION I	3
ITIN 1010	ACTIVATING INNOVATION IN SOCIETY	3
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Natural/Physical Science		3
<b>Credits</b>		<b>15</b>

**Sophomore**

<b>Fall</b>		
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
ITIN 2220	APPLIED I.T. INNOVATION	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
<b>Credits</b>		<b>13</b>

**Spring**

CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Humanities & Fine Arts		3
Free Elective		2
Natural/Physical Science with Lab		4
<b>Credits</b>		<b>16</b>

**Junior**

<b>Fall</b>		
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
ITIN 2990	I.T. INNOVATION SYMPOSIUM	1
Humanities & Fine Arts		3
Area of Emphasis		3
Social Sciences/US Diversity		3
<b>Credits</b>		<b>16</b>

**Spring**

ITIN 4440	AGILE DEVELOPMENT METHODS	3
ISQA 4150	ADVANCED STATISTICAL METHODS FOR IS&T	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>

**Senior**

<b>Fall</b>		
ITIN 4980	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
<b>Credits</b>		<b>15</b>

**Spring**

ITIN 4990	INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II	3
Area of Emphasis		3
Area of Emphasis		3
Area of Emphasis		3
Free Elective		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**ITIN 1010 ACTIVATING INNOVATION IN SOCIETY (3 credits)**

This course surveys and applies the use of qualitative methods, especially interview-based research, in order to maximize the insight that informs and activates the innovation process, with emphasis on technological innovation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**ITIN 1110 INTRODUCTION TO IT INNOVATION (3 credits)**

In almost every modern human endeavor, creativity and Information Technology are essential. In the Internet age, information has become a commodity that is available to everyone. Similarly, current technology has largely become commoditized. Therefore, creating new value is becoming the basis for successful professionals. This course introduces students to tools, techniques, and methods for generating innovative information technology ideas and solutions. It teaches them to think about future possibilities and equips them with the ability to critically evaluate proposed innovations and ideas. The goal of the course is to increase students' ability to creatively solve challenging problems in new ways using information technology. This class is inherently interdisciplinary as IT now touches every aspect of modern academic pursuits.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2150 AUDIO FOR MULTIMEDIA (3 credits)**

This course provides an overview of audio production techniques as they pertain to multimedia.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2220 APPLIED IT INNOVATION (3 credits)**

The course extends the concepts learned in the Introduction to IT Innovation course and focuses on market dynamics and monetizing innovations. It moves past idea generation and focuses on identifying and gathering resources, innovation implementation, sustainable innovation models and how ideas can be monetized. The goal is for students to take their original ideas from concept to initial implementation with thoughts towards commercialization. Upon completing the course, students will have created at least a rudimentary implementation of an original idea and have a defensible plan for how the idea can be monetized.

**Prerequisite(s)/Corequisite(s):** ITIN 1110 & CIST 1400. Not open to non-degree graduate students.

**ITIN 2990 IT INNOVATION SYMPOSIUM (1 credit)**

The seminar exposes students to information technology innovators from multiple industries and varied backgrounds. It teaches the practical aspects of IT Innovation from those that have done it and are doing it in both research and practice. The purpose is to cause students to reflect on applying innovation to the real-world, connect them to the innovation community and to equip them with best practices and tools to make their innovations a reality.

**Prerequisite(s)/Corequisite(s):** Enrollment in the IT Innovation Major or IT Innovation Minor. Not open to non-degree graduate students.

**ITIN 3100 MUSIC INFORMATICS (3 credits)**

Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with MUS 3100).

**Prerequisite(s)/Corequisite(s):** Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

**ITIN 3180 DIGITAL SYNTHESIS (3 credits)**

An exploration of the potentials of computer music synthesis. Concepts of music synthesis are presented through the use of a computer, keyboard, and appropriate software. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with MUS 3180).

**ITIN 3330 PRODUCT DESIGN AND DEVELOPMENT (3 credits)**

This course will cover elements and principles of excellent product design and development. The history of design will be reviewed and overarching tenets of design will be introduced. The course will particularly focus on innovation and students will be expected to develop an original concept and create quality designs and low-fidelity prototype implementations of their unique idea. The proposed solutions must be novel and meet a real-world market need. This course will be hands-on and will examine developmental models for innovation.

**Prerequisite(s)/Corequisite(s):** ITIN 2220. Not open to non-degree graduate students.

**ITIN 4000 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 8006).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ITIN 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, MGMT 4090).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**ITIN 4260 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 8266).

**Prerequisite(s)/Corequisite(s):** Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ITIN 3330.

**ITIN 4440 AGILE DEVELOPMENT METHODS (3 credits)**

The course presents an introduction to agile development methods for IT application development. Students will also learn Unified Modeling Techniques as they go through the agile iterations. This course is a foundation course for the IT Innovation capstone course.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or ISQA 3310. Not open to non-degree graduate students.

**ITIN 4500 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Undergraduate Program Committee at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required.

**ITIN 4510 INFORMATION TECHNOLOGY INNOVATION INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the ITIN undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of School of interdisciplinary Informatics Director. Not open to non-degree graduate students.

ITIN 4720 INNOVATION VENTURES (3 credits)

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ITIN 1110 and junior standing or above or by instructor permission.

ITIN 4880 SYSTEMS SIMULATION AND MODELING (3 credits)

The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ISQA 4880).

**Prerequisite(s)/Corequisite(s):** CIST 1400, CIST 2500, or equivalent.

ITIN 4980 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I (3 credits)

This course serves as Part 1 of the capstone project for the Information Technology Innovation program. As such the student will design a prototype of an IT product or service as well as a business case pertaining to what is required to launch their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4440. ITIN 4980 is for seniors who are enrolled in the BS in IT innovation degree. Before enrolling in ITIN 4980, a student must gain approval, from the ITIN Program Committee, of their Area of Emphasis. Not open to non-degree graduate students.

ITIN 4990 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II (3 credits)

This course serves as Part 2 of the capstone project for the Information Technology Innovation program. Following the designs and business plan developed in Part I ITIN 4980, the student will create a prototype of an IT product or service as well as refine and implement the required business aspects involved in launching their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4980. This course is for seniors who are enrolled in the BS in IT Innovation degree. Not open to non-degree graduate students.

IT Innovation Minor

The objective of the IT innovation (ITIN) minor is to provide students with a substantive qualification in information technology to augment their respective major and allow them to be even more innovative as to the application of IT to their learning and career choices.

The ITIN minor will serve all students that have a desire to pursue their academic major and wish to supplement it with an innovative approach of IT to that major.

Requirements

A minor in IT innovation may be earned by completing the following **18 hours**:

Code	Title	Credits
<b>Core</b>		
ITIN 1110	INTRODUCTION TO IT INNOVATION	3
ITIN 2220	APPLIED I.T. INNOVATION	3

CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
<b>Electives</b>		
Select 9 hours of 3000 level or above from the following		9
CIST 3110	INFORMATION TECHNOLOGY ETHICS	
ITIN/MUS 3100	MUSIC INFORMATICS	
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	
ITIN 4090	PRINCIPLES OF COLLABORATION	
ITIN 4440	AGILE DEVELOPMENT METHODS	
ART 3140	COMPUTER GENERATED IMAGERY	
ART 3150	VIDEO ART	
ART 3160	GAME DESIGN AS ART	
ART 3170	DIGITAL GAME DESIGN	
ART 4180	ADVANCED DIGITAL GAME DESIGN	
CSCI 4260	USER EXPERIENCE DESIGN	
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
or CSCI 3550	COMMUNICATION NETWORKS	
ISQA 3520	GRAPHICAL USER INTERFACE DESIGN	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
MUS 3170	EXPLORING MUSIC TECHNOLOGY	
MUS 4200	AUDIO RECORDING TECHNIQUES I	
MUS 4210	AUDIO RECORDING TECHNIQUES II	

**Total Credits** 18

We encourage IT Innovation students to think broadly. The courses listed above are recommendations for completing the minor; other courses tailored to your individual program of study can be approved with permission of the ITIN Program Committee.

IT Innovation (ITIN) Track

IT Innovation (ITIN) Track

Code	Title	Credits
<b>Select nine hours from the following:</b>		9
ITIN 2150	AUDIO FOR MULTIMEDIA	
ITIN 2220	APPLIED IT INNOVATION	
ITIN 3100	MUSIC INFORMATICS	
ITIN 3180	DIGITAL SYNTHESIS	
ITIN 3330	PRODUCT DESIGN AND DEVELOPMENT	
ITIN 4000	SPECIAL TOPICS IN IT INNOVATION	
ITIN 4090	PRINCIPLES OF COLLABORATION	
ITIN 4440	AGILE DEVELOPMENT METHODS	

**Total Credits** 9

College of Public Affairs and Community Service

Mission

The College of Public Affairs and Community Service (CPACS) was established in 1973 to ensure university responsiveness to the critical social needs of the community and state. The college was charged with the mission of providing educational programs of the highest caliber to prepare students for leadership in public service and reaching out to the community to help solve public problems.

The mission of the College of Public Affairs and Community Service is to:

1. Foster a learning environment in which undergraduate students, graduate students, adult learners and both traditional and nontraditional students can gain a comprehensive and quality education helpful in preparing for careers in their respective fields;
2. Conduct research, especially as it relates to concerns of local and statewide constituencies; and,
3. Offer professional services to the community, including continuing education opportunities designed to further personal, professional, organizational, and community improvement goals.

## General Information

The College of Public Affairs and Community Service (CPACS) offers undergraduate coursework leading to the Bachelor of Science Degree in aviation, criminology and criminal justice, gerontology, social work, and emergency management. The Division of Continuing Studies administers the Bachelor of Multidisciplinary Studies (BMS) Degree. In addition to its undergraduate degree programs, CPACS offers courses in urban studies, nonprofit management, and public administration; the Goodrich Scholarship Program, a specialized program for students with marked financial need; and particular areas of independent study developed in conjunction with other UNO colleges or governmental units.

The College of Public Affairs and Community Service strives to make available to students an interdisciplinary education based on classroom learning, research, and community service. Students are expected to participate in each of these activities.

## Goodrich Scholarship Program

The Goodrich Scholarship Program is designed to provide scholarship funds and supportive services for students with financial need. The overall intent of the program is to provide a college education for persons who might otherwise find college difficult to afford, while offering them a broad and meaningful experience in general education. The program has a three-pronged approach. It provides 1) financial aid in the form of tuition and general fees toward a bachelor's degree; 2) a specialized curriculum emphasizing the humanities and the social sciences via a multicultural perspective; and, 3) a comprehensive program of academic support, counseling, and related student services.

## Admission to the Goodrich Scholarship Program

A composite of selection criteria is used to evaluate both merit and financial need. Criteria include the individual's application data, financial analysis, academic record, in-person interview, English Placement/Proficiency Exam (EPPE), personal life-experience essay, and references. For more information, contact the Goodrich Scholarship Program:

Goodrich Scholarship Program  
123 College of Public Affairs and Community Service  
University of Nebraska at Omaha  
6001 Dodge Street  
Omaha, NE 68182  
Phone – 402.554.2274

Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/goodrich-scholarship-program/>)

## Center for Public Affairs Research

The Center for Public Affairs Research (CPAR) is a research and engagement unit in the College of Public Affairs and Community Service. The Center conducts research on a broad range of policy issues at the local, regional, state, and national level and widely disseminates demographic and socio-economic data through their website dashboards, including, the new project-governing.unomaha.edu. The data that CPAR houses and shares can be used for a wide array of student-initiated research projects.

## The William Brennan Institute for Labor Studies

The William Brennan Institute for Labor Studies provides continuing education for a specialized audience. The Institute serves the labor movement state-wide by helping develop citizenship and leadership. Through educational programs, workers gain knowledge and skills to be effective leaders in a democratic labor movement in a democratic society.

## University Honors Program

The University Honors Program provides expanded educational opportunities for highly motivated students who have demonstrated outstanding academic achievement. Students entering or enrolled in any CPACS undergraduate program may apply for membership in UNO's Honors Program. For more information, contact the CPACS Honors Coordinator in the CPACS Dean's Office or a CPACS academic advisor.

## Dean's List

Students enrolled in the College of Public Affairs and Community Service who maintain a GPA of 3.5 or better while carrying 12 hours or more of graded course work will earn the distinction of being placed on the Dean's Honor List at the end of each semester. Part-time students must earn a GPA of 3.5 or better for courses taken at UNO on a continuous part-time basis. These students may be placed on the Dean's List when they complete course work in 12 semester hour blocks at UNO (i.e., 12, 24, 48, etc.). Continuous part-time basis is defined as taking one or more courses totaling 1-11 semester hours during each fall and spring semester each academic year.

## Accreditation Information

Major	Degree	Accreditation Body
Aviation: Specialization in Air Transport Administration	BS	Aviation Accreditation Board, International (AABI)
Public Administration	MPA	Network of Schools of Public Policy, Affairs and Administration (NASPAA)
Social Work	BSSW MSW	Council on Social Work Education (CSWE)

## Choice of Catalog Policy

A student registering in the College of Public Affairs and Community Service for the first time may, except for the limitations described below, complete work for the degree according to the requirements of the catalog in effect the year the student enters the college or the catalog current at the time the student applies for the degree.

Students entering the college for the first time in the summer will be subject to the catalog for the academic year immediately following. Failure to complete the requirements for the degree within seven years after the date the student first enters the college will subject the student to graduation under the requirements of a later catalog to be approved by the Dean. CPACS reserves the right to institute and make effective, after due notice, during the course of a student's work toward a degree, any new ruling which may be necessary for the general good of the college and to substitute courses currently offered for those no longer offered. Contact a DCS academic advisor for Bachelor of Multidisciplinary Studies Degree catalog information.

## Contact Information

CPACS Deans Office | 109 CPACS  
University of Nebraska at Omaha  
6001 Dodge Street  
Omaha, Nebraska 68182  
Phone – 402.554.2276

Fax – 402.554.4871

College Website (<http://cpacs.unomaha.edu>)

## Admission to the College of Public Affairs and Community Service

Students who have been admitted to the University of Nebraska at Omaha may apply for admission into the College of Public Affairs and Community Service by indicating their preference in the appropriate place on the university application for admission. Refer to the section “Division of Continuing Studies” for DCS and Bachelor of Multidisciplinary Studies Degree admission requirements.

Students who wish to transfer into CPACS from another college or school within UNO must request permission from the department offering the student’s intended major.

A minimum cumulative grade point average (GPA) of 2.5 is required to transfer into CPACS.

The College of Public Affairs and Community Service does not accept undeclared students. Exceptions to this rule are made when the student can demonstrate (by written request) substantial reasons for the undeclared status. Permission is granted by the CPACS Dean.

## Academic Requirements for the College Degrees

### Number of Hours to Graduate

Each candidate must present a total of at least 120 credit hours of college credit to meet graduation requirements.

### Minimum GPA/Additional Requirements

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### College Requirements, BA/BS Requirements Major Field

Each student must present a major including at least 15 credit hours of upper division work designated as appropriate by the faculty of the department in which enrolled. A candidate meeting the requirements of each of two fields may present a double major in these fields. Individual departments should be consulted for the number of upper division hours required.

### Requirements for the Bachelor of Multidisciplinary Studies Degree

Refer to the section “Division of Continuing Studies” for Bachelor of Multidisciplinary Studies (BMS) Degree requirements.

### Prerequisite Courses

Completion of a course within the major with a grade below a “C-” will not be considered as having fulfilled prerequisite requirements for additional courses taken in the major field of study. A higher grade may be designated by the department/unit.

### General Education Requirements

All students in a CPACS degree program must meet the university general education requirements. Certain majors/programs in the College of Public Affairs and Community Service require specific foundational coursework that may also count for general education requirements. For more information on the foundational coursework, contact the department academic advisor.

### Transfer Credit Policy

All questions concerning the acceptability or transferability of credits earned at other institutions or via programs such as cooperative education and credit by examination should be directed to the department in which

enrolled. Credit earned in courses below the 1000 level may not be applied toward the degree offered by the College of Public Affairs and Community Service.

### Unacceptable Credits

Remedial, developmental, or technical coursework may not be used toward the fulfillment of the 120 credit hour requirement.

Courses taken at a community college that are upper-division level courses in the College of Public Affairs and Community Service may not be counted as equivalent to upper-division College of Public Affairs and Community Service courses. At the discretion of the advisor and the department, these courses may be used toward required or elective coursework but may not be used to meet upper-division requirements.

Technical credit may be awarded to students in the Division of Continuing Studies. Please see a DCS academic advisor for more information.

### Retroactive Credit Policy

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### Advanced Placement Credits

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### Military Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### IB Credit

<https://nextcatalog.unomaha.edu/undergraduate/transfer-credit/> (p. 29)

### Placement Exams and Credit by Examinations Policies/Practices

<https://nextcatalog.unomaha.edu/undergraduate/student-life-support-services/testing-center/> (p. 64)

### Residency Requirement

Thirty of the last 36 hours required for the degree must be registered for and carried within the University of Nebraska System.

### Quality of Work

Each candidate for the degree must attain a cumulative GPA of at least 2.0 (“C”). A grade of at least “C-” must be earned in all required courses within the major, unless a higher grade is designated by the department/unit. All grades reported by the faculty to the registrar become a part of the student’s permanent record and are included in the computation of the grade point average, even though some of these grades may be for work done in excess of the 120 hours required for graduation.

### Good Academic Standing Policy

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### Credit/No Credit (CR/NC) Grades

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### Completion of Incomplete Grade

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

### Repeatable Grades/Courses

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Appeal Process

Students who wish to appeal a grade they believe was capriciously or prejudicially given shall first discuss the matter with the instructor within 30 days of the final course grade being posted. If the matter is not resolved, the student must then meet with the department/school chair or director. If a satisfactory agreement cannot be reached, the student must then appeal, in writing, to the department/school curriculum committee. If a satisfactory agreement cannot be reached, the student may submit a written appeal to the CPACS Dean's Office within 20 working days of the exhaustion of departmental procedures.

The Committee on Academic Standards and Curriculum for the College of Public Affairs and Community Service is the official body for handling the appeal.

In the event the instructor is unavailable for handling a grade complaint, the student will meet with the department chair and the Dean to determine the most appropriate course of action agreeable to all parties.

## Academic Amnesty

A student who didn't perform well during one or two consecutive semesters at UNO, UNL, or UNK, may petition for academic amnesty. Removal of grades will be done for the entire semester or students may choose to keep courses taken during those semesters in which a minimum grade of "C-" or better was earned. If a student chooses to keep courses, they will count toward degree requirements and contribute to the cumulative GPA. The petition is subject to the following stipulations:

- The student shall be at least three years removed from the semester(s) to be removed.
- The student must complete 24 consecutive semester hours with a GPA of 2.5 or above.
- The student is responsible for initiation of the petition.
- Individuals who apply under this rule may not be considered for degrees with Honors at graduation.
- There shall be no physical obliteration of any part of the student's record.

## Academic Probation and Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Reinstatement Policy Following Academic Suspension

<https://nextcatalog.unomaha.edu/undergraduate/grades/> (p. 30)

## Academic Advising

The purpose of academic advising within the College of Public Affairs and Community Service is to provide guidance and support to students striving to meet degree requirements. CPACS academic advising is provided at the departmental level. Students are encouraged to communicate with an academic advisor prior to registration each semester and should contact an advisor with any academic program questions. It is especially important for students nearing graduation to consult with an academic advisor to ensure all program requirements are met.

## Advising Holds

Advising holds vary by academic unit. Please see your academic advisor for more information.

## Student Holds

<https://nextcatalog.unomaha.edu/undergraduate/enrollment/enrollment/> (p. 23)

## Senior Check

The College of Public Affairs and Community Service expects that students are working with their academic advisor throughout the course of their program. Once 91 credit hours are achieved, we encourage you to schedule

an appointment with your academic advisor to ensure there is a graduation plan in place to complete your requirements.

# Aviation

## College Vision Statement

### Mission/Vision

The mission of the Aviation Institute is to:

- provide an environment where students are supported and challenged as they develop the skills, knowledge, and experiences that prepare them for personally and professionally rewarding careers in aviation and transportation;
- conduct research that enhances the safety, security, efficiency, reliability, and sustainability of aviation and transportation services, and improves mobility and quality of life for the citizens of the State of Nebraska;
- engage the community through partnerships and other collaborative initiatives that improve the lives of the citizens of the State of Nebraska and others through innovative education, training, research, and service projects; and
- maintain the highest standards of integrity and transparency in the conduct of the Institute's business and the management and stewardship of its resources.

## Accreditation Information

One of the concentrations in the Bachelor of Science in Aviation, the Air Transport Administration Specialization, is accredited by the Aviation Accreditation Board, International

## General Information

### Maximum/Minimum Credits

Students are required to complete a minimum of 120 credit hours to complete a Bachelor of Science in Aviation.

### Residency Requirement

Default to College

### Transfer Credit Policy

See the Academic Advisor

### Unacceptable Credits

See the Academic Advisor

### Dean's List

Default to College

### Honors

Default to College

## Quality of Work

For purposes of meeting general education requirements, distribution requirements, and prerequisite requirements for courses, a grade of "C-" performs the role of a grade of "C", and a grade of "D-" performs the role of a grade of "D". A minimum grade of "C" (2.0) must be earned in each of the required courses within the major area of study.

## Completion of Incomplete Grade

Students who receive instructor permission to take an incomplete must have the incomplete resolved the following semester or the incomplete changes to withdraw. If a student has a question in regard to this policy, they should see their academic adviser for clarification

## Repeating Courses

n/a

## Grade Appeal Policy

Default to College

## Probation/Suspension

Default to College

## Academic Amnesty

Default to College

## Academic Advising

The Aviation Institute offers both academic and career advising to students. The academic advisor is available to assist students in meeting their career requirements and to interpret Institute and University policies regarding academic requirements. Students are encouraged to contact their advisor whenever questions arise concerning their academic program. As a minimum, students should see an advisor before registering for the next semester and review their academic progress, when choosing an area of specialty, and prior to registering for their senior year. The Aviation Institute faculty are also available to discuss career planning, opportunities, and advising. The faculty have a strong connection to the aviation industry and students are encouraged to use the faculty as a resource in determining their career goals. Students are encouraged to make an appointment as a freshman or sophomore with the Aviation Institute faculty to discuss their career path. For more information or to setup and appointment contact the Aviation Institute.

## Senior Check

See your Academic Advisor

## Application for Degree

Students apply for graduation through MavLINK.

## Scholarship and Internship Opportunities

There are several scholarship and internship opportunities available to students within the Aviation Institute. Scholarships for current UNOAI students are awarded annually through an application process. The applications for these scholarships are available in November and are awarded at the Aviation Institute's annual honors convocation in April. Close partnerships with a number of Omaha metro organizations allow for several internship opportunities to current Aviation Institute students each semester. To apply for an internship, students must contact the internship coordinator, CPACS 120. A list of all UNOAI scholarships and internships can be found on the Aviation Institute Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/aviation/academics/>).

## Advanced Simulation Facility

Flight students will use the Advanced Simulation Facility on a regular basis. Simulator fees are built into their student fees and are paid directly to the University of Nebraska at Omaha. The amount of time a student spends in the simulator will vary per semester depending on the flight lab requirements. Students will need to work with the Flight Training Coordinator to provide all necessary TSA documentation in order to use the flight simulators. The Aviation Institute currently has two Redbird MCX Simulators, one motion, one non-motion.

## Aviation Resource Center

The Aviation Resource Center is available to all Aviation students. In the Aviation Resource Center, students can utilize the many resources offered to help them achieve academic success. Resources available are: computers for research, testing, and personal use, printing services, FAA Practical Test Study Guides, Gleim Test Prep Software, Jeppesen Study Materials, King CD-Rom Study Courses, free use of PC-ATD simulator, Current Trade Magazines and Publications, Complete AOPA Air Facts DVD Series, Sporty's

Training DVDs, ASA Study Guides, complete collections of Jeppesen Training Videos, current copies of FAA's FAR/AIM, tutoring, various aviation related referencing textbooks, ASA-JSCH PP2 headsets, Garmin 396, and a Garmin 295.

In addition, the Aviation Resource Center is a certified FAA Testing Center, where students can take FAA Practical Exams.

## Financial Aid

Students should apply for financial aid as directed by the Office of Financial Support and Scholarships and at the beginning of each calendar year thereafter. Priority is given to applicants who apply early. Additional financial aid may be available to qualified students to pay for the added cost of flight training. See the Aviation Institute academic advisor for information regarding additional financial aid for flight training. Flight training is optional and not required for students working toward the Air Transport Administration or Unmanned Aircraft Systems concentrations.

## Language Fluency

International and other students enrolling in the Aviation Institute for whom English is not their primary language will be required to be sufficiently fluent in English as a second language. This requirement is particularly critical for successfully completing the flight training portion of the Institute's curriculum.

## Program Contact Information

402.554.3424

[unoaviation@unomaha.edu](mailto:unoaviation@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/aviation/academics/>)

## Admission Requirements

Incoming students who are not considered transfer students are guaranteed admission to the Bachelor of Science in Aviation program upon admission to the University of Nebraska at Omaha. Transfer students who want to complete the Bachelor of Science in Aviation Program must have a cumulative GPA of 2.5 to be accepted into the College of Public Affairs and Community Service. Current UNO students accepted for admission to any of the University's colleges may enroll in the Institute's aviation courses for elective credit.

## Degrees Offered

- Aviation, Bachelor of Science (p. 693)

## Writing in the Discipline

The writing in the discipline course in aviation is: AVN 3060 Writing in Aviation

## Overview of Degree Programs

### Air Transport Administration Concentration

The Air Transport Administration area of concentration is conferred under the Bachelor of Science in Aviation degree program. This option is oriented toward the public/private sector interface of individuals looking for administration careers. Potential career opportunities exist within the Federal Aviation Administration, Transportation Security Administration, National Transportation Safety Board, state aviation organizations, local and regional aviation organizations, airport administration, fixed-based operators, aviation consulting firms, airline operations, flight department operations, aircraft manufacturing companies, aviation marketing firms, and non-profit organizations such as Aircraft Owners and Pilot Association, National Business Aviation Association, and the Experimental Aircraft Association. The Air Transport Administration specialization gives the student the opportunity to gain knowledge in several aspects of the aviation and aerospace industry. Students will take specific classes in areas of

general aviation, airport planning, statistical analysis, security, and airline operations. Students will also have the opportunity to become involved in an internship or cooperative education experience. This experience will expose students to working in an area that relates to their potential career path; both local and national programs are available. Students who are looking to work in these highly competitive and regulated areas should choose the Air Transport Administration specialization program for their course of study.

### Professional Flight Concentration

The Aviation Institute offers flight training from private pilot to certified flight instructor. Flight training is closely coordinated through local flight schools. Students who successfully complete any of the training under UNO requirements courses will receive appropriate academic credit. The Aviation Institute's Professional Flight curriculum is approved by the FAA to grant the Restricted Airline Transport Pilot (R-ATP) authorization to graduates. With the R-ATP, a pilot can be hired by a FAA Part 121 scheduled airline at age 21 with 1,000 flight hours versus at age 23 and 1,500 flight hours. Students who plan on enrollment in a flight training course should be able to successfully complete a first class aviation medical examination conducted by an FAA designated Aviation Medical Examiner accordance with Federal Aviation Regulation Part 67, *Medical Standards and Certification*. **Flight costs are paid directly to the flight provider where you conduct your training and are in addition to regular University tuition and fees.** Approximate costs for flight training are available in the Aviation Student Handbook. Costs for each training phase are based on the average number of hours required by the FAA for that particular phase. If a student requires additional flying or ground training to complete a particular training phase course, the student will be obligated to pay for the extra training. Additional financial aid is available for flight training, but does not cover 100% of flight training costs.

Flight training schedules are arranged by the student and flight instructor at each flight center. Students are responsible for contacting the flight training provider and establishing a schedule that will allow for completion of course requirements within the time allowed. It is suggested that students plan to fly three times a week. Instructors are available day, night, and weekends. For a current list of flight providers, see the Aviation Institute Web site at [ai.unomaha.edu](http://ai.unomaha.edu) (<http://ai.unomaha.edu/>). Consult with an aviation academic adviser for additional information.

### Unmanned Aircraft Systems Operations Concentration

The Unmanned Aircraft Systems Operations area of concentration is conferred under the Bachelor of Science in Aviation degree program. This concentration will prepare a student for a career in operating unmanned aircraft as well as management and operations of a company or organization that utilizes unmanned aircraft.

### Minor in Aviation

An aviation minor is available to students who are interested in achieving an associated aviation background to supplement their major area of study. The aviation minor has been developed as an interdisciplinary program to broaden the educational opportunities for UNO students. Consistent with the current and future demands of the aviation industry is the need for quality educated and trained professionals from a variety of disciplines. This program will provide the aviation foundation to prepare a student from any major to meet those needs as a professional in an aviation-related field.

A minor in aviation requires a minimum of 18 credit hours, including AVN 1000, AVN 1040, three credits of lower division credit and at least nine hours of upper-level aviation courses. A minimum grade of "C-" is required in each course. The minor can complement any major at the University of Nebraska at Omaha and has been a popular choice among students in criminology and criminal justice, computer science, international studies, geography, public administration, management and marketing.

For the minor to appear on the student's transcript, it must be declared by completing the minor application at the Aviation Institute. To obtain additional information about the minor options and to develop a

plan of study, students should contact an academic adviser from the Aviation Institute, Room 120, CPACS Building, 402.554.3424 or email [unoaviation@unomaha.edu](mailto:unoaviation@unomaha.edu).

### Bachelor of Science in Aviation-Air Transport Administration Concentration

The Bachelor of Science in Aviation-Air Transport Administration prepares students for careers in airport administration, corporate and general aviation, operations management, airline operations, consulting and federal government opportunities.

#### Career Opportunities

- Airline Management
- Airline Operations
- Airport Management
- Airport Operations
- Airport Planning
- Government (FAA, TSA, NTSB)
- Corporate Aviation Management
- Client Services
- Fleet Planning
- Safety & Security
- Aircraft Sales/Aviation Parts & Avionics Sales
- FBO Operations
- FBO Management

### Bachelor of Science in Aviation-Professional Flight Specialization

The Bachelor of Science in Aviation-Professional Flight is designed for students interested in becoming a professional pilot. The program will prepare the student with a comprehensive general education program, aviation core of classes and take them through their Private, Instrument, Commercial, Certified Flight Instructor and Multi Engine Ratings. Graduates of this program will qualify for the Restricted Airline Transport Pilot program through the FAA.

#### Career Opportunities

- Airline Pilot
- Corporate Pilot
- Cargo Pilot
- Charter Pilot
- Certified Flight Instructor

### Bachelor of Science in Aviation-Unmanned Aircraft Systems Operations Specialization

The Bachelor of Science in Aviation-Unmanned Aircraft Systems Operations is designed for students who would like to build a career in the new and developing world of UAS Operations. Courses will include a comprehensive general education curriculum, aviation core classes and concentrated areas in unmanned aircrafts. Students will not only focus on flying unmanned aircraft, but also developing the skills to manage a full operation and learn to utilize the data and imagery collected.

#### Career Opportunities

- Drone Operator
- Agriculture
- Aerial Systems Logistics
- Emergency Management
- Photography/Videography

- Transportation Industry (Aviation, Rail, etc.)
- Real Estate

### **AVN 1000 INTRODUCTION TO AVIATION AND AEROSPACE (3 credits)**

This course provides a broad understanding of all aspects of the air transportation and aerospace industries. Lectures will cover what has happened in the industry to date, with emphasis on present and future developments in air transportation. The course will include the impact the airline industry is making on airports and other segments of aviation and aerospace.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### **AVN 1020 PRIVATE PILOT THEORY (3 credits)**

This course will familiarize the student with theories associated with flight. These include aerodynamics, weather, FAA regulations, navigation, airports, airspace and aviation safety. There is no flight requirement associated with this course.

### **AVN 1024 PRIVATE PILOT FLIGHT LABORATORY (1 credit)**

This laboratory course is designed for students pursuing flight requirements for the FAA private pilot certificate. The student will complete all flight requirements for solo flight. Course will include flight in aircraft simulators and single-engine aircraft. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** Completion of or concurrent enrollment in AVN 1020, or successful completion of the FAA Private Knowledge Test.

### **AVN 1030 PRIVATE PILOT FLIGHT CERTIFICATE (2 credits)**

This course will prepare the student for the FAA practical flight examination for the private pilot certificate. Course involves flight in personal computer assisted training device and single-engine aircraft. Student is required to successfully complete all FAA certification requirements and obtain a private pilot certificate. Classes will be conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 1020 and AVN 1024.

### **AVN 1040 HISTORY OF AVIATION AND AEROSPACE (3 credits)**

The course introduces students to the history of aviation and aerospace with emphasis on the evolution of technologies, policies, business models, and transportation.

**Distribution:** Social Science General Education course

### **AVN 1160 AVIATION SAFETY (3 credits)**

This course provides the student with a detailed introduction to aspects of aviation safety as well as the associated components of flight human factors, aircraft technology, weather related accidents and accident investigation.

**Prerequisite(s)/Corequisite(s):** AVN 1000

### **AVN 1500 INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS (3 credits)**

This course is an introductory overview of Unmanned Aircraft Systems including the regulatory process, history, application and career opportunities, ethical concerns, and safety management of UAS operations.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and AVN 1020. Not open to non-degree graduate students.

### **AVN 2020 AIRLINE OPERATIONS (3 credits)**

The purpose of this course is to introduce the student to operational aspects of airline management. Topics to be covered include management, leadership, labor relations, marketing, forecasting, and fleet planning.

**Prerequisite(s)/Corequisite(s):** AVN 1000

### **AVN 2050 INTRODUCTION TO AIRPORT ADMINISTRATION (3 credits)**

This course examines airport operations, safety and security, various administrative roles within the airport community, and the impact airports can have on local and regional economies. Students will explore the unique role public airports play as an interface between the traveling public and private airlines.

**Prerequisite(s)/Corequisite(s):** AVN 1000

### **AVN 2100 FLIGHT TEAM (1 credit)**

Students will learn and master the skills associated with the 9 different events associated with the National Intercollegiate Flying Association Regional and National Safety and Flight Evaluation Conferences or SAFECONs. The events include: Computer Accuracy, Simulated Comprehensive Aircraft Navigation (SCAN), Aircraft Recognition, Preflight Inspection, Ground Trainer, Message Drop, Navigation, Short-Field Landing, and Power-Off Landing.

**Prerequisite(s)/Corequisite(s):** Permission of the Flight Team Advisor is required

### **AVN 2104 INSTRUMENT RATING 1 (2 credits)**

The student will complete approximately 25 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator and FAA-approved Advanced Aviation Training Devices on the UNO Main Campus; objective is to complete the first portion of training needed for the FAA Instrument Rating. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in AVN 2170 or instructor permission. Not open to non-degree graduate students.

### **AVN 2114 INSTRUMENT RATING 2 (1 credit)**

The student will complete approximately 20 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the final portion of training needed for the FAA Instrument Rating. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2170 and AVN 2104 or instructor permission. Not open to non-degree graduate students.

### **AVN 2124 COMMERCIAL PILOT CERTIFICATE 1 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator and FAA-approved Advanced Aviation Training Devices on the UNO Main Campus; objective is to complete the first of three sections of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in AVN 2180 or instructor permission. Not open to non-degree graduate students.

### **AVN 2134 COMMERCIAL PILOT CERTIFICATE 2 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the second of three sections of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2124 or instructor permission. Not open to non-degree graduate students.

### **AVN 2144 COMMERCIAL PILOT CERTIFICATE 3 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the final third of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2134 or instructor permission. Not open to non-degree graduate students.

**AVN 2164 PROFESSIONAL PILOT DEVELOPMENT (2 credits)**

This course is intended to supplement the Instrument Rating and Commercial Certificate courses by providing flight experience and simulator training in the areas of instrument flying, complex airplane/multiengine operations, abnormal and emergency situations, and crew resource management.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or hold a valid US Private Pilot Certificate.

**AVN 2170 INSTRUMENT FLIGHT THEORY (3 credits)**

This course provides the student with an understanding of the theories and regulations involved in instrument flight. Course will include a strong foundation in attitude instrument flying and instrument navigation to prepare the student for the FAA Instrument Rating Knowledge Test. There is no flight training involved in this course.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or hold a valid U.S. Private Pilot Certificate; or instructor permission.

**AVN 2180 COMMERCIAL PILOT THEORY (3 credits)**

This course provides the student with an understanding of the theories involved in flight at the commercial level. Course will include extensive review and study of VFR and IFR cross-country procedures and night flight procedures to prepare the student for the FAA commercial Pilot Knowledge Test. There is no flight training involved in this course.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or possess a U.S. FAA issued Private Pilot Certificate; or instructor permission. Strongly recommended that student possess a U.S. instrument rating.

**AVN 2500 UNMANNED AIRCRAFT SYSTEMS FLIGHT OPERATIONS (3 credits)**

This course will give students hands-on flight training experience with small unmanned aircraft including mission planning, operational control, and working with different types of payloads.

**Prerequisite(s)/Corequisite(s):** AVN 1500 and FAA Remote Pilot Certificate. Not open to non-degree graduate students.

**AVN 2510 DIVERSITY IN AVIATION (3 credits)**

This course provides an overview of the contributions women and minorities have made to the field of aviation. Emphasis is placed on past, present and future roles of women and minorities in aviation. The course includes other topics such as international aspects and issues of aviation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**AVN 2750 AVIATION METEOROLOGY (3 credits)**

An introductory study of the key elements of the atmosphere's structure from the earth's surface to the upper levels; weather systems and hazards to aviation operations plus impact of adverse weather on aeronautical operations. Course will include review of air mass characteristics, frontal weather, and pressure system structure.

**Prerequisite(s)/Corequisite(s):** AVN 1020, and MATH 1310 or MATH 1220 or equivalent.

**AVN 2900 INDEPENDENT STUDY IN GENERAL AVIATION (3 credits)**

This course will cover various topics in aviation to be determined with the instructor and student. Possible topics include Ground Instructor Ratings, crew resource management, airline airport analysis, military history, effects of privatization, etc.

**AVN 3000 BUSINESS AND CORPORATE AVIATION (3 credits)**

This course will provide a broad understanding of aspects related to the field of business and corporate aviation. Information that will be covered includes: the history of business and corporate aviation; regulations and associations; the value of using business aircraft; aircraft selection; the differences between corporate flight department, fractional ownership, and charter departments; insurance requirements; and safety and security issues.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and Junior or Senior standing

**AVN 3040 HUMAN FACTORS IN AVIATION SAFETY (3 credits)**

The purpose of this course is to provide students with an understanding of human factors as it applies to pilots and administrators. Topics will include pilot physiological and psychological issues, work station design, crew resource management, and related public sector issues for managers.

**Prerequisite(s)/Corequisite(s):** AVN 1160

**AVN 3050 UNMANNED AIRCRAFT SYSTEM DESIGN, DEVELOPMENT, AND MAINTENANCE (3 credits)**

This course offers students theoretical knowledge and hands-on experience with small unmanned aircraft system design, development, and maintenance. Students will learn principles of UAS design, development, and maintenance, and will apply interdisciplinary knowledge to build small UAS.

**Prerequisite(s)/Corequisite(s):** AVN 2500. Not open to non-degree graduate students.

**AVN 3060 WRITING IN AVIATION (3 credits)**

This course will further develop the communication skills of aviation students through various forms of writing. Students will compose a research paper and other writing assignments.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and AVN 1000

**AVN 3070 AIR TRAFFIC CONTROL (3 credits)**

The purpose of this course is to introduce students to the Federal Aviation Administration (FAA) Air Traffic Control system. Elements and requirements of the course will include: basic air traffic control procedures for pilots, navigation aids, control tower operations, radar approach and departure regulations, and airport traffic control (ATC).

**AVN 3090 AIRPORT ADMINISTRATION AND PLANNING (3 credits)**

This course covers the nation's airspace design, navigation and air traffic systems and their effect on airport capacity. Additionally, the national airport system will be investigated as well as airport design and development parameters, fiscal processes, and management considerations. (Cross-listed with AVN 8095)

**Prerequisite(s)/Corequisite(s):** AVN 2050

**AVN 3150 AVIATION LAW (3 credits)**

The purpose of this course is to increase the student's knowledge of aviation law and regulations. Particular attention will focus on the American legal system; important legal concepts, regulators of the industry and international aviation law. Case studies will be discussed throughout the course. (Cross-listed with AVN 8155).

**Prerequisite(s)/Corequisite(s):** AVN 1000 and junior standing.

**AVN 3190 CERTIFIED FLIGHT INSTRUCTOR THEORY (3 credits)**

Provide the student with an understanding of the theories involved in flight instruction. Course will include extensive oral presentation of complex aeronautical information and use of the personal computer assisted training device. Students are expected to pass FAA Fundamentals of Instructing and FAA Flight Ground Instructor Knowledge tests. There is no flight training in this course.

**Prerequisite(s)/Corequisite(s):** AVN 2184 and SPCH 1110.

**AVN 3194 CERTIFIED FLIGHT INSTRUCTOR I (2 credits)**

This course consists of approximately 25 hours of flight training in flight instruction procedures required to obtain the FAA flight instructor certificate. Special Fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 3190 (may enroll concurrently).

**AVN 3200 COOPERATIVE EDUCATION IN AVIATION (1-6 credits)**

This course will complement course work with a relevant professional work experience or practicum in aviation. The practicum/field experience may be a special project in an aviation organization to be coordinated by the instructor. Offered as a credit/no-credit course.

**Prerequisite(s)/Corequisite(s):** AVN 3060, aviation major, junior/senior standing, and instructor permission.

**AVN 3304 CERTIFIED FLIGHT INSTRUCTOR II (2 credits)**

This course consists of approximately 10 hours of flight training in instructing in instrument procedures and approaches in preparation for FAA certified flight instructor-instrument rating. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 3300 or concurrent enrollment.

**AVN 3400 MULTI-ENGINE CERTIFICATION (2 credits)**

Course consists of ground and flight training in multi-engine aircraft procedures. Student will meet all flight requirements for the FAA multi-engine rating. Training will include use of the Personal Computer Assisted Training Device. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 2184 or concurrent enrollment or instructor permission.

**AVN 3500 RESEARCH METHODS IN AVIATION (3 credits)**

An introductory research methods course focused on contemporary as well as historical aviation problems and topics, but from an investigative perspective. The primary focus will be the preparation of standard research documents and the use of traditional statistical methods to evaluate various data sources.

**Prerequisite(s)/Corequisite(s):** 60 hours of undergraduate credit and AVN 3060 completed or in progress.

**AVN 3510 AEROSPACE SCIENCES (3 credits)**

This introductory course will provide pre-service teacher candidates, aviation students, and students at large the opportunity for a science oriented general education course. The curriculum will be focused in the areas of earth and space science, geospatial technology, and aeronautics. Key topics for this course will include the geoscience practice of Geographic Information Systems, Global Positioning System, and the NASA Jet Propulsion Laboratory/ UNO designed Data-Slate remote sensing program. Also included will be space sciences focused solar system exploration, satellite technology, and astronautics. Students will engage in aeronautic science topics inclusive of the study of aerodynamics of flight, meteorological science and weather, and flight technology. All students will be provided opportunity to apply concepts of flight in the Aviation Institute's Advanced Simulation Facility.

**AVN 3600 INTERNATIONAL AVIATION (3 credits)**

This course examines global air transport and its impact on the development of the global economy. Lectures and readings will provide a solid foundation of historical knowledge about international air transport and its development in various countries, before exploring current policy debates about liberalization, global alliances, and other critical issues. (Cross-listed with AVN 8605)

**Prerequisite(s)/Corequisite(s):** AVN 2020

**AVN 3700 TRANSPORTATION ANALYSIS (3 credits)**

This course is an extension of introductory financial courses; special emphasis on service characteristics of air carriers. Review of airline revenue and expense streams, pricing and fares, fiscal market segmentation, and fleet planning. Focused approach to understanding the monetary forces that underlie the business practices of domestic and international passenger and cargo airlines.

**Prerequisite(s)/Corequisite(s):** ECON1200 or higher and junior standing

**AVN 4000 INDEPENDENT RESEARCH IN AVIATION (1-3 credits)**

The purpose of this course is to provide the aviation student an opportunity to complete an in-depth analysis of a specific aviation topic. Examples: aerodynamics, airports rates/charges analysis, cost-allocation for airside/ landside, aviation marketing relating to aircraft manufacturing, airline promotion, flight component, off-airport subjects, comprehensive regional planning, environmental subject, etc.

**Prerequisite(s)/Corequisite(s):** Aviation major, senior standing, and written permission of the instructor.

**AVN 4010 AERODYNAMICS AND AIRCRAFT PERFORMANCE (3 credits)**

Provides the student with an understanding of the factors affecting aircraft performance during various phases of flight. Topics will include aircraft performance requirements outlined in the Federal Aviation Administration Regulations, use of performance charts and tables, runway airport analysis, and climb cruise descent performance.

**Prerequisite(s)/Corequisite(s):** AVN 1000, 2184, MATH 1320 or instructor permission.

**AVN 4020 AIRCRAFT SYSTEMS (3 credits)**

Provides the student with an understanding of systems employed on technologically advanced, sophisticated aircraft. Systems covered will include electrical, hydraulic, engines, flight control and pneumatic systems.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and AVN 2184 or instructor permission.

**AVN 4050 GENERAL AVIATION OPERATIONS (3 credits)**

Organization and operation of general aviation facilities to include administration, aircraft maintenance considerations, flight line operations, and decision making.

**Prerequisite(s)/Corequisite(s):** AVN 1000

**AVN 4060 ADVANCED AIR TRANSPORT FLIGHT OPERATIONS (3 credits)**

The course will be a capstone event in the professional pilot sequence. Specific emphasis will be on the pre-flight planning and execution of air carrier flight operations. Additional instructional segments will cover regional and corporate flight operations.

**Prerequisite(s)/Corequisite(s):** AVN 4020 or instructor permission.

**AVN 4080 AIRPORT SAFETY AND SECURITY (3 credits)**

This course will explore the role of airports in relation to safety and security. Topics will include regulations, responsibilities, security issues, ramp safety, disaster preparedness, and emergency management. (Cross-listed with AVN 8086).

**Prerequisite(s)/Corequisite(s):** Junior standing and AVN 1000

**AVN 4200 INTERNSHIP IN AVIATION (1-6 credits)**

This course is designed to provide direct hands-on experience in the aviation industry for selected students. Students will be selected for internships competitively by a panel of Aviation Institute faculty and industry representatives from companies providing the internships. This experience will be in a full-time, preferably paid position in a highly structured environment using a syllabus designated by the faculty and industry committee.

**Prerequisite(s)/Corequisite(s):** AVN 3060, junior/senior standing, aviation major, instructor permission.

**AVN 4500 ADVANCED UNMANNED AIRCRAFT SYSTEMS PROCEDURES (3 credits)**

This course will provide students with scenario based training sessions that focus on emergency procedures for inflight operations, risk assessment and mitigation tactics, and advanced communications procedures.

**Prerequisite(s)/Corequisite(s):** AVN 2500. Not open to non-degree graduate students.

**AVN 4900 SPECIAL TOPICS IN AVIATION (1-3 credits)**

This course will discuss various topics in the Aviation Industry determined each time the course is offered. Possible topics include International Aviation, Current Issues, and Cockpit Resource Management along with other topics. (Cross-listed with AVN 8906)

**Prerequisite(s)/Corequisite(s):** AVN 1000 and junior standing

**AVN 4990 AIR TRANSPORTATION (3 credits)**

This course fulfills the Aviation Institute capstone projects for undergraduates. Lectures and readings will cover contemporary issues and problems in air transportation, as well as material related to research design and implementation. (Cross-listed with AVN 8996).

**Prerequisite(s)/Corequisite(s):** AVN 3700, junior or senior standing, or instructor permission.

# Aviation, Bachelor of Science

## Bachelor of Science in Aviation, Air Transport Administration Concentration:

The curriculum includes the University of Nebraska at Omaha's (UNO) general education requirements, departmental requirements, a core of aviation classes and specialized courses in air transport administration. All students in a degree program in the aviation department must meet the university general education requirements. Additional information on these requirements can be found in this catalog and on the University General Education website (<https://www.unomaha.edu/general-education/>). Please contact an academic advisor for recommended choices for the major. Certain majors/programs in the Aviation Institute require specific foundational coursework that may also count for General Education requirements. For further information and details, contact an academic advisor.

## Bachelor of Science in Aviation, Professional Flight Concentration:

The curriculum includes the UNO's general education requirements, departmental requirements, a core of aviation classes and specialized courses in professional flight. All students in a degree program in the aviation department must meet the university general education requirements. Additional information on these requirements can be found in this catalog and on the University General Education website (<https://www.unomaha.edu/general-education/>). Please contact an academic advisor for recommended choices for the major. Certain majors/programs in the Aviation Institute require specific foundational coursework that may also count for General Education requirements. For further information and details, contact an academic advisor.

## Bachelor of Science in Aviation, Unmanned Aircraft Systems Operations Concentration:

The curriculum includes the UNO's general education requirements, departmental requirements, a core of aviation classes and specialized courses in unmanned aircraft systems. All students in a degree program in the aviation department must meet the university general education requirements. Additional information on these requirements can be found in this catalog and on the University General Education website (<https://www.unomaha.edu/general-education/>). Please contact an academic advisor for recommended choices for the major. Certain majors/programs in the Aviation Institute require specific foundational coursework that may also count for General Education requirements. For further information and details, contact an academic advisor.

## Requirements

A minimum of 120 credit hours is required for a Bachelor of Science in Aviation. Thirty of the last 36 hours must be courses taken from the University of Nebraska at Omaha (UNO). Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BSA, a student must fulfill the University, College, and Program requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once. Grades of C- or better are required in the University General Education courses and in the program, major and concentration hours.

- 40 to 46 hours of University General Education courses
- 19 hours of Program Requirements, courses can meet general education requirements
- 24 hours of Major Requirements
- 27-43 hours in required concentration
- Elective hours as needed to reach 120 total credit hours

TOTAL HOURS: 120

### Writing in the Discipline Courses:

The writing in the discipline course in aviation is:

Code	Title	Credits
AVN 3060	WRITING IN AVIATION	3
<b>Total Credits</b>		<b>3</b>

### Program Requirements (19 Credit Hours)

Code	Title	Credits
AVN 2510	DIVERSITY IN AVIATION	3
AVN 3600	INTERNATIONAL AVIATION	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
PHYS 1050	INTRODUCTION TO PHYSICS	4
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
<b>Total Credits</b>		<b>19</b>

### Aviation Major (24 Credit Hours)

Code	Title	Credits
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 1020	PRIVATE PILOT THEORY	3
AVN 1040	HISTORY OF AVIATION AND AEROSPACE	3
AVN 1160	AVIATION SAFETY	3
AVN 2020	AIRLINE OPERATIONS	3
AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	3
AVN 2750	AVIATION METEOROLOGY	3
AVN 3150	AVIATION LAW	3
<b>Total Credits</b>		<b>24</b>

### Air Transport Administration Concentration

A "C-" or better must be earned in all courses with in the concentration.

Code	Title	Credits
AVN 3000	BUSINESS AND CORPORATE AVIATION	3
AVN 3090	AIRPORT ADMINISTRATION AND PLANNING	3
AVN 3700	TRANSPORTATION ANALYSIS	3
AVN 4050	GENERAL AVIATION OPERATIONS	3
AVN 4080	AIRPORT SAFETY AND SECURITY	3
AVN 4990	AIR TRANSPORTATION	3
Aviation Electives		6
AVN 3200 or AVN 4200	COOPERATIVE EDUCATION IN AVIATION INTERNSHIP IN AVIATION	3
<b>Total Credits</b>		<b>27</b>

Students must successfully complete 120 credit hours in order to graduate.

### Professional Flight Concentration

A "C-" or better must be earned in all courses within the concentration.

Code	Title	Credits
AVN 1024	PRIVATE PILOT FLIGHT LABORATORY	1
AVN 1030	PRIVATE PILOT FLIGHT CERTIFICATE	2
AVN 2104	INSTRUMENT RATING 1	2

AVN 2170	INSTRUMENT FLIGHT THEORY	3
AVN 2114	INSTRUMENT RATING 2	1
AVN 2124	COMMERCIAL PILOT CERTIFICATE 1	2
AVN 2134	COMMERCIAL PILOT CERTIFICATE 2	2
AVN 2144	COMMERCIAL PILOT CERTIFICATE 3	2
AVN 2180	COMMERCIAL PILOT THEORY	3
AVN 3040	HUMAN FACTORS IN AVIATION SAFETY	3
AVN 3070	AIR TRAFFIC CONTROL	3
AVN 3190	CERTIFIED FLIGHT INSTRUCTOR THEORY	3
AVN 3194	CERTIFIED FLIGHT INSTRUCTOR I	2
AVN 3400	MULTI-ENGINE CERTIFICATION	2
AVN 4010	AERODYNAMICS AND AIRCRAFT PERFORMANCE	3
AVN 4020	AIRCRAFT SYSTEMS	3
AVN 4060	ADVANCED AIR TRANSPORT FLIGHT OPERATIONS	3
AVN 4080	AIRPORT SAFETY AND SECURITY	3
<b>Total Credits</b>		<b>43</b>

### Unmanned Aircraft Systems

Code	Title	Credits
Requirements:		
AVN 1500	INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS	3
GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES	4
AVN 2500	UNMANNED AIRCRAFT SYSTEMS FLIGHT OPERATIONS	3
JMC 2320	VIDEO FIELD PRODUCTION	3
AVN 3040	HUMAN FACTORS IN AVIATION SAFETY	3
AVN 3700	TRANSPORTATION ANALYSIS	3
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	4
AVN 4500	ADVANCED UNMANNED AIRCRAFT SYSTEMS PROCEDURES	3
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	4
ENTR 4730	NEW VENTURE FORMATION	3
AVN 4990	AIR TRANSPORTATION	3
AVN 4200	INTERNSHIP IN AVIATION	1-6
<b>Total Credits</b>		<b>39</b>

### Bachelor of Science in Aviation-Air Transport Administration

Freshman		
Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA <sup>1</sup>	3
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 1020	PRIVATE PILOT THEORY	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
<b>Credits</b>		<b>15</b>
Spring		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
AVN 1160	AVIATION SAFETY	3
AVN 2020	AIRLINE OPERATIONS	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

### Sophomore

Fall		
AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	3
AVN 2750	AVIATION METEOROLOGY	3
AVN 2510	DIVERSITY IN AVIATION	3
PHYS 1050	INTRODUCTION TO PHYSICS	4
PHYS 1054	INTRODUCTION TO PHYSICS LABORATORY	1
Humanities and Fine Arts		3
<b>Credits</b>		<b>17</b>
Spring		
AVN 3060	WRITING IN AVIATION	3
AVN 1040	HISTORY OF AVIATION AND AEROSPACE	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Natural/Physical Science		3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

### Junior

Fall		
AVN 3000	BUSINESS AND CORPORATE AVIATION	3
AVN 3150	AVIATION LAW	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
Open Elective <sup>2</sup>		3
Open Elective <sup>2</sup>		3
<b>Credits</b>		<b>15</b>
Spring		
AVN 3090	AIRPORT ADMINISTRATION AND PLANNING	3
AVN 4050	GENERAL AVIATION OPERATIONS	3
Aviation Elective <sup>3</sup>		3
Open Elective <sup>2</sup>		3
Open Elective <sup>2</sup>		3
<b>Credits</b>		<b>15</b>

### Senior

Fall		
AVN 3700	TRANSPORTATION ANALYSIS	3
AVN 4200	INTERNSHIP IN AVIATION	3
Aviation Elective <sup>3</sup>		3
Open Elective <sup>2</sup>		3
Open Elective <sup>2</sup>		3
<b>Credits</b>		<b>15</b>
Spring		
AVN 3600	INTERNATIONAL AVIATION	3
AVN 4990	AIR TRANSPORTATION	3
AVN 4080	AIRPORT SAFETY AND SECURITY	3
Open Elective <sup>2</sup>		3
Open Elective <sup>2</sup>		1
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

- <sup>1</sup> Student could potentially test out of Math 1220 or based off testing need a lower level math course.
- <sup>2</sup> It is highly recommended that a student consider a Minor to fill open Electives

<sup>3</sup> Aviation Electives are classes a student chooses within the aviation department based on their specified interests. Each Administration student must complete 6 credit hours.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### Bachelor of Science in Aviation-Professional Flight

##### Freshman

		Credits
<b>Fall</b>		
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA <sup>1</sup>	3
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 1020	PRIVATE PILOT THEORY	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
AVN 1024	PRIVATE PILOT FLIGHT LABORATORY	1
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
AVN 1160	AVIATION SAFETY	3
AVN 1030	PRIVATE PILOT FLIGHT CERTIFICATE	2
AVN 2750	AVIATION METEOROLOGY	3

**Credits** **14**

##### Sophomore

<b>Fall</b>		
AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	3
AVN 2170	INSTRUMENT FLIGHT THEORY	3
AVN 2104	INSTRUMENT RATING 1	2
PHYS 1050	INTRODUCTION TO PHYSICS	4
PHYS 1054	INTRODUCTION TO PHYSICS LABORATORY	1
Humanities and Fine Arts		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
AVN 1040	HISTORY OF AVIATION AND AEROSPACE	3
AVN 2020	AIRLINE OPERATIONS	3
AVN 2114	INSTRUMENT RATING 2	1

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
Natural/Physical Science		3
Humanities and Fine Arts		3

**Credits** **16**

##### Junior

<b>Fall</b>		
AVN 2124	COMMERCIAL PILOT CERTIFICATE 1	2
AVN 2180	COMMERCIAL PILOT THEORY	3
AVN 2510	DIVERSITY IN AVIATION	3
AVN 3150	AVIATION LAW	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3

**Credits** **14**

##### Spring

AVN 2134	COMMERCIAL PILOT CERTIFICATE 2	2
AVN 2144	COMMERCIAL PILOT CERTIFICATE 3	2
AVN 3040	HUMAN FACTORS IN AVIATION SAFETY	3
AVN 3060	WRITING IN AVIATION	3
AVN 3070	AIR TRAFFIC CONTROL	3
Open Elective <sup>2</sup>		3

**Credits** **16**

##### Senior

<b>Fall</b>		
AVN 3400	MULTI-ENGINE CERTIFICATION	2
AVN 4010	AERODYNAMICS AND AIRCRAFT PERFORMANCE	3
AVN 4020	AIRCRAFT SYSTEMS	3
Humanities and Fine Arts		3
Open Elective		3

**Credits** **14**

##### Spring

AVN 3190	CERTIFIED FLIGHT INSTRUCTOR THEORY	3
AVN 3194	CERTIFIED FLIGHT INSTRUCTOR I	2
AVN 3600	INTERNATIONAL AVIATION	3
AVN 4080	AIRPORT SAFETY AND SECURITY	3
AVN 4060	ADVANCED AIR TRANSPORT FLIGHT OPERATIONS	3

**Credits** **14**

**Total Credits** **120**

<sup>1</sup> Student could potentially test out of Math 1220 or based off testing need a lower level math course.

\* Students typically fly in summer months, labs could run in summer.

\*\* It is highly recommended that a student consider a Minor to fill open Electives

<sup>2</sup> Aviation Electives are classes a student chooses within the aviation department based on their specified interests. Each Administration student must complete 6 credit hours.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the

requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

### Bachelor of Science in Aviation-Unmanned Aircraft Systems

#### Freshman

Fall		Credits
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1220	COLLEGE ALGEBRA <sup>1</sup>	3
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 1020	PRIVATE PILOT THEORY	3
GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES	4
<b>Credits</b>		<b>16</b>

#### Spring

AVN 1500	INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS	3
AVN 1160	AVIATION SAFETY	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
<b>Credits</b>		<b>15</b>

#### Sophomore

Fall		Credits
AVN 2500	UNMANNED AIRCRAFT SYSTEMS FLIGHT OPERATIONS	3
JMC 2320	VIDEO FIELD PRODUCTION	3
AVN 1040	HISTORY OF AVIATION AND AEROSPACE	3
AVN 2750	AVIATION METEOROLOGY	3
PHYS 1050	INTRODUCTION TO PHYSICS	4
<b>Credits</b>		<b>16</b>

#### Spring

AVN 2020	AIRLINE OPERATIONS	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
AVN 3040	HUMAN FACTORS IN AVIATION SAFETY	3
AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	3
Humanities and Fine Arts		3
<b>Credits</b>		<b>15</b>

#### Junior

Fall		Credits
AVN 3060	WRITING IN AVIATION	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	4
Humanities and Fine Arts		3
<b>Credits</b>		<b>16</b>

#### Spring

AVN 4500	ADVANCED UNMANNED AIRCRAFT SYSTEMS PROCEDURES	3
AVN 3150	AVIATION LAW	3
AVN 3600	INTERNATIONAL AVIATION	3
Humanities and Fine Arts		3
Open Elective		3

**Credits** **15**

#### Senior

##### Fall

AVN 3700	TRANSPORTATION ANALYSIS	3
AVN 2510	DIVERSITY IN AVIATION	3
AVN 4200	INTERNSHIP IN AVIATION	3
Open Elective		3
Open Elective		3

**Credits** **15**

##### Spring

AVN 4990	AIR TRANSPORTATION	3
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	4
Open Elective		3
Open Elective		2

**Credits** **12**

**Total Credits** **120**

<sup>1</sup> Math courses depend on the ACT subscore, students could need a lower level math or test out completely as well.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

#### Additional Information About this Plan:

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Criminology and Criminal Justice

### Mission

The School of Criminology and Criminal Justice offers high quality educational programming to support students in gaining the knowledge and skills necessary for a successful career in criminology and criminal justice or related social services fields. Students can participate in scholarly and applied research projects that involve collaborative partnerships with local and federal agencies. Students learn about emerging technologies as a means of improving and advancing criminology and criminal justice. We provide opportunities for students to connect with professionals in the classroom as well as through extracurricular events. Students are strongly

encouraged to complete an internship to gain field experience prior to their graduation.

## Student Learning Outcomes

- Demonstrate mastery of core content areas in criminology and criminal justice.
- Locate, integrate and use information from varied sources to effectively communicate in writing and other mediums.
- Apply specialized knowledge through field-based learning experiences, civic and/or community engagement activities, and/or policy analysis.
- Explain diverse positions, including those representing different cultural, economic, and geographic interests in the context of criminology and criminal justice.

## Academic Advising

All CRCJ majors are strongly advised to schedule an appointment with our advising staff each semester. Advisors provide assistance with degree planning and course scheduling. They are also available to answer questions your major/minors, academic performance, and SCCJ policies or procedures. Omaha students may schedule an advising appointment via MavTRACK (<https://www.unomaha.edu/my/advising-system-mavtrack.php>) or by calling 402.554.2610. Lincoln students can make an appointment via MYPLAN (<https://myplan.unl.edu/welcome-myplan/>) or by calling 402.472.3677.

## Transferring to Criminology and Criminal Justice

Students wishing to transfer from another institution or department within the University of Nebraska must have a 2.0 cumulative grade point average to be admitted into the criminology and criminal justice program. Contact the school for more details on the transfer policy.

## Degree Requirements

- A minimum of 30 of the last 36 semester credit hours must be earned by the student in residence in the University of Nebraska System. (Summer independent study courses are not considered in residence.)
- At least 21 hours of criminal justice must be taken at the University of Nebraska, on either the Omaha or Lincoln campus.
- A minimum of 33 credit hours must be earned in upper division (3000/4000-level) courses. At least 21 of these upper division hours must be taken in the School of Criminology and Criminal Justice courses, and 12 hours of 3000/4000 level courses are required in a concentration/minor (see course requirements section).
- A maximum of 12 credit hours of departmental independent study or internship courses may be applied toward the BCCJ degree. Of these, no more than six hours can come from one department and no more than six hours from another institution.
- A maximum of 30 hours from any one department may be applied toward the BCCJ degree.
- A maximum of 24 hours may be taken pass/no pass and none of the 39 hours required for the criminology and criminal justice major may be taken pass/no pass (excluding CRCJ 3970).
- Six hours of credit for basic military training may be applied to the BCCJ degree. Credit from an institution that is not regionally accredited cannot be applied to the BCCJ degree.

## Fast Track

The School of Criminology and Criminal Justice has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

### Program Specifics:

- This program is available for undergraduate students pursuing a BS in Criminology and Criminal Justice desiring to pursue either an MA or MS in Criminology and Criminal Justice.
- Students must have completed no less than 90 undergraduate credit hours
- Students must have a minimum undergraduate GPA of 3.5
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their academic advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program but successful completion of the graduate courses will be a significant consideration in admission to the MA or MS in Criminology and Criminal Justice program.
  - The admit term must be after the completion term of the undergraduate degree.

### Course Information:

Eligible students may enroll in any 8000 level CRCJ course approved by the SCCJ program advisor.

## Student Group Opportunities for Undergraduate and Graduate students

Criminal Justice Student Organization (CJSO)

Association of Blacks and Browns in Criminal Justice

Alpha Phi Sigma (APS) National Criminal Justice Honor Society, Eta Chapter

UNO SCCJ Graduate Student Organization

## Contact

The UNO School of Criminology and Criminal Justice offers courses on the Omaha and Lincoln campuses. The Omaha office is located in the College of Public Affairs and Community Service Building (CPACS), Room 218. Our office can be reached by phone at 402.554.2610. The Lincoln office is located in Nebraska Hall, Room 310 and can be reached by phone at 402.472.3677. Events for both campus locations are regularly posted on our Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/>), Facebook page #unosccj, Twitter feed @unosccj, and Instagram @unosccj1.

## Degrees Offered

- Criminology & Criminal Justice (BCCJ), Bachelor of Science (p. 702)

\*\*Criminal justice courses are offered on the Omaha and Lincoln campuses of the University of Nebraska. The BCCJ degree can be earned in its entirety on the Lincoln campus; however, the degree is conferred by the University of Nebraska at Omaha.

## Minors Offered

- Criminology & Criminal Justice Minor (p. 704)
- V (p. 704)ictimology and Victim Services Minor (p. 704)

*If you seek a career such as a police officer, DEA agent, probation officer or correctional counselor, a Bachelor of Science degree in Criminology and Criminal Justice is a key step towards turning that aspiration into reality. The CRCJ program at UNO provides undergraduates an excellent foundation in the theories of crime and the criminal justice response to crime while also introducing students to criminological research methods.*

## Law Enforcement

- Alcohol, Tobacco, & Firearms (ATF)
- Drug Enforcement Agency (DEA)
- FBI Agent
- Federal Protective Service Officer
- IRS Agent
- Military Police
- Postal Inspector
- Secret Service Agent
- United States Marshal
- Nonprofit Management
- Animal Control
- Police Officer
- Arson Investigation
- Campus Police
- Deputy Sheriff
- Fish & Game Officer
- Highway Patrol

## Probation

- Diversion Program Coordinator
- Pretrial Services Officer
- Probation Officer (Juvenile/Adult)

## Corrections

- Corrections Counselor
- Corrections Officer
- Juvenile Corrections
- Parole Officer (Juvenile/Adult)
- Prerelease Counselor
- Recreation Leader
- Warden

## Courts/Law

- Bailiff
- Court Administrator
- Court Reporter
- Investigator for law offices
- Lawyer
- Legal Researcher
- Paralegal/Legal Assistant

## Homeland Security

- Customs Inspector
- Emergency Management
- Coordinator
- Federal Air Marshal
- FEMA Positions
- Intelligence Analyst

- Investigative Specialist
- Immigration Inspector
- Linguists
- Surveillance Specialist
- TSA Officer
- Border Patrol Agent

## Private Security

- Security Director
- Loss Prevention Specialist
- Private Security Officer
- Credit Investigator
- Bank Fraud Investigator
- Legal Researcher

## Juvenile Services

- Aftercare Counselor
- Child Protective Services Worker
- Detention Counselor
- Group Home Worker
- Rehabilitation Coordinator
- Runaway Counselor
- School Attendance Officer
- Youth Advocate

## Victim Services

- Caseworker
- Child Support Agency Worker
- Crisis Center Coordinator
- Crisis Counselor
- Domestic Violence
- Advocate/Counselor
- Social Worker
- Victim/Witness Service Coordinator

## Research

- Legislative Assistant
- Professor
- Research Analyst

Course Descriptions (Per Subject)

### CRCJ 1010 SURVEY OF CRIMINAL JUSTICE (3 credits)

This course is designed to provide an overview of the justice process and the criminal justice system in general. Concepts of crime and justice are discussed as well as the rights of individuals in a democratic society. The law enforcement, judicial, juvenile justice, and corrections systems are explored.

**Distribution:** Social Science General Education course

### CRCJ 2030 POLICE AND SOCIETY (3 credits)

This course is designed to explore the role of the police in American society. Attention is given to the origins of policing, the nature of police organizations and police work, and patterns of relations between the police and the public. The values of a democratic society as they affect the law enforcement role are discussed.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### CRCJ 2110 CRIMINAL COURT SYSTEM (3 credits)

The purpose of this course is to give you a greater understanding of the U.S. criminal courts system. In this course we will cover topics such as judges, lawyers, litigants, criminal and civil procedure, state and federal courts, and theories of judicial decision making. We will analyze these concepts, actors and institutions from a variety of perspectives. The course will include discussions of the constitutional rules and case law as they apply to the courts process.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### **CRCJ 2210 SURVEY OF CORRECTIONS (3 credits)**

This course provides an overview of the American criminal justice system correctional responses to criminal offending. We explore the history, philosophy, and law underlying corrections. We will focus on understanding risks and needs of offenders, treatment options and types of correctional sanctions in the U.S. These include, but are not limited to probation, jail, intermediate sanction, prison and the death penalty.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### **CRCJ 2220 COMMUNITY-BASED CORRECTIONS (3 credits)**

This course is designed to familiarize the student with the most recent developments in community-based corrections. Discussion will focus on the issues related to implementation, management, effectiveness and challenges of community-based programs. Students will be provided a broad overview of the structure and functions of Community-based Corrections. By the end of the course, students should expect to understand the best practices in community corrections.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### **CRCJ 2410 CRIMINAL PROCEDURE (3 credits)**

This course deals with the legal aspects of the investigation, arrest processes, and criminal trial proceedings, as well as the rules governing the admissibility of evidence in criminal court proceedings.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### **CRCJ 2510 RESEARCH METHODS (3 credits)**

The primary goal of this course is to facilitate your growth as both consumers and producers of research. We will explore a variety of methodologies (e.g., survey research/self-report, official stats/secondary data, quasi-experimental design, etc.) used in criminological and criminal justice research. Further, we will evaluate these methodologies within the context of design concerns such as: research purpose, operationalization, validity, reliability, and ethics.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

### **CRCJ 3000 APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR (3 credits)**

A course on the use of data and statistical methods to explore and make inferences about society, while critically considering the influence of context and the powers and limitations of quantitative evidence. (Cross-listed with PA 3000, SOWK 3000).

**Prerequisite(s)/Corequisite(s):** ACT of 19 or higher or successful completion of MATH 1120, MATH 1130 or MATH 1210 with a C- or higher

### **CRCJ 3010 PHILOSOPHY OF CRIMINAL JUSTICE (3 credits)**

This course is a philosophical examination of justice and its administration. It provides the student with a richer understanding of the conceptual foundations of justice.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

### **CRCJ 3100 WRITING FOR CRIMINAL JUSTICE (3 credits)**

This is a writing course for all Criminology and Criminal Justice majors. Students will learn how to write effective cover letters, incident reports, position papers, and executive summaries.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1160, and CRCJ 1010. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

### **CRCJ 3310 CRIMINAL LAW (3 credits)**

This course will examine the development of the criminal law, the elements and types of criminal offenses, as well as principles of criminal culpability.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

### **CRCJ 3350 CRIMINOLOGY (3 credits)**

This course is about facts and frameworks. The facts that we are interested in are facts about criminal behavior and the frameworks are theories that organize these facts in a coherent fashion. As we learn about criminological facts and the theories that organize these facts we will pay attention to research so that we understand how these facts are developed and how these theories are tested. We will also try to draw out the policy implications of the various facts and theories that we address.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

### **CRCJ 3370 JUVENILE DELINQUENCY AND JUVENILE JUSTICE (3 credits)**

This course has been designed to provide and expose students to a broad base of information about juveniles, youth in need of supervision, youth crime and how these areas are handled within the juvenile justice system in the United States. This course will examine the juvenile justice system and the role of family, peers, school, courts, law enforcement, corrections, and the broader community as it pertains to the life of a juvenile.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

### **CRCJ 3380 RACE, ETHNICITY, AND CRIMINAL JUSTICE (3 credits)**

This course provides a survey of minority groups and their experiences with regard to crime and criminal justice in the United States. This course will focus on racial and ethnic minorities as victims, as offenders, as defendants, and as criminal justice professionals.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**Distribution:** U.S. Diversity General Education course

### **CRCJ 3390 WOMEN, CRIME AND JUSTICE (3 credits)**

This course focuses on women's experiences in the criminal justice system. The course will examine women's experiences as victims of crime, as offenders, as prisoners, and as criminal justice professionals. (Cross-listed with WGST 3390)

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**Distribution:** U.S. Diversity General Education course

**CRCJ 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with BLST 3410) (<https://catalog.unomaha.edu/search/?P=BLST%203410>).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR CRCJ 1010 OR Junior standing OR instructor permission.

**CRCJ 3970 INTERNSHIP IN CRIMINAL JUSTICE (3 credits)**

A minimum of 160 hours of experiential learning with criminal justice agencies. The internship program integrates learning with service. It allows students to learn occupational skills and competencies and develop professional relationships with organizations involved in the criminal justice sector, at the same time, students will apply criminological theories to their work. The internship prepares students to demonstrate the integration of professional ethics and values, knowledge and skills, and the capacity to think critically and constructively.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, 75 credit hours completed, GPA of 2.5, and permission of instructor.. Not open to non-degree graduate students.

**CRCJ 4000 MENTAL HEALTH & CRIMINAL JUSTICE (3 credits)**

This course focuses on the intersection of individuals with mental health, substance abuse, and/or severe and persistent mental illness diagnoses and the criminal justice system. Students will examine how individuals become involved in the criminal justice system and how the criminal justice system and other social services respond to their involvement.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4030 CRIMINAL JUSTICE ORGANIZATION AND ADMINISTRATION (3 credits)**

This course covers contemporary concepts, principles and theories of organization and administration as they relate to criminal justice agencies. The historical development and modern principles of policy administration are also contrasted. The primary goal of this course is to identify the basic structure and function of criminal justice organizations, while paying particular attention to how criminal justice organizations are managed and led.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4060 CRIMINAL JUSTICE ETHICS (3 credits)**

This course is designed to examine ethical issues that arise in the three major areas of criminal justice: police; courts; and corrections. The course explores general philosophical theories of ethics as well as Codes of Ethics that operate to control the institutional and personal behavior of police, court, and correctional systems.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4110 BIOSOCIAL CRIMINOLOGY (3 credits)**

This course is designed to acquaint students with the biological, genetic, and environmental origins to criminal and antisocial behavior. Toward this end, we will examine an array of topics including personality development, brain functioning, and the biosocial basis of crime. Discussion will also center on the manner in which various environmental influences operate

through biological mechanisms to influence criminal behavior across different stages of the life course. Particular emphasis will be placed on using empirical-based research to understand the etiology of antisocial and criminal conduct and issues pertaining to the criminal justice system.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4130 SOCIOLOGY OF DEVIANT BEHAVIOR (3 credits)**

This course is designed to investigate the etiology of many forms of norm-violating conduct. Emphasis will be placed on rule-breaking behavior as defined in the criminal statutes. (Cross-listed with CRCJ 8136).

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4210 INSTITUTIONAL CORRECTIONS (3 credits)**

The course presents an in-depth analysis of the history and operation of prisons and jails in the United States and other countries. The course covers the management and operation of prisons and jails from the perspective of both employees and incarcerated persons.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4400 DOMESTIC VIOLENCE (3 credits)**

This course examines the criminal justice system response to domestic violence/intimate partner violence. A focus on the interactions between battered victims and components of the criminal justice system, as well as the role of the community in addressing and preventing this violence serves as the foundation for this course. Students will also gain insight into factors contributing to the incidence of intimate partner violence, explore the background/history of domestic violence.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4410 VICTIMOLOGY (3 credits)**

This course has been taught several times as a special topics course with good enrollment each time. Victimology is a necessary component of a comprehensive Criminology & Criminal Justice curriculum. Whereas criminology is the study of criminal behavior and criminal justice is the study of the system's response, both interact with victims. That is, most crimes have victims and it is important for students to understand the characteristics of victims and how the criminal justice system responds to victims.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4420 CHILD ABUSE AND NEGLECT (3 credits)**

This course addresses issues related to child abuse and neglect investigation, intervention and prevention efforts facilitated through criminal justice system processes. Course content discusses the history of child maltreatment, definitional challenges, statistical trends, physical and behavioral indicators, mandatory reporting, investigative processes, intervention strategies and prevention efforts.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4230 HUMAN TRAFFICKING (3 credits)**

This course is designed to provide students with a systematic introduction to the study of human trafficking. Students will learn about what constitutes human trafficking, theories of victimization as they apply to trafficking,

debates about the language and definitions surrounding sex trafficking and prostitution. Students will discuss the prevalence, predictors, and consequences of various forms of trafficking and critically assess efforts related to measurement, intervention, and prevention.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4440 VICTIMS' RIGHTS AND SERVICES (3 credits)**

This course focuses on the experiences of victims of crime through the criminal justice system, from reporting the crime to case closure. Students will learn about the types of victim services and advocacy throughout various points of the criminal justice system (e.g., police, courts, corrections), as well as about the history of victims' rights and the development of victim services over time.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4510 VIOLENCE (3 credits)**

This course is a survey of the nature and extent of violence. The focus is on patterns of violence across social groups, the causes and correlates of violence and violent behavior, and programs/policies geared toward violence prevention and reduction. Also of interest is the relationship between theory and violence research. (Cross-listed with CRCJ 8516).

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4520 DRUGS AND CRIME (3 credits)**

Drugs and Crime is an introduction course to the major facts and issues concerning criminal justice and drug-taking behavior in America. It is specifically designed to provide the means for understanding (1) the multiple challenges that drug abuse brings to our society, (2) the drug control policies we have enacted to meet those challenges, (3) the range of international and domestic law enforcement efforts and drug control strategy, and (4) the systems of criminal justice that have been established to deal with the prosecution of drug law offenders.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4550 GANGS AND GANG CONTROL (3 credits)**

This course will examine criminal street gangs, including these gangs' members, activities, underlying dynamics, and the roles that drugs and sex trafficking play in gang activity. We will consider the history and proliferation of gangs in the United States, common characteristics of U.S. gangs across different regions, how gangs obtain their power and the connection between street gangs and prison gangs. Lastly, we will evaluate multiple methods employed by communities and law enforcement to control and defeat criminal street gangs.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4560 HOMICIDE INVESTIGATIONS (3 credits)**

This course is designed to present an overview of the crime of homicide. Attention is given to homicide data, theories of why homicides occur, types of homicide, investigating/solving homicides, prosecuting homicide cases, and the impact on co-victims and society as a whole. Students will use critical thinking skills while exploring various investigative techniques.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4710 COMPARATIVE CRIMINAL JUSTICE SYSTEMS: ENGLAND (3 credits)**

This is a specialized course which provides a comparison of the criminal justice systems of the United States and the United Kingdom. The design of the course allows for an exploration of how the American system developed from the British system and why social and cultural factors influenced the differences/similarities in their development.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours and instructor permission

#### **CRCJ 4750 INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE (3 credits)**

This course analyzes the dynamics of criminality and the social response to criminality across countries. Differences in crime and justice between developed and developing countries and between socialist and capitalist nations are emphasized.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**Distribution:** Global Diversity General Education course

#### **CRCJ 4760 TERRORISM (3 credits)**

This course is designed to assist the student in developing an understanding of terrorism as a political crime. It includes an examination of the social, political and psychological aspects of this behavior.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**Distribution:** Global Diversity General Education course

#### **CRCJ 4770 ORGANIZED CRIME (3 credits)**

A course designed to trace the origins and historical development of the activities that have come to be known as organized crime. These crimes are some of the most dangerous to American society and range from the commonly known offenses of gambling, shylocking and narcotics trafficking to the more subtle and sophisticated, less understood but equally serious, crimes of extortion, commercial bribery and political corruption.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4780 WHITE COLLAR CRIME (3 credits)**

This course is designed to examine those illegal acts committed by non-physical means and by concealment or guile, to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

#### **CRCJ 4800 SPECIAL TOPICS (1-3 credits)**

This course is a topical approach that explores various aspects of Criminology and Criminal Justice. Topics and disciplines will vary from term to term. Course description will be announced in advance. This course will be devoted to the exploration and analysis of contemporary problems in the criminal justice system. On occasion the course will be offered in three one-credit hour modules and students may register for one, two or three credit hours.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4950 INDEPENDENT STUDY (1-3 credits)**

Faculty-guided research in an area of mutual interest to the student and his instructor. Students are responsible for selecting the area of inquiry prior to contacting the instructor. May be repeated to a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4960 ISSUES IN CRIME AND JUSTICE (3 credits)**

This is a capstone course that will focus on contemporary issues of crime and justice. It will examine the justice process and the general operations of the criminal justice system. Concepts of crime and deviance, rights and discrimination in a democratic society will be reviewed and critiqued against the backdrop of contemporary issues. The law enforcement, judicial, juvenile justice, and corrections subsystems will be explored, and a number of reform proposals presented and considered.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4970 SENIOR HONORS PROJECT/THESIS (3-6 credits)**

An independent research project supervised by School faculty. The senior honors project must be approved by the CPACS Honors Coordinator.

**CRCJ 4990 APPLIED SENIOR ASSESSMENT (1 credit)**

This course is intended to give students an opportunity to reflect on their curricular and personal development during their undergraduate career. Students will have the opportunity to develop several career development artifacts. It is also used as a tool to help monitor progress toward the SCCJ's student learning outcomes (SLOs) and identify needed changes.

**Prerequisite(s)/Corequisite(s):** Students must register for CRCJ 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Criminology & Criminal Justice, Bachelor of Science

The Bachelor of Science in Criminology and Criminal Justice (BCCJ) degree requires the completion of 120 credit hours with a cumulative grade point average (GPA) of 2.0. Core major requirements are guided by a series of student learning outcomes and include criminology and criminal justice electives.

**Student Learning Outcomes**

- Demonstrate mastery of core areas in criminology and criminal justice.
- Locate, integrate and use information from varied sources to effectively communicate in writing and other mediums.
- Apply specialized knowledge through field-based learning experiences, civic and/or community engagement activities, and/or policy analysis.
- Explain diverse positions, including those representing different cultural, economic, and geographic interests in the context of criminology and criminal justice.

Code	Title	Credits
<b>UNO General Education Requirements</b>		<b>40</b>
<b>CRCJ Courses Required for Major</b>		<b>43</b>
	Student Learning Outcome 1 (15 credits)	
	Student Learning Outcome 2 (6 credits)	
	Student Learning Outcome 3 (6 credits)	
	Student Learning Outcome 4 (4 credits)	
	CRCJ Electives (12 credits)	

<b>Area of Concentration or Major</b>	<b>18</b>
<b>General Electives</b>	<b>19</b>

**Requirements****1. UNO General Education Requirements (40 credits).**

All Bachelor of Science Students in the School of Criminology and Criminal Justice must complete the **UNO General Education Curriculum**. Some general education may overlap with the CRCJ requirements - see your advisor for more details.

**2. CRCJ Courses Required for Major (43 credits)**

The CRCJ major requirements are separated out under a series of student learning outcomes. A minimum grade of "C-" is required in courses used to fulfill the 43-credit CRCJ requirement.

SLO 1 (15) + SLO 2 (6) + SLO 3 (6) + SLO 4 (4) + CRCJ Electives (12) = 43 credits

Code	Title	Credits
<b>SLO 1: Demonstrate mastery of core areas in criminology and criminal justice (15 credits).</b>		
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	3
Select a minimum of 6 credits of the following:		6
CRCJ 2030	POLICE AND SOCIETY	
CRCJ 2110	CRIMINAL COURT SYSTEM	
CRCJ 2210	SURVEY OF CORRECTIONS	
CRCJ 2220	COMMUNITY-BASED CORRECTIONS	
CRCJ 2410	CRIMINAL PROCEDURE	3
CRCJ 3350	CRIMINOLOGY	3

Code	Title	Credits
<b>SLO 2: Locate, integrate, and use information and data from varied sources to effectively communicate in writing and/or other mediums (6 credits).</b>		
CRCJ 2510	RESEARCH METHODS	3
CRCJ 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
CRCJ 3100	WRITING FOR CRIMINAL JUSTICE <small>Counts towards UNO Gen Ed's Writing in the Discipline</small>	3

Code	Title	Credits
<b>SLO 3: Explain diverse positions, including those representing different cultural, economic, and geographic interests in the context of criminology and criminal justice (6 credits). These are required in addition to the UNO general education diversity requirements</b>		
Select a minimum of 6 credits of the following:		6
CRCJ 3390	WOMEN, CRIME AND JUSTICE	
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 3410	LAW AND THE BLACK COMMUNITY	
CRCJ 4750	INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE	
CRCJ 4760	TERRORISM	

Code	Title	Credits
<b>SLO 4: Apply specialized knowledge through field-based learning experiences, civic, and/or community-engaged activities, and/or policy analysis (4 credits).</b>		
Select a minimum of 3 credits of the following:		3

CRCJ 3970	INTERNSHIP IN CRIMINAL JUSTICE Students may take up to 6 credits of internship	
CRCJ 4710	COMPARATIVE CRIMINAL JUSTICE SYSTEMS: ENGLAND	
CRCJ 4960	ISSUES IN CRIME AND JUSTICE	
*OR any CRCJ course with a service-learning designation		
CRCJ 4990	APPLIED SENIOR ASSESSMENT	1

Code	Title	Credits
<b>CRCJ Electives</b>		
3000/4000 CRCJ Courses		12

To enroll in upper-level CRCJ coursework, you must first complete CRCJ 1010, ENGL 1160 and 45 credit hours

### 3. Area of Concentration or Minor (18 credits)

The area of concentration must contain at least 18 credit hours chosen in consultation with the CRCJ academic adviser. At least 12 of the 18 credits must be taken at the 3000/4000 level. In certain instances, a minor can fulfill the area of concentration requirement. Please meet with a CRCJ academic adviser for specific guidelines.

### 4. General Electives (19 credits)

The remaining 19 hours of coursework can be completed with courses of the student's choosing, in consultation with an academic advisor.

#### Common Substitutions

The following sociology courses may be substituted for equivalent criminal justice courses and applied toward the 39 hour major: SOC 3510 for CRCJ 2510 and SOC 4130 for CRCJ 4130. Further, all students must take a writing discipline course within their major. CRCJ 3100 fulfills this requirement but does not count towards the 43 required criminal justice course requirement. ENGL 2400, ENGL 3980 or MKT 3200 may be substituted for CRCJ 3100. Statistics is required for the CRCJ major. PSYC 3130, SOC 2130 or STAT 1530 may be substituted for CRCJ 3000. Credit toward the degree will not be allowed for multiple courses which are considered equivalent.

## Victimology and Victim Services Concentration

Code	Title	Credits
CRCJ 4410	VICTIMOLOGY	3
CRCJ 4440	VICTIMS' RIGHTS AND SERVICES	3
CRCJ 4000	MENTAL HEALTH AND THE CRIMINAL JUSTICE SYSTEM	3
<b>Electives - Victimology courses (select 2) - Limit non-SCCJ courses to 3 hours</b>		<b>6</b>
CRCJ 3390	WOMEN, CRIME AND JUSTICE	
CRCJ 4400	DOMESTIC VIOLENCE	
CRCJ 4420	CHILD ABUSE AND NEGLECT	
CRCJ 4510	VIOLENCE	
CRCJ 4430	HUMAN TRAFFICKING	
CRCJ 4450	SEXUAL VIOLENCE	
SOWK 4830	CRISIS INTERVENTION	
SOWK 4620	TRAUMA AND RESILIENCE	
SOWK 4640	SOCIAL WORK IN CHILD WELFARE	
SOWK 4650	SOCIAL WORK IN MENTAL HEALTH	
<b>Total Credits</b>		<b>15</b>

### Freshman

Fall		Credits
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	3
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3
Natural/Physical Science with Laboratory <sup>2</sup>		4
Social Science <sup>3</sup>		3

**Credits 13**

### Spring

CRCJ 2030	POLICE AND SOCIETY	3
ENGL 1160	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS <sup>4</sup>	3
Humanities/Fine Arts <sup>5</sup>		3
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING <sup>6</sup>	3

**Credits 15**

### Sophomore

Fall		Credits
CRCJ 2030 or CRCJ 2110 or CRCJ 2210 or CRCJ 2220	POLICE AND SOCIETY or CRIMINAL COURT SYSTEM or SURVEY OF CORRECTIONS or COMMUNITY-BASED CORRECTIONS	3
CRCJ 2510	RESEARCH METHODS	3
Natural/Physical Science <sup>2</sup>		3
Social Science <sup>3</sup>		3
Elective		3

**Credits 15**

### Spring

CRCJ 2410	CRIMINAL PROCEDURE	3
CRCJ 3000 or MATH 1530	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR <sup>7</sup> or INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	3
Humanities and Fine Arts <sup>5</sup>		3
Social Science <sup>3</sup>		3
Elective		3

**Credits 15**

### Junior

Fall		Credits
CRCJ 3350	CRIMINOLOGY	3
CRCJ 3100	WRITING FOR CRIMINAL JUSTICE <sup>8</sup>	3
CRCJ 3390 or CRCJ 3380 or CRCJ 3410 or CRCJ 4750 or CRCJ 4760	WOMEN, CRIME AND JUSTICE or RACE, ETHNICITY, AND CRIMINAL JUSTICE or LAW AND THE BLACK COMMUNITY or INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE or TERRORISM	3
Humanities and Fine Arts <sup>5</sup>		3
Concentration/Minor <sup>9</sup>		3
Elective		1

**Credits 16**

**Spring**

CRCJ 3390	WOMEN, CRIME AND JUSTICE	3
or CRCJ 3380	or RACE, ETHNICITY, AND CRIMINAL JUSTICE	
or CRCJ 3410		
or CRCJ 4750	or LAW AND THE BLACK COMMUNITY	
or CRCJ 4760	or INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE	
	or TERRORISM	
CRCJ 3000/4000 <sup>10</sup>		3
Concentration/Minor <sup>9</sup>		3
Concentration/Minor <sup>9</sup>		3
Elective		3

**Credits** **15**

**Senior****Fall**

CRCJ 3000/4000 <sup>10</sup>		3
CRCJ 3000/4000 <sup>10</sup>		3
Concentration/Minor <sup>9</sup>		3
Concentration/Minor <sup>9</sup>		3
Elective		3

**Credits** **15**

**Spring**

CRCJ 4990	APPLIED SENIOR ASSESSMENT	1
CRCJ 3970	INTERNSHIP IN CRIMINAL JUSTICE	3
or CRCJ 4710	or COMPARATIVE CRIMINAL JUSTICE SYSTEMS: ENGLAND	
or CRCJ 4960	or ISSUES IN CRIME AND JUSTICE	
CRCJ 3000/4000 <sup>10</sup>		3
Elective		3
Elective		3
Concentration/Minor <sup>9</sup>		3

**Credits** **16**

**Total Credits** **120**

- <sup>1</sup> A score of "ENGL 5" on the English Placement Exam is needed in order to enroll in ENGL 1150
- <sup>2</sup> Natural & Physical Science courses must be selected from this list: <https://www.unomaha.edu/general-education/approved-courses/natural-and-physical-sciences.php>
- <sup>3</sup> Social Science courses must be selected from this list: <https://www.unomaha.edu/general-education/approved-courses/social-sciences.php>
- <sup>4</sup> CMST 1110 or CMST 2120 may be taken towards the Public Speaking Requirement
- <sup>5</sup> Humanities & Fine Arts courses must be selected from this list: <https://www.unomaha.edu/general-education/approved-courses/humanities-and-fine-arts.php>
- <sup>6</sup> Math ACT 0-18 must take MATH 1120 or MATH 1130, MATH ACT 19+ may take an elective
- <sup>7</sup> Statistics requires Math ACT 19+ or completion of MATH 1120 or MATH 1130
- <sup>8</sup> ENGL 2400, ENGL 3980 or MKT 3200 may be substituted for CRCJ 3100
- <sup>9</sup> An area of concentration or a minor is required for all CRCJ majors. The area of concentration must contain at least 18 credit hours chosen in consultation with the CRCJ academic advisor
- <sup>10</sup> Select any courses in the 3000 or 4000 levels of CRCJ for CRCJ 3000/4000
- <sup>11</sup> CRCJ 4999 must be taken during graduating semester

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

## Under Construction

### Criminology & Criminal Justice Minor

**Requirements**

The requirements to earn a minor in criminology and criminal justice will consist of a minimum of 18 credit hours to include:

Code	Title	Credits
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	3
Select a minimum of two of the following:		6
CRCJ 2030	POLICE AND SOCIETY	
CRCJ 2110	CRIMINAL COURT SYSTEM	
CRCJ 2210	SURVEY OF CORRECTIONS	
CRCJ 2220	COMMUNITY-BASED CORRECTIONS	

Select a minimum of 9 credit hours of upper level (3000/4000) criminology and criminal justice courses (excluding CRCJ 3000).

An overall "C" average in courses applied to the minor is required and all courses applied to the minor must be taken for letter grade (not CR/NC). In addition, all nine credit hours of upper division course work must be taken in residence at the University of Nebraska.

## Victimology and Victim Services Minor

Code	Title	Credits
CRCJ 4410	VICTIMOLOGY	3
CRCJ 4440	VICTIMS' RIGHTS AND SERVICES	3
CRCJ 4000	MENTAL HEALTH AND THE CRIMINAL JUSTICE SYSTEM	3

**Electives - Victimology courses (select 2) - Limit non-SCCJ courses to 3 hours** **6**

CRCJ 3390	WOMEN, CRIME AND JUSTICE	
CRCJ 4400	DOMESTIC VIOLENCE	
CRCJ 4420	CHILD ABUSE AND NEGLECT	
CRCJ 4510	VIOLENCE	
CRCJ 4430	HUMAN TRAFFICKING	

CRCJ 4450	SEXUAL VIOLENCE
SOWK 4830	CRISIS INTERVENTION
SOWK 4620	TRAUMA AND RESILIENCE
SOWK 4640	SOCIAL WORK IN CHILD WELFARE
SOWK 4650	SOCIAL WORK IN MENTAL HEALTH

**Total Credits****15**

## Division of Continuing Studies

### Division of Continuing Studies

For over 80 years, the Division of Continuing Studies (DCS) has been dedicated exclusively to the needs of adult and contemporary learners by *meeting students where they are*. DCS works to elevate the adult student voice across the institution to foster a culture of inclusion. Although the higher education landscape has changed, our core beliefs and guiding principles have not. Since our beginning, we've worked to raise awareness of the characteristics and circumstances of adult learners, illustrate the value that our multigenerational students bring to UNO, and provide opportunities for undergraduate degree attainment that honors their unique and diverse needs.

DCS was founded with an entrepreneurial spirit and has sustained a culture of resilience, adaptability, and innovation. The nontraditional design of our unit and degree program is what has allowed us, and in turn, our students, to thrive. Our expertise is in serving the needs of adult and contemporary learners. Our commitment is to helping our students realize their academic goals by honoring their unique needs and circumstances. Our passion is in advocating for a diverse population of learners who do not fit the first-time, full-time mold for whom much of higher education has been designed.

### Our Program

We offer one degree with multiple Concentrations. The Bachelor of Multidisciplinary Studies (BMS) degree program is available online, on-campus, or through a combination of online and on-campus classes. Awarded to over 26,000 students since 1951, it is one of the nation's oldest multidisciplinary degrees and is part of UNO's longstanding, rich tradition of serving military and veteran students.

### Campus Locations/Services

#### UNO Campus Location

DCS is located on the second floor of the College of Public Affairs and Community Service (CPACS 207) on UNO's Dodge Street campus. This location serves as the headquarters of our operations. In order to provide high touch services to our students and to accommodate their busy lives, students are able to meet with staff over the phone, online, and in person. In addition to the normal 8-5 weekday business hours, students are able to meet with our professional advisors in the evening, three nights per week.

#### Offutt Air Force Base

A branch of DCS is located at Offutt AFB in Building C, Room 222. UNO/DCS at Offutt, in partnership with the Offutt AFB Education Office, offers a wide array of services to increase educational opportunities for active duty military, as well as the larger Offutt AFB community. DCS also oversees the testing center at Offutt, offering CLEP, DSST, and Accuplacer proctoring services. The testing center is located in Building C, Room 204.

### Student-Centered Service

Through a holistic approach to student success, DCS works to support, empower and advocate for the needs of adult and contemporary learners. DCS practices an assigned advising model in order to build relationships and offer personalized guidance to students from pre-admission exploration through graduation celebration. Our students take varied pathways and

thus require individualized attention to create a smooth transition through their University experience.

### Civility Statement

Student learning is a priority in the Division of Continuing Studies (DCS). We value the inherent worth and dignity of every person, and work to foster a community of mutual respect. We believe that in order to achieve these ideals, all DCS students are expected, while in the role of student or representative of the University, to exhibit, and practice civil behaviors that exemplify:

- Respecting faculty, staff, fellow students, guests, and all University property, policies, rules, and regulations;
- Taking responsibility for one's choices and actions;
- Accepting the consequences of one's inappropriate choices and actions;
- Communicating in a professional and courteous manner in all forms, and all times, whether verbal, non-verbal, or written.

Behavior that is contradictory to the above and to the standards outlined in the UNO Student Code of Conduct (p. 35) will be taken seriously and appropriately reported.

### Goals

DCS provides educational experiences, both curricular and co-curricular, for students to develop and enhance the skills, abilities, and perspectives to be self-directed, lifelong learners. DCS supports holistic growth and development; shaping the contribution our students and graduates make to their lives, their profession, and to society.

The following Program Goals & Graduate Expectations guide our programs and services:

- To ACT Responsibly
- To COMMUNICATE Effectively
- To CONNECT Meaningfully
- To LEARN Continuously
- To THINK Independently

### Student Groups

Alpha Sigma Lambda Honor Society

### Contact Information

- Main Campus | CPACS 207 | 402.554.2370 | unodcs@unomaha.edu
- Offutt Air Force Base | Building C | Room 222 | 402.595.2371 | unooffutt@unomaha.edu

### Admission Requirements

The minimum age for admission to the Division of Continuing Studies is normally 21 years of age. However, students under the age of 21 pursuing an undergraduate degree who do not meet the definition of a "traditional" college student may also be eligible for admission to the BMS degree program. Examples may include military-affiliated students; students who are on the path to an alternate UNO academic degree/department/college; and students pursuing an area of study not represented by another UNO degree program.

In order to be considered for admission to DCS, applicants must submit the following:

- Completed UNO application for admission
- Application fee (applicants may request a fee waiver)
- Official high school transcript or high school equivalency examination (GED)
- Official transcripts from post-secondary institutions (colleges and/or universities, including CCAF and DLI)

Although not required at the time of application, we recommend that students also submit documentation of credit for prior learning for a comprehensive credit evaluation. These documents may demonstrate college-level learning outside of the traditional classroom and may shorten the time to degree completion. Documents include:

- Official standardized examination scores (e.g., CLEP, DSST)
- Military training and education transcripts (Joint Services Transcript)
- Official transcripts from nationally accredited institutions
- Transcripts documenting evaluated non-college programs (e.g., American Council on Education, National College Credit Recommendation Service)

## Degrees Offered

- Bachelor of Multidisciplinary Studies (p. 706)

The diverse, multigenerational student population enrolled in the Bachelor of Multidisciplinary Studies (BMS) degree program have varied prior learning experiences, personal interests, and career goals. BMS graduates pursue a wide range of careers in many fields depending on their selected content areas, previous work and life experiences, as well as the selection of courses taken within their program of study. As part of the Bachelor of Multidisciplinary Studies degree students choose the content they want to study and are able to explain their unique expertise and learning to potential employers.

BMS graduates stand out to employers for their wide range of perspectives and viewpoints, real-world life and work experiences, and transferrable skills developed in the degree program that are beneficial in the workplace and changing world, including:

- Critical thinking and problem solving
- Collaboration and connection
- Ethical judgement and decision making
- Adaptability and flexibility

The more than 25,000 graduates of our program have:

- Advanced in their current career
- Transitioned to new career fields
- Refreshed skills and knowledge
- Pursued graduate degrees
- Achieved personal fulfillment

Our academic advisors take a student-centered approach to advising. With a holistic and student-goal-oriented model of advising, we work with you to identify a degree program that best fits your reason for attending and completing your degree.

**Note:** Not all students pursue a Bachelors of Multidisciplinary Studies for career reasons.

# Bachelor of Multidisciplinary Studies

## Bachelor of Multidisciplinary Studies

The Bachelor of Multidisciplinary Studies (BMS) degree offers a distinct multidisciplinary learning opportunity that allows students to pursue areas of study that may be unrelated, cultivates an approach to problem-solving that appreciates and utilizes diverse perspectives and knowledge, and fosters an appreciation and thirst for lifelong learning. Recognizing the diverse needs, interests and experiences of our multigenerational learners, the BMS program allows for flexibility in acceptance of transfer credit and other college-level learning outside the traditional classroom. The

curriculum complements and connects prior learning and the discipline-specific learning students select as part of their degree program.

The BMS curriculum intentionally develops both intellectual and practical skills that enable students to be successful in the 21st Century.

A multidisciplinary approach to learning enhances our students' abilities to:

- Cope with uncertainty and ambiguity
- Adapt to different contexts and environments in a complex, fast-changing world
- Appreciate and understand multiple perspectives & viewpoints
- Look across disciplinary boundaries to consider other viewpoints
- Develop deeper evaluation skills
- Draw on different frames of reference to identify solutions

## Student Learning Outcomes

The BMS curriculum is intentionally designed to observe, develop, and enrich program outcomes in our students. Throughout the program, students shape, articulate, and document their progress towards achievement of each Goal and Learning Outcome, independent of where, when, or how the learning was acquired.

All BMS students upon completion of the program will:

- Understand the interconnectedness of real-world issues and assess their own ethical values and responsibility.
- Demonstrate effective, context-appropriate communication.
- Apply and connect knowledge from multiple sources to collaboratively explore complex, real-world issues.
- Value and justify the importance of continuous development and lifelong learning and accurately appraise their capabilities and achievements.
- Utilize creative and independent thinking to ask questions, construct knowledge, and express their distinctive voice.

To learn more about the Bachelor of Multidisciplinary Studies Degree, visit (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/division-of-continuing-studies/>) or schedule a meeting with an academic advisor at one of our two Division of Continuing Studies locations:

- CPACS 207 | 402.554.2370 | [unodcs@unomaha.edu](mailto:unodcs@unomaha.edu)
- Office at Offutt Air Force Base | 402.595.2371 | [unooffutt@unomaha.edu](mailto:unooffutt@unomaha.edu)

## Bachelor of Multidisciplinary Studies Requirements

To obtain a BMS, students must fulfill the university, college, and program requirements, including:

- A minimum of 120 credit hours is required, with at least 24 of the last 48 hours earned at UNO
- A minimum of 30 credit hours in upper level (3000- or 4000-level) coursework; at least 12 credit hours in the major must be earned at UNO
- Overall cumulative GPA of at least 2.00, calculated based on all courses in the University of Nebraska (NU) system
- Grades of C- or better are required in the University General Education courses and in major coursework

TOTAL HOURS (MINIMUM): 120

## Multidisciplinary Studies Major Core

The Multidisciplinary Core consists of three (15-hour) blocks of credit and is designed to combine two or more areas of study, allowing students the opportunity to explore and connect varying perspectives and viewpoints. The Bachelor of Multidisciplinary Studies degree can be constructed in the following ways:

### Multidisciplinary Studies with Concentration

- University General Education courses (40-46 hours)
- MLTI 3000: Multidisciplinary Foundations Seminar (3 hours)
- Blocks 1 & 2: Concentration (30 hours)
  - Concentrations can be content-focused (focus on an area of study) or cross-discipline (combine different areas of study)
  - Some Concentrations may require more than 30 hours
  - At least 12 hours must be Upper Division (3000- or 4000-level) completed at UNO
- Block 3: (15 hours)
  - Comprised of a complementary or separate area of study than the Concentration (Blocks 1 & 2)
- MLTI 4000: Multidisciplinary Capstone Seminar (3 hours)
- Elective hours as needed to reach 120 total credit hours
- At least 30 hours must be Upper Division

### Multidisciplinary Studies without Concentration:

- University General Education courses (40-46 hours)
- MLTI 3000: Multidisciplinary Foundations Seminar (3 hours)
- Block 1: 15 hours
  - At least 6 hours must be Upper Division (3000- to 4000-level coursework) completed at UNO
- Block 2: 15 hours
  - At least 6 hours must be Upper Division (3000- to 4000-level coursework) completed at UNO
- Block 3: 15 hours
- MLTI 4000: Multidisciplinary Capstone Seminar (3 hours)
- Elective hours as needed to reach 120 total credit hours
- At least 30 hours must be Upper Division

## Pathway Concentration Option

The Pathway concentration is for students who wish to move to another degree program at UNO, but do not currently meet entry requirements for that program. Students work with UNO academic advisors to navigate the transition pathway to their program of choice. Students may not earn a degree through the Pathway concentration, however, may ultimately choose to complete their degree through the BMS program by selecting a Multidisciplinary Studies program of study.

## Degree Policies

### Second Degree

Students seeking a second degree must complete a NEW 30 hours at UNO, regardless of how many previous hours they have earned, in order to meet requirements of the additional degree. Students are required to complete the requirements for the Concentration (Blocks 1 & 2) and any required prerequisite coursework. A BGE/BGS/BMS graduate cannot earn a second BMS degree.

### Double Area of Concentration

Students pursuing two Areas of Concentration may "double-count" courses to satisfy requirements for both concentrations. It is a students' responsibility to declare both concentrations.

### Simultaneous Degrees

Students may simultaneously pursue two different degrees from UNO. The Registrar's Office requires students to complete a minimum of 150 hours for two degrees. Students do not have to receive both degrees at the

same time - the Registrar's office will confer the second degree when the requirements are met. Students may not earn two of the same degree nor two of the same concentration/major (e.g., BMS with History concentration and a BA in History, BMS with General Administration concentration and a BSBA).

## Academic Amnesty

Academic amnesty gives students the opportunity to rebuild their University of Nebraska system cumulative grade point average (GPA). Students must have been out of the Nebraska system for at least one year to be eligible for academic amnesty and only 'F' and 'D' grades earned within the University of Nebraska system (UNO, UNL, UNK, UNMC) prior to the year out will be included in the amnesty. All UNO colleges will accept the results of the DCS amnesty. Consult a DCS academic advisor to learn more.

## Credit/No Credit (CR/NC) Grades

DCS students may elect to receive a grade of Credit (CR) or No Credit (NC) in lieu of a letter grade. A student earns a CR with a C- grade or higher. Please see University policy regarding eligibility (<https://catalog.unomaha.edu/undergraduate/grades/#text>). In the Bachelor of Multidisciplinary Studies a maximum of 24 hours may be taken on a Credit/No Credit basis, of which six hours maximum is allowed in the Multidisciplinary Core (Block 1, 2, 3).

## Credit for Prior Learning

The DCS office determines how Credit for Prior Learning (CPL) credits are applied toward graduation requirements in accordance with the policies of the institution, college, and program. Duplicate credit for the same learning is not awarded. For example, students who may have previously taken and passed an English Composition I course at two prior institutions will only get credit for the most recent course taken and passed.

Learning experiences vary, and as such, academic credit for prior learning is highly individualized and must be determined on a case-by-case basis. Many adult and contemporary learners apply some method of CPL towards their BMS degree. Our professional academic advisors work closely with you to determine how the credits may apply to your program of study and your future goals.

All modalities outlined are currently available only to degree-seeking students enrolled in the BMS program. Students enrolled in UNO programs outside of DCS should adhere to the policies established by the respective program and college. Due to the nature of our student population, the BMS program provides the broadest and most flexible CPL policy at UNO. As such, students who change to a non-BMS program at UNO may find that CPL credits do not apply to their new program in the same manner. Students are encouraged to work closely with a DCS academic advisor to determine if CPL is an option.

Students may apply a maximum of 64 credit hours from two-year institutions and a maximum of 65 credit hours from evaluated non-college programs and standardized exams towards their BMS degree. The Division of Continuing Studies does not offer portfolio evaluation of students' life experiences.

## Standards for Assessing Learning

Since 1974 the Council for Adult and Experiential Learning (CAEL) has worked with colleges and universities in both the public and private sectors to support the learning goals of adults. CAEL has created standards for assessing CPL. The Division of Continuing Studies has adopted CAEL's ten standards for assessing learning: <https://www.cael.org/ten-standards-for-assessing-learning> (<https://www.cael.org/ten-standards-for-assessing-learning/>)

1. Credit or competencies are awarded only for evidence of learning, not for experience or time spent.

2. Assessment is integral to learning because it leads to and enables future learning.
3. Assessment is based on criteria for outcomes that are clearly articulated and shared among constituencies.
4. The determination of credit awards and competence levels are made by appropriate subject matter and credentialing experts.
5. Assessment advances the broader purpose of equity and access for diverse individuals and groups.
6. Institutions proactively provide guidance and support for learners' full engagement in the assessment process.
7. Assessment policies and procedures are the result of inclusive deliberation and are shared with all constituencies.
8. Fees charged for assessment are based on the services performed in the process rather than the credit awarded.
9. All practitioners involved in the assessment process pursue and receive adequate training and continuing professional development for the functions they perform.
10. Assessment programs are regularly monitored, evaluated and revised to respond to institutional and learner needs.

### Transfer Credits from Postsecondary Institutions (Colleges and Universities)

In order to determine if coursework taken at a postsecondary institution other than UNO is eligible for transfer and how it applies to BMS curriculum, DCS relies on the recommendations of the Joint Statement on the Transfer and Award of Credit (AACRAO, CHEA, & ACE, 2017 (<https://www.acenet.edu/Documents/Joint-Statement-on-the-Transfer-and-Award-of-Credit.pdf>)). The three considerations that determine the transferability of credit includes:

1. The educational quality of the institution;
2. The comparability of nature, content, and level of the course that is to be transferred to UNO and applied to the BMS program;
3. The appropriateness and applicability of the credit in relation to BMS plan of study.

### Institutional Accreditation

Accreditation serves as the basic indicator that an institution meets certain minimum standards in order to give students and policymakers confidence in the effectiveness of academic quality. As such, DCS recognizes the value of accreditation and has outlined a process for identifying postsecondary credit that may transfer to the BMS program.

### Regionally Accredited Institutions

Coursework of comparable content and scope to the UNO and BMS curriculum will generally be transferred if it was completed at colleges and universities accredited by one of the six regional accrediting agencies recognized by the Council for Higher Education Accreditation (CHEA) and the U.S. Department of Education (USDE). Courses must be successfully completed with a grade of C- or better. The six regional accrediting agencies that operate in the U.S. are:

- Middle States Commission on Higher Education
- New England Association of Schools and Colleges
- North Central Association of Colleges and Schools
- Northwest Commission on Colleges and Universities
- Southern Association of Colleges and Schools
- Western Association of Schools and Colleges

### Nationally Accredited Institutions

DCS recognizes that institutions may offer programs that are recognized by programmatic or specialized accrediting agencies. Students who have successfully completed coursework at colleges and universities that do not hold regional accreditation may request evaluation of credit for applicability of transfer. As a general rule, DCS requires that the institution and/or program be recognized by an accrediting body that is recognized by both CHEA and USDE during the time period of attendance.

### Non-U.S. Tertiary Institutions

UNO takes great pride in the diversity of our student population and welcomes students who have completed postsecondary coursework outside of the U.S. higher education system. Due to the diversity of languages, curriculum, structure and grading schema of non-U.S. colleges and universities, UNO requires a certified translation to accompany transcripts not issued in English by World Education Services, [www.wes.org](http://www.wes.org) (<http://www.wes.org>), or Educational Credential Evaluators, [www.ece.org](http://www.ece.org) (<http://www.ece.org>). The translation should be literal and not interpretive. In many cases, international credits will be converted to the U.S. semester system. A DCS academic advisor can provide a list of organizations that provide transcript translation services.

### Coursework Not Accepted for Transfer Credit

The following coursework will not be accepted for transfer credit and will not count toward a degree at UNO:

- Courses in which the grade earned is below a C- on 4.0 grading scale (except from the NU system).
- Courses identified by UNO as remedial, such as remedial English, Mathematics and developmental reading.
- Portfolio-based experiential credits awarded by another institution.

### Standardized Exams

Standardized examinations are available in disciplines from physics to studio art, from computer science to foreign language. Typically, DCS awards credit for introductory-level courses; although, some students use examinations to demonstrate advanced knowledge.

### Eligible Exams

Credit may be earned by successfully completing eligible examinations:

- Advanced Placement Exams (AP): <https://apcentral.collegeboard.com>
- International Baccalaureate Exams (IB): <https://ibo.org>
- College Level Exam Program (CLEP): <https://clep.collegeboard.org/>
- DANTES Subject Standardized Test (DSST) (formerly DANTES): <https://www.getcollegecredit.com/>

*Note: AP and IB examinations are normally completed as part of a high school curriculum.*

### Course and Credit Equivalencies

Course and credit equivalencies for AP, IB, CLEP, and DSST examinations are regularly evaluated and updated. Be advised that examinations accepted for credit, the minimum score required and hours/courses awarded are subject to change by UNO and DCS at any time without notice. A maximum of 30 hours of exam credit can be applied to the BMS degree.

Course and credit equivalencies for AP, IB, CLEP, and DSST are posted on the UNO website (<https://www.unomaha.edu/registrar/students/before-you-enroll/transfer-credit/clep-credit.php>). Courses not listed on the articulation guide may be eligible for transfer and fulfillment of general elective requirements in the BMS degree program.

## Evaluated Non-College Programs

Adult and contemporary learners can demonstrate college-level knowledge and competencies gained from courses, examinations and certifications offered by employers, federal agencies, professional associations, apprenticeship programs, online education providers and other organizations. Courses and training are rigorously reviewed by a team of faculty experts who make recommendations for course-level and credit-hour equivalencies.

## Eligible Credit Recommendations

Credit may be awarded for learning assessed by the following organizations:

- American Council on Education (ACE)**  
 ACE's College Credit Recommendation Service (CREDIT) has reviewed over 35,000 courses, exams, and learning experiences for academic credits since it was founded in 1974. For more information, visit <http://www.acenet.edu/nationalguide> (<http://www.acenet.edu/nationalguide/>).
  - National College Credit Recommendation Service (NCCRS)**  
 Formerly known as National PONS, the NCCRS has been evaluating training and education programs for college credit equivalencies since 1973. For more information, visit <http://www.nationalccrs.org/course-credit-directory> (<http://www.nationalccrs.org/course-credit-directory/>).
  - DCS Faculty Academic Policy Committee (FAPC)**  
 The FAPC provides academic guidance and oversight for the BMS program. In conjunction with UNO faculty, the committee is responsible for reviewing and approving select nontraditional college credit recommendations that may be applied to the BMS program. The committee does not evaluate individual credit requests on an ad hoc basis.
- ## Military Training and Experience
- DCS is dedicated to bridging military service with undergraduate curriculum. As part of this commitment, we award academic credit for military training and learning experiences from all branches of the U.S. Armed Forces. As with all methods of CPL, credit awards are at the full discretion of the DCS Office.
- Army, Coast Guard, Marine Corps and Navy**  
 In 2013, the Army, Coast Guard, Marine Corps and Navy transitioned to the Joint-Services Transcript (JST) for active-duty, reserve and veteran members. JST replaced the following systems: AARTS (Army), SMART (Navy and Marines), CGI (Coast Guard) and Form DD-295 (all branches). JST CPL credits are posted as other institutional credits, rather than transfer credits. For instructions on how to order a JST, visit <https://jst.doded.mil/faq.html>.
  - Air Force**  
 Air Force training is certified by the Community College of the Air Force (CCAF). CCAF is regionally accredited by the Southern Association of Colleges and Schools through Air University, therefore, CCAF courses are considered transfer credits at UNO. For instructions on how to order CCAF transcripts, visit <https://www.airuniversity.af.edu/Barnes/CCAF/Display/Article/803247/community-college-of-the-air-force-transcripts/>.
  - Defense Language Institute (DLI)**  
 Operated by the U.S. Department of Defense (DoD), DLI provides linguistic and cultural instruction to members of the DoD and federal agencies. DLI courses are considered transfer credits at UNO as it is regionally-accredited by the Western Association of Schools and Colleges. For instructions on how to order an official transcript, visit [www.dlflc.edu](http://www.dlflc.edu) (<http://www.dlflc.edu>).

## Bachelor of Multidisciplinary Studies Degree Concentrations

The curriculum of each BMS Concentration is determined by the faculty of the respective academic department(s). Concentration curricular revisions are made in partnership with academic departments.

## Applied Leadership

Requirements: (30 hours)

For the Applied Leadership Area of Concentration, students will complete 15 semester hours towards a 5-C's of Leadership Block and 15 semester hours towards an Applied Workplace Toolbox Block. Courses may only be counted once towards the Applied Leadership concentration requirements (courses may not double-count).

Code	Title	Credits
Select one course from each of the Five C's of Leadership Competencies		15
<b>CONTENT</b>		
ISQA 3420	MANAGING IN A DIGITAL WORLD	
MGMT 3490	MANAGEMENT	
PA 2000	LEADERSHIP & ADMINISTRATION	
PA 4530	STRATEGIC PLANNING	
PSCI 2120	INTRODUCTION TO LEADERSHIP	
SOC 3610	APPLIED ORGANIZATIONAL SOCIOLOGY	
<b>CHARACTER</b>		
BSAD 3600	BUSINESS ETHICS	
CIST 3110	INFORMATION TECHNOLOGY ETHICS	
LAWS 3170	ETHICS IN BUSINESS	
PHIL 1020	CONTEMPORARY MORAL PROBLEMS	
PHIL 2030	INTRODUCTION TO ETHICS	
PHIL 3170	ETHICS IN BUSINESS	
<b>COMMUNICATION</b>		
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	
CMST 4170	ORGANIZATIONAL COMMUNICATION	
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	
CMST 4510	PERSUASION AND SOCIAL INFLUENCE	
CMST 4800	ADVANCED CONFLICT MEDIATION	
ENGL 4830	TECHNICAL COMMUNICATION	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
<b>CONNECTION</b>		
MGMT 4040	ORGANIZATIONAL BEHAVIOR	
MGMT 4090	PRINCIPLES OF COLLABORATION	
MGMT 4100	ORGANIZATION CHANGE AND DESIGN	
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	
SOC 4550	ORGANIZATIONAL DIVERSITY AND INCLUSION	
<b>CONTEXT</b>		
BLST 4880	BLACK LEADERSHIP IN AMERICA	
BSAD 2700	GLOBALIZATION OF BUSINESS ENTERPRISE	
ENTR 4750	SOCIAL ENTREPRENEURSHIP	
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	

PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	15
PSCI 4030	THE PRESIDENCY	
PSYC 4640	PERSONNEL PSYCHOLOGY	
SOC 4620	APPLIED FORMAL ORGANIZATIONS	
TED 4800	LEADERSHIP AND MANAGEMENT IN LIBRARIES	
WGST 3020	PERSPECTIVES ON LEADERSHIP	
Select one course from five of the seven Workplace Toolbox Skills/Competencies		

**ANALYTICAL REASONING**

STAT 1100	DATA LITERACY AND VISUALIZATION
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY
MATH 1130	QUANTITATIVE LITERACY
PA 4390	PUBLIC BUDGETING
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING
Research Methods Course	
Statistical Analysis Course	

**APPLIED COMMUNICATION**

ENGL 3050	WRITING FOR THE WORKPLACE
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES
CMST 2010	INTERPERSONAL COMMUNICATION
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS
Oral/Written Communication Based on Content	

**GLOBAL/INTERCULTURAL FLUENCY**

BLST 4580	COMMUNICATING RACE, ETHNICITY & IDENTITY
CMST 4530	INTERCULTURAL COMMUNICATION-US
BSAD 2700	GLOBALIZATION OF BUSINESS ENTERPRISE
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE
PSYC 4530	CULTURAL PSYCHOLOGY
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.
SOWK 2120	RACE, CLASS AND GENDER IN THE UNITED STATES
WGST 3750	GENDER AND COMMUNICATION
US/Global Diversity Based on Content	

**INNOVATION & CREATIVE THINKING**

PSYC 4650	CREATIVITY AND INNOVATION IN ORGANIZATIONS
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS
ITIN 1010	ACTIVATING INNOVATION IN SOCIETY
ITIN 1110	INTRODUCTION TO IT INNOVATION

**SALES & SERVICE ORIENTATION**

MKT 3100	PROFESSIONAL SELLING
MKT 3320	CONSUMER BEHAVIOR
CMST 3120	PERSUASIVE SPEAKING
SOC 3450	SOCIAL PSYCHOLOGY

**TEAMWORK & COLLABORATION**

CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION
-----------	---

CMST 4700	INTERPERSONAL CONFLICT
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT
MGMT 4090	PRINCIPLES OF COLLABORATION
MGMT 4330	PROJECT MANAGEMENT
<b>CAREER MANAGEMENT</b>	
GERO 4750	MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING
MGMT 3300	STRATEGYU: IDENTIFYING AND LEVERAGING YOUR DISTINCTIVE PROFESSIONAL CAPABILITIES
PSYC 4640	PERSONNEL PSYCHOLOGY

**Aviation Studies****Requirements: (30 hours)**

Code	Title	Credits
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 1040	HISTORY OF AVIATION AND AEROSPACE	3
AVN 2020	AIRLINE OPERATIONS	3
or AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	
Additional 21 hours from the Aviation Institute (AVN)		21

**Behavioral Health****Requirements: (30 hours)**

Code	Title	Credits
SOWK 1000	SOCIAL WORK AND SOCIAL WELFARE	3
SOWK 1500	SOCIAL WORK AND CIVIC ENGAGEMENT	3
PHHB 2070	DRUG AWARENESS	3
PSYC 2500	LIFESPAN PSYCHOLOGY	3
PSYC 4440	ABNORMAL PSYCHOLOGY	3
Additional 15 hours to be selected from 2 of the 4 areas listed below:		15

**Human Development**

PSYC 3520	CHILD PSYCHOLOGY
PSYC 3540	ADOLESCENT PSYCHOLOGY
PSYC/GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN
GERO 2000	INTRODUCTION TO GERONTOLOGY
GERO/PHHB 3070	DEATH AND DYING
GERO 4350	ISSUES IN AGING
GERO 4690	WORKING WITH MINORITY ELDERLY
SOWK 2120	RACE, CLASS AND GENDER IN THE UNITED STATES

**Clinical**

PSYC 3410	CLINICAL PSYCHOLOGY
PSYC 3430	PERSONALITY AND ADJUSTMENT
PSYC 3450	SOCIAL PSYCHOLOGY
PSYC 4470	MENTAL HEALTH AND AGING
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE
SOC 4830	SOCIOLOGY OF MENTAL HEALTH & ILLNESS
SPED 4010	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS
CRCJ 4420	CHILD ABUSE AND NEGLECT

CRCJ 4800	SPECIAL TOPICS
GERO 4850	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY
GERO 4980	COUNSELING SKILLS IN GERONTOLOGY
GERO 4940	PRACTICUM
COUN 4510	TREATMENT ISSUES IN CHEMICAL DEPENDENCY

**Health**

PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH
PHHB 2310	HEALTHFUL LIVING
PHHB 2850	STRESS MANAGEMENT
PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT
PHHB 4130	COMMUNITY HEALTH
PHHB 4550	HEALTH ASPECTS OF AGING
PHHB 4200	A PUBLIC HEALTH APPROACH TO MENTAL HEALTH
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION

**Measurement**

PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES
PSYC 3140	RESEARCH METHODS IN PSYCHOLOGY

**Biology****Requirements: (36 hours)**

Code	Title	Credits
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
Additional 26 hours from the Department of Biology (BIOL)		26

**Required supporting coursework in Physics: (5-10 hours) 5-10**

PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY
OR	
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I
AND	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II
OR	
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I
AND	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II

**Required supporting coursework in Chemistry (14-16 hours) 14-16**

Choose either Pre-Health or Pre-Med focus:

**Pre-Health**

CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY

CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY
--------------------------	--

**Pre-Med**

CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY
CHEM 2250	ORGANIC CHEMISTRY I
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY

**Communication Studies****Requirements: (30 hours)**

Code	Title	Credits
CMST 2010 or CMST 2410	INTERPERSONAL COMMUNICATION SMALL GROUP COMMUNICATION AND LEADERSHIP	3
CMST 4510	PERSUASION AND SOCIAL INFLUENCE	3
Select one from the following:		3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	
CMST 3140	ADVANCED PUBLIC SPEAKING	
CMST 3520	INTERVIEWING	
CMST 3150	INTERCOLLEGIATE FORENSIC ACTIVITIES	
Additional 21 hours from Communication Studies (CMST)		21
An optional allied field of up to 9 hours may be taken from Journalism and Media Communicaiton (JMC)		9

**Computer Science****Requirements: (30 hours)**

Code	Title	Credits
CSCI 1200 or CIST 1300	COMPUTER SCIENCE PRINCIPLES INTRODUCTION TO WEB DEVELOPMENT	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 3320	DATA STRUCTURES	3
Select two from the following: (6 hours)		6
CSCI 3550	COMMUNICATION NETWORKS	
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	
CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	
CSCI 4350	COMPUTER ARCHITECTURE	
CSCI 4500	OPERATING SYSTEMS	
CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING	
Additional 6 upper level hours from Department of Computer Science (CSCI)		6
Required coursework in Math (12 hours minimum)		12
MATH 1950	CALCULUS I	

MATH 2050	APPLIED LINEAR ALGEBRA
Statistics course recommended, but not required	

## Criminology and Criminal Justice

### Requirements: (30 hours)

30 hours from the School of Criminology and Criminal Justice (CRCJ)

An optional allied field of up to 9 hours may be taken in one of the following College/departments:

College of Business Administration  
Political Science  
Psychology  
Public Administration  
Sociology

## Cross Sector Leadership

Requirements: (30 hours)

Code	Title	Credits
MGMT 3800	CROSS-SECTOR COLLABORATIVE LEADERSHIP	3
or PA 3800	CROSS-SECTOR COLLABORATIVE LEADERSHIP	
MGMT 1500	INTRODUCTION TO BUSINESS	3
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	3
PA 2000	LEADERSHIP & ADMINISTRATION	3
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA 3200	PROGRAM PLANNING AND EVALUATION	3
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS	3
PA 4960	CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE	3
Select two from the following:		6
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	
PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE	
PA 4530	STRATEGIC PLANNING	

## Cybersecurity

### Requirements: (30 hours)

Code	Title	Credits
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
or CYBR 2250	LOW-LEVEL PROGRAMMING	
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
CYBR 2600	SYSTEM ADMINISTRATION	3
CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS	3
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	3
CIST 4540	COMPUTER SECURITY MANAGEMENT	3
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	3
or CSCI 3550	COMMUNICATION NETWORKS	
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
or MATH 2030	DISCRETE MATHEMATICS	
Additional 6 upper level course from Cybersecurity (CYBR)		6

CSCI 4830	INTRODUCTION SOFTWARE ENGINEERING
CSCI/MATH 4560	NUMBER THEORY & CRYPTOGRAPHY
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT

## Emergency Management

### Requirements: (30 hours)

Code	Title	Credits
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT	3
EMGT 2020	EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION	3
EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES	3
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA/CRCJ/SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
EMGT 3040	PREPAREDNESS/PLANNING AND RISK MITIGATION	3
EMGT 3080	AGENCY COLLABORATION DURING DISASTERS	3
EMGT 4060	DISASTER RESPONSE AND RECOVERY	3
Additional 6 hours from the following courses:		6
AVN 3150	AVIATION LAW	
AVN 4080	AIRPORT SAFETY AND SECURITY	
CRCJ 2030	POLICE AND SOCIETY	
CRCJ 4760	TERRORISM	
EMGT 2500	DISASTERS AND VULNERABLE POPULATIONS	
EMGT 3020	FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS	
EMGT 4020	PROTECTING AND SUSTAINING TRIBAL ECONOMIES	
EMGT 4050	INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT	
FSMT 2200	CODES AND INSPECTIONS	
FSMT 2410	STRATEGIES AND TACTICS IN FIRE AND EMERGENCY SERVICES	
FSMT 3350	FIRE PREVENTION, ORGANIZATION, AND MANAGEMENT	
FSMT 3680	ANALYTICAL APPROACHES TO PUBLIC FIRE PROTECTION	
FSMT 4450	FIRE AND EMERGENCY SERVICES ADMINISTRATION	
GEOG 3530 & GEOG 3540	CARTOGRAPHY AND DATA VISUALIZATION and FUNDAMENTALS OF GEOSPATIAL DATA SCIENCE	
GEOG 4120	URBAN GEOGRAPHY	
GEOG 3510	METEOROLOGY	
GEOG 4160	URBAN SUSTAINABILITY	
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	
GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	

ISQA 3310	MANAGING THE DATABASE ENVIRONMENT
ISQA 3420	MANAGING IN A DIGITAL WORLD
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT
MGMT 3490	MANAGEMENT
MKT 3310	PRINCIPLES OF MARKETING
PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE
PHHB 4130	COMMUNITY HEALTH
PHHB 4880	PUBLIC HEALTH POLICY
PSCI 2110	INTRODUCTION TO PUBLIC POLICY
PSCI 3260	UNITED STATES FOREIGN POLICY
PSCI 4250	INTELLIGENCE AND NATIONAL SECURITY
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT
PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS
PA 4300	SEMINAR IN PUBLIC POLICY
PA 4390	PUBLIC BUDGETING
PA 4500	NONPROFIT FUNDRAISING
PA 4530	STRATEGIC PLANNING

## English

### Requirements: (30 hours)

30 hours from the Department of English (ENGL) beyond ENGL 1160/ENGL 1164 English Composition II or equivalent.

Strongly recommended courses:

ENGL 2410 or ENGL 2420

ENGL 4790

ENGL 4800

ENGL 4990

An optional allied field of up to 9 hours may be taken in one of the following departments:

Black Studies

Communication Studies

Foreign Language

History

Journalism & Media Communication

Library Science

Native American Studies

Philosophy

Religion

Sociology

Theatre

Writers Workshop

Women's and Gender Studies

## Environmental Sciences

### Requirements: (30 hours)

Code	Title	Credits
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
BIOL 1330	ENVIRONMENTAL BIOLOGY	3

CHEM 1010 & CHEM 1014	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY and CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY	4
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	4

Additional 15 hours selected from the curriculum of one of the Environmental Sciences options:

Analytic

Earth Science

Geography & Planning

Life Science

Courses for each of the Environmental Sciences options can be found through the College of Arts & Science Environmental Science academic catalog pages, linked here: Analytic (<https://catalog.unomaha.edu/undergraduate/college-arts-sciences/environmental-studies/environmental-sciences-environmental-studies-bs-analytical-sciences-concentration/>), Earth Science (<https://catalog.unomaha.edu/undergraduate/college-arts-sciences/environmental-studies/environmental-sciences-environmental-studies-bs-earth-sciences-concentration/>), Geography & Planning (<https://catalog.unomaha.edu/undergraduate/college-arts-sciences/environmental-studies/environmental-sciences-environmental-studies-bs-geography-and-planning-concentration/>), and Life Science (<https://catalog.unomaha.edu/undergraduate/college-arts-sciences/environmental-studies/environmental-sciences-environmental-studies-bs-geography-and-planning-concentration/>).

## Fine Arts

### Requirements: (30 hours)

30 credit hours from Fine Arts content areas: Art and Art History (ART), Creative Writing (WRWS), Music (MUS), Theatre (THEA), comprised of two 15-hour blocks. The blocks may be in one content area (i.e., 30 hours in Music) or two content areas (e.g., 15 hours in Theatre, 15 hours in Art).

## General Administration

### Requirements: (30 hours)

30 hours of Accounting (ACCT), Economics (ECON), Entrepreneurship (ENTR), Finance and Banking (FNBK), Business Administration (BSAD), Law and Society (LAWS), Management (MGMT), Marketing (MKT), Real Estate (RELU), Supply Chain Management (SCMT) and Public Administration (PA).

An optional allied field of up to 9 hours may be taken in Political Science.

NOTE: Due to the UNO College of Business' AACSB accreditation, students in the Division of Continuing Studies are permitted to use only 30 hours of UNO business credit towards their Bachelor of Multidisciplinary Studies degree. Students need to plan their 30 hours of UNO business courses carefully to make the best use of these hours. Exceptions are granted on a case-by-case basis, please check with your academic advisor.

## General Science

### Requirements: (49-50 hours)

Code	Title	Credits
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
Select one of the following:		5
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I	

PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	
Select one of the following:		5
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	
Select one of the following:		5-6
MATH 1950 or MATH 1930	CALCULUS I CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	
MATH 1930 & MATH 1530	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES and INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Additional 12 hours of electives at the 2000 level or higher in at least two of the following disciplines: Biology (BIOL), Chemistry (CHEM), Physics (PHYS), Geology (GEOL), Geography (GEOG). Geography courses must be from a physical science perspective.		12

## Geography

### Requirements: (30 hours)

30 hours from the Department of Geography (GEOG). Students should take one course from the following Geography Diversity Groups: Physical Geography, Human Geography, and Global Perspectives.

Code	Title	Credits
<b>Physical Geography</b>		<b>3</b>
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	
GEOG 3510 & GEOG 3514	METEOROLOGY and INTRODUCTION TO METEOROLOGY LABORATORY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG 4040	GEOARCHAEOLOGY	
GEOG 4100	BIOGEOGRAPHY	
GEOG 4260	PROCESS GEOMORPHOLOGY	
GEOG 4320	CLIMATOLOGY	
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
GEOG 4340	WATER RESOURCES	
GEOG 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	
<b>Human Geography</b>		<b>3</b>
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	
GEOG 3130	ECONOMIC GEOGRAPHY	
GEOG 3930	POLITICAL GEOGRAPHY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG 4120	URBAN GEOGRAPHY	
GEOG 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	
GEOG 4160	URBAN SUSTAINABILITY	

GEOG 4170	ADVANCED CULTURAL GEOGRAPHY	
GEOG 4550	GEOGRAPHY OF ECONOMIC GLOBALIZATION	
GEOG 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
<b>Global &amp; North American Perspectives</b>		<b>3</b>
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	
GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	
GEOG 3030	GEOGRAPHY OF AFRICA	
GEOG 3050	GEOGRAPHY IN FILM	
GEOG 3070	GEOGRAPHY OF LATIN AMERICA	
GEOG 3080	EAST & SOUTHEAST ASIA	
GEOG 3230	GEOGRAPHY OF EUROPE	
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS	
GEOG 3330	UNITED STATES & CANADA	
GEOG 4230	GREAT PLAINS & NEBRASKA	
GEOG 4530	HISTORICAL GEOGRAPHY OF THE UNITED STATES	
Additional 21 hours from Geography (GEOG)		21

## Gerontology

### Requirements: (30 hours)

Code	Title	Credits
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS	3
or GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	
Additional 21 hours from the Department of Gerontology (GERO)		21
An optional allied field of up to 9 hours may be taken from one of the following departments:		9
Public Administration		
Social Work		
Transferable Nursing coursework		

A Certificate in Gerontology may be completed as part of Gerontology Concentration coursework. The Gerontology Certificate (p. 736) requires a total of 18 hours (15 hours in GERO coursework based on career objectives and interest areas and 3 hours of GERO 4940 Practicum). Please consult with an academic advisor when planning coursework.

## Healthcare Administration

### Requirements: (30 hours)

Code	Title	Credits
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3
PA 4206	INTRODUCTION TO HEALTH CARE SYSTEMS	3
GERO 4510	LONG-TERM CARE ADMINISTRATION	3
Select one from the following:		3
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	

CMST 4170	ORGANIZATIONAL COMMUNICATION
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS
MKT 3200	BUSINESS COMMUNICATIONS

Additional 15 hours from the following list of courses: 15

#### Organizational Development and Planning

ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY
CIST 3110	INFORMATION TECHNOLOGY ETHICS
GERO 2000	INTRODUCTION TO GERONTOLOGY
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS
or GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY
GERO 4520	SENIOR HOUSING
GERO 4690	WORKING WITH MINORITY ELDERLY
GERO 4720	BABY BOOMERS AND THE 21ST CENTURY
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT
MGMT 3490	MANAGEMENT
MGMT 4100	ORGANIZATION CHANGE AND DESIGN
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR
PA 3200	PROGRAM PLANNING AND EVALUATION
PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE
PA 4530	STRATEGIC PLANNING
PSYC 3450	SOCIAL PSYCHOLOGY

#### Management/Leadership

BSAD 2600	ETHICS IN ORGANIZATIONS
CMST 3520	INTERVIEWING
CMST 4220	HEALTH COMMUNICATION
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION
CMST 4800	ADVANCED CONFLICT MEDIATION
GERO 4350	ISSUES IN AGING (Topic: Management and Administration of Aging Programs)
GERO 4350	ISSUES IN AGING (Topic: Financial Management in Long-Term Care)
GERO 4500	LEGAL ASPECTS OF AGING
GERO 4940	PRACTICUM
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH
PHHB 4420	PUBLIC HEALTH INFORMATICS
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY
MGMT 3490	MANAGEMENT
MGMT 4030	HUMAN RESOURCE MANAGEMENT
MGMT 4040	ORGANIZATIONAL BEHAVIOR
MGMT 4050	MANAGERIAL DECISION MAKING
MGMT 4220	EMPLOYMENT LAW
PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS

PA 4950	INTERNSHIP
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY
PSYC 4640	PERSONNEL PSYCHOLOGY
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE

#### Organizational Security

EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT
EMGT 2020	EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION
EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES
EMGT 3040	PREPAREDNESS/PLANNING AND RISK MITIGATION
EMGT 3080	AGENCY COLLABORATION DURING DISASTERS
EMGT 4060	DISASTER RESPONSE AND RECOVERY
FSMT 1600	FUNDAMENTALS OF FIRE SCIENCE
FSMT 2200	CODES AND INSPECTIONS
FSMT 3140	FIRE RELATED HUMAN BEHAVIOR

## History

### Requirements: (30 hours)

30 hours from the Department of History (HIST)

An optional allied field of up to 9 hours may be taken in one of the following departments:

Art History  
Economics  
English Literature  
Geography  
Literature in a Foreign Language  
Philosophy  
Political Science  
Religion  
Sociology

## Industrial Distribution & Logistics

Code	Title	Credits
Required Courses (15 credit hours)		
MKT 3200	BUSINESS COMMUNICATIONS	3
MGMT 3490	MANAGEMENT	3
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	3
SCMT 4350	GLOBAL SOURCING AND INNOVATION	3
SCMT 4380	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
Elective Courses (15 credit hours)		15
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
ACCT 3000	MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT	
AVN 3700	TRANSPORTATION ANALYSIS	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
CMST 2010	INTERPERSONAL COMMUNICATION	
CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	
CMST 4170	ORGANIZATIONAL COMMUNICATION	
CMST 4530	INTERCULTURAL COMMUNICATION-US	
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)
ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING
MGMT 4450	MANAGERIAL NEGOTIATION STRATEGIES
MKT 3310	PRINCIPLES OF MARKETING
MKT 3340	CHANNELS OF DISTRIBUTION
MKT 3610	BUSINESS TO BUSINESS MARKETING
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY
PSYC 4640	PERSONNEL PSYCHOLOGY
SCMT 2000	SURVEY OF SUPPLY CHAIN MANAGEMENT
SCMT 3500	OPERATIONS MANAGEMENT
SCMT 4540	SUPPLY CHAIN MANAGEMENT INTERNSHIP
SCMT and other courses based on topic	

## Information Technology

### Requirements: (30 hours)

Code	Title	Credits
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2850	PROGRAMMING ON THE INTERNET	3
CSCI 3320	DATA STRUCTURES	3
or ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
CSCI 3550	COMMUNICATION NETWORKS	3
or ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
Select one of the following:		3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
CIST 3110	INFORMATION TECHNOLOGY ETHICS	3
Additional 3 upper level hours from Information Technology (CIST/CSCI/CYBR/ISQA)		3

## Library Science

### Requirements: (30 hours)

Code	Title	Credits
TED 2160	INTRODUCTION TO LIBRARY SERVICES	3
TED 2360	CHILDREN'S LITERATURE	3
TED 2500	DIGITAL CITIZENSHIP	3
TED 3760	ADULT SERVICES, PROGRAMMING, AND OUTREACH IN LIBRARIES	3
TED 4590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
TED 4660	YOUNG ADULT LITERATURE	3
TED 4710	RESEARCH AND INQUIRY	3
TED 4740	MANAGEMENT OF INFORMATION RESOURCES IN LIBRARIES	3

TED 4800	LEADERSHIP AND MANAGEMENT IN LIBRARIES	3
TED 4570	LIBRARY SCIENCE CAPSTONE	3

## Management Information Systems

### Requirements: (30 hours)

Code	Title	Credits
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CIST 1300	INTRODUCTION TO WEB DEVELOPMENT	3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	3
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	3
ISQA 4110	INFORMATION SYSTEMS ANALYSIS	3
ISQA 4120	SYSTEM DESIGN AND IMPLEMENTATION	3

## Media Communication

### Requirements: (30 hours)

Code	Title	Credits
JMC 1500	INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION	3
JMC 2200	MEDIA STORYTELLING	3
Additional 24 hours from Journalism and Media Communication (JMC)		24
An optional allied field of up to 9 hours may be taken from Communication Studies (CMST)		9

## Native American Studies

### Requirements: (30 hours)

Code	Title	Credits
NAMS 1100	INTRODUCTION TO NATIVE AMERICAN STUDIES	3
Additional 27 hours from the following: (select no more than 9 hours from one department)		27

#### Anthropology

ANTH 3220	PEOPLES AND CULTURES OF NATIVE NORTH AMERICA
ANTH 4220	NORTH AMERICAN ARCHAEOLOGY
ANTH 4230	ETHNOMEDICINES OF THE AMERICAS
ANTH 4260	TOPICS IN CULTURAL ANTHROPOLOGY
ANTH 4920	SEMINAR IN ANTHROPOLOGY

#### English

ENGL 2000	TOPICS IN LANGUAGE AND LITERATURE
ENGL 2470	SURVEY OF NATIVE AMERICAN LITERATURE
ENGL 3100	NATIVE AMERICAN LITERATURE: MAJOR FIGURES
ENGL 4960	TOPICS IN LANGUAGE AND LITERATURE

#### Additional Options

GERO 4690	WORKING WITH MINORITY ELDERLY
-----------	-------------------------------

HIST 4400	HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES
HIST 4910	TOPICS IN HISTORY
NAMS 4900	INDEPENDENT STUDY
NAMS 4920	SPECIAL TOPICS IN NATIVE AMERICAN STUDIES
PSYC 4920	SPECIAL TOPICS IN PSYCHOLOGY
RELI 3020	NATIVE AMERICAN RELIGIONS
RELI 3030	SHAMANISM
SOWK 4040	WORKING WITH MINORITY ELDERLY

## Nonprofit Administration

### Requirements: (30 hours)

Code	Title	Credits
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
PA 3200	PROGRAM PLANNING AND EVALUATION	3
PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS	3
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS	3
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS	3
PA 4500	NONPROFIT FUNDRAISING	3
Select two from the following:		6
PA 2000	LEADERSHIP & ADMINISTRATION	
PA 4200	COMMUNITY ORGANIZING & SOCIAL CHANGE	
PA 4300	SEMINAR IN PUBLIC POLICY	
PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE	
PA 4530	STRATEGIC PLANNING	
PA 4950	INTERNSHIP	
UBNS 1010	INTRODUCTION TO URBAN STUDIES	

## Organizational Studies

### Requirements: (30 hours)

Code	Title	Credits
<b>Business</b>		<b>9</b>
MGMT 3490	MANAGEMENT	
MGMT 4030	HUMAN RESOURCE MANAGEMENT	
MGMT 4010	TOTAL REWARDS	
<b>Communication Studies</b>		<b>9</b>
CMST 2010	INTERPERSONAL COMMUNICATION	
or CMST 2410	SMALL GROUP COMMUNICATION AND LEADERSHIP	
CMST 3100	PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES	
or CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS	
or CMST 3520	INTERVIEWING	
CMST 4170	ORGANIZATIONAL COMMUNICATION	
<b>Psychology</b>		<b>6</b>
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY	

PSYC 4640	PERSONNEL PSYCHOLOGY	
Select two from the following:		6
PSYC 3450	SOCIAL PSYCHOLOGY	
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 4650	CREATIVITY AND INNOVATION IN ORGANIZATIONS	
CMST 4150	CORPORATE TRAINING AND DEVELOPMENT	
CMST 4180	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	
CMST 4190	COMPUTER-MEDIATED COMMUNICATION	
CMST 4530	INTERCULTURAL COMMUNICATION-US	
CMST 4560	COMMUNICATION, TEAMWORK, & FACILITATION	
CMST 4570	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
CMST 4700	INTERPERSONAL CONFLICT	
CMST 4800	ADVANCED CONFLICT MEDIATION	
MGMT 4110	STAFFING THE ORGANIZATION	
MGMT 4120	TALENT DEVELOPMENT	
MGMT 4220	EMPLOYMENT LAW	
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
or MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	
or PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	
or SOC 2130	SOCIAL STATISTICS	

## Philosophy

### Requirements: (30 hours)

30 hours from the Department of Philosophy (PHIL)

Must include PHIL 3000 or: PHIL 4000 and 9 hours of upper level from UNO

## Political Science

### Requirements: (30 hours)

Code	Title	Credits
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
PSCI 2000	INTRODUCTION TO POLITICAL INQUIRY AND WRITING	3
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PSCI 2310	INTRODUCTION TO POLITICAL THOUGHT	3
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	3
PSCI 4950	SENIOR ASSESSMENT IN POLITICAL SCIENCE	0
Additional 15 hours from the Department of Political Science (PSCI)		15
An optional allied field of up to 9 hours may be taken in one of the following departments:		9
Economics		
Geography		
History		
Philosophy		

## Religious Studies

## Sociology/Anthropology

**Psychology****Requirements: (30 hours)**

Code	Title	Credits
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
9 hours to be selected from 3 of the 4 areas listed:		9

**Applied Psychology**

PSYC 3510	EDUCATIONAL PSYCHOLOGY
PSYC 4020	LEARNING
PSYC 4310	PSYCHOLOGICAL AND EDUCATIONAL TESTING
PSYC 4510	PSYCHOLOGY IN THE SCHOOLS
PSYC 4560	FORENSIC PSYCHOLOGY
PSYC 4630	ORGANIZATIONAL PSYCHOLOGY
PSYC 4640	PERSONNEL PSYCHOLOGY

**Social/Personality/Developmental Psychology**

PSYC 3450	SOCIAL PSYCHOLOGY
PSYC 3520	CHILD PSYCHOLOGY
PSYC 3540	ADOLESCENT PSYCHOLOGY
PSYC 4450	PERSONALITY THEORIES

**Mental Health**

PSYC 3410	CLINICAL PSYCHOLOGY
PSYC 3430	PERSONALITY AND ADJUSTMENT
PSYC 4440	ABNORMAL PSYCHOLOGY
PSYC 4590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN
PSYC 4800	LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE

**Cognitive/Neuroscience**

PSYC 4070	COGNITIVE PSYCHOLOGY
PSYC 4090	COGNITIVE NEUROSCIENCE
PSYC 4210	SENSATION AND PERCEPTION
PSYC 4230	BEHAVIORAL NEUROSCIENCE
PSYC 4270	ANIMAL BEHAVIOR
PHIL 3650	PHILOSOPHY OF MIND
PSYC 4320	HORMONES & BEHAVIOR

Additional 18 hours to be selected from the Department of Psychology (PSYC) 18

**Public Policy Studies****Requirements: (30 hours)**

Code	Title	Credits
<b>Required courses:</b>		<b>21</b>
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	
PSCI 2110	INTRODUCTION TO PUBLIC POLICY	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
PA/CRCJ/SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	
or PSCI 3000	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	
PA 3200	PROGRAM PLANNING AND EVALUATION	
or PA 4390	PUBLIC BUDGETING	
PSCI 4030	THE PRESIDENCY	
or PSCI 4040	CONGRESS AND THE LEGISLATIVE PROCESS	
or PSCI 4050	THE JUDICIAL PROCESS	

PA 4300	SEMINAR IN PUBLIC POLICY
Select one specialization:	9

**Commerce**

BSAD 3600	BUSINESS ETHICS
MGMT 4220	EMPLOYMENT LAW
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT
EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES
EMGT 3080	AGENCY COLLABORATION DURING DISASTERS
ECON 3220	ECONOMIC THEORY: MACRO
ECON 3550	PUBLIC FINANCE

**Gerontology**

GERO 4500	LEGAL ASPECTS OF AGING
GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY
GERO 4720	BABY BOOMERS AND THE 21ST CENTURY
GERO 4750	MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING

**Urban and Regional Planning**

GEOG 4120	URBAN GEOGRAPHY
PSCI 3010	URBAN POLITICS
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY
UBNS 1010	INTRODUCTION TO URBAN STUDIES

**Criminal Justice**

CRCJ 1010	SURVEY OF CRIMINAL JUSTICE
CRCJ 3310	CRIMINAL LAW
CRCJ 3350	CRIMINOLOGY
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE
CRCJ 3510	CRIMINAL PROCEDURE
CRCJ 4060	CRIMINAL JUSTICE ETHICS

**Health Care**

PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH
PHHB/WGST 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT
PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE
PHHB 4130	COMMUNITY HEALTH
PHHB 4880	PUBLIC HEALTH POLICY
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY

**Telecommunication & Information Technology**

CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY
CIST 3110	INFORMATION TECHNOLOGY ETHICS
CIST/CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE

**Sociology****Requirements: (30 hours)**

30 hours in Sociology (SOC)

An optional allied field of up to 9 hours may be taken in one of the following disciplines:

Anthropology  
Economics  
History  
Political Science  
Psychology  
Religion

## Sustainability

### Requirements: (30-32 hours)

Code	Title	Credits
SUST 1000	INTRODUCTION TO SUSTAINABILITY	3
<b>Environmental Science: Select one</b>		<b>3-4</b>
BIOL 1330	ENVIRONMENTAL BIOLOGY	
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	
GEOL 1010	ENVIRONMENTAL GEOLOGY	
GEOL 1100	EARTH SYSTEM SCIENCE	
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
<b>Economics/Public Policy: Select one</b>		<b>3</b>
ECON 3320	INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS	
ECON 4320	NATURAL RESOURCE ECONOMICS	
GEOG 4160	URBAN SUSTAINABILITY	
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
<b>Social/Ethical: Select one</b>		<b>3</b>
ENVN 2000	LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY	
ENVN 3660	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN	
GEOG 4160	URBAN SUSTAINABILITY	
PHIL 3180	ENVIRONMENTAL ETHICS	
PSCI 4290	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
SOC 4760	ENVIRONMENTAL SOCIOLOGY	
<b>Natural Resources: Select one</b>		<b>3-4</b>
BIOL 4120	CONSERVATION BIOLOGY	
ENVN 2120	SUSTAINABLE LANDSCAPE PLANTS	
ENVN 3660	INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN	
ENVN 4310	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	
ENVN 4320	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
Additional 15 hours to be selected from the courses below or from those not selected above.		15
DSGN 1100	DESIGN THINKING	
CNST 1310	INTRODUCTION TO THE CONSTRUCTION INDUSTRY	
CNST 3050	BUILDING ENVIRONMENTAL TECHNICAL SYSTEMS I	
CONE 4500	SUSTAINABLE CONSTRUCTION	
HIST 4450	NATIVE AMERICAN ENVIRONMENTALISM	

PA 4200 COMMUNITY ORGANIZING & SOCIAL CHANGE

BIOL/ENVN/ GEOG/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS
ENVN 4090	SPECIAL TOPICS IN ENVIRONMENTAL STUDIES
UBNS 1010	INTRODUCTION TO URBAN STUDIES
SUST 4090	SPECIAL TOPICS IN SUSTAINABILITY
SUST 4800	INTERNSHIP IN SUSTAINABILITY
SUST 4900	INDEPENDENT STUDY

## Urban Studies

### Requirements: (31 hours)

Code	Title	Credits
UBNS 1010	INTRODUCTION TO URBAN STUDIES	3
PA/CRCJ 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION	4
SOC 3900	RACE AND ETHNIC RELATIONS IN THE U.S.	3
or CMST 4530	INTERCULTURAL COMMUNICATION-US	
Select two from the following:		6
GEOG 4120	URBAN GEOGRAPHY	
GEOG 4160	URBAN SUSTAINABILITY	
PSCI 3010	URBAN POLITICS	
SOC 4140	URBAN SOCIOLOGY	
ECON 4850	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	

An additional 12 hours from the following list (must be from at least three different academic departments):

Black Studies
Criminology and Criminal Justice
Economics
Geography
Gerontology
History
Latino/Latin American Studies
Native American Studies
Political Science
Public Administration
Social Work

## Women's and Gender Studies

### Requirements: (30 hours)

Code	Title	Credits
WGST 2010	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE	3
WGST 2020	INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES	3
WGST 4010	SENIOR SEMINAR	3
Additional 21 hours (15 of which must be upper level) to be selected from approved Women's and Gender Studies (WGST) courses.		21

# Emergency Management and Disaster Science

Emergency Management and Disaster Science offers a Bachelor of Science in Emergency Management as well as minors in Emergency Management, Fire Service Management, and Tribal Management and Emergency Services. The program also offers an undergraduate certificate in Tribal Management and Emergency Services. Emergency Management and Disaster Science was developed over a two year period by an interdisciplinary group composed of faculty from diverse University departments and programs, as well as community and public safety leaders in related professions. The program was approved in the summer of 2012. The curriculum developed is intended to provide an education that encompasses the broad array of knowledge and experience necessary to conduct emergency services and emergency administration, and to meet the demand for Emergency Management professionals at the federal, state, and local government levels, in the business community, and within the nonprofit organizations active in disasters.

## The Mission of Emergency Management and Disaster Science is to:

- Develop student talents, wisdom, and experiences in a supportive yet demanding academic environment that prepares them for a personally rewarding successful professional career in Emergency Management.
- Initiate and lead superior research initiatives while supporting continuous improvements in efficiency, reliability, safety, and sustainability for provision of emergency services in the State of Nebraska and beyond.
- Foster cooperative relationships with neighboring communities, state and federal agencies, and private enterprise through collaborative education, training, and service projects that enhance performance and productivity.
- Set, preserve, and promote the utmost standards of honesty, integrity, and transparency through the teaching of and adherence to ethical conduct and open dialogue while ensuring good stewardship and management of program resources

Emergency Management and Disaster Science is a division of the School of Public Administration in the College of Public Affairs and Community Service (CPACS).

## Transfer Credit

Sixty-four credit hours from regionally accredited two-year institutions may be applied toward the degree. Twelve credit hours of American Council on Education (ACE) approved military credit may be applied toward electives in the BSEM degree. Credit from an institution that is not regionally accredited cannot be applied to the BSEM degree.

## Fast Track

The School of Public Administration has developed a Fast-Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing the BS in Emergency Management desiring to pursue a MS in Urban Studies or the MPA degree.
- Students should have senior status (91 hours) and must be within at least 30 undergraduate credits yet to complete their undergraduate degree. Exceptional students who do not meet this requirement may be considered.

- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast-Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor and consult with the graduate advisor prior to enrollment in one of the courses listed below.
- A minimum cumulative GPA of 3.5 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For this program, if students maintain at least a grade of B+ in courses taken, they will be recommended for admission to the MSUS or MPA program.
  - The admit term must be after the completion term of the undergraduate degree.

The following MS in Urban Studies courses may be taken under the Fast-Track program:

- UBNS 8000, Seminar in Urban Studies
- UBNS 8060, Introduction to Urban Planning
- UBNS 8020, Race, Ethnicity and American Urban Culture\*\*
- UBNS 8200, Community Organizing and Development\*\*
- PA 8010, The Public Economy (Must have completed or be concurrently enrolled in UBNS 8000)

The following MPA courses may be taken under the Fast-Track program:

- PA 8050, Foundations of Public Service
- PA 8090, Organizational Theory and Behavior
- PA 8100, Advanced Management and Leadership for Public and Nonprofit Organizations (Note: This course may only be taken if both PA 8050 and PA 8090 are completed).

## Academic Advising

Academic Advising is provided for all students. The program recommends advising each semester to ensure degree completion. The academic advisor assists students with goal setting, degree planning, course scheduling, addressing any questions or concerns regarding major/minor, academic performance, and/or policies and procedures. The faculty in Emergency Management and Disaster Science are also available to speak with students regarding careers and mentoring. To contact an advisor, visit 114 CPACS, email [unoemgt@unomaha.edu](mailto:unoemgt@unomaha.edu), or call 402.554.4900.

## Student Group

Emergency Management Student Association (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/emergency-management-and-disaster-science/student-involvement/>)

## Contact

Emergency Management and Disaster Science is located in the College of Public Affairs and Community Service in room 114. The office can be reached by phone at 402.554.4900 or by email at [unoemgt@unomaha.edu](mailto:unoemgt@unomaha.edu).

Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/emergency-services-program/>)

## Admissions

Readmit students and students wishing to transfer from another institution or department within the University of Nebraska must have a 2.5 cumulative grade point average. Students with a GPA of 2.0 to 2.49 may be admitted to the Pre-Emergency Management program. Once students have achieved a 2.5 cumulative grade point average or better, they will be admitted to the BSEM program.

## Degrees Offered

- Emergency Management (BSEM), Bachelor of Science (p. 724)

## Writing in the Discipline

The writing in the discipline courses for emergency management are:

- AVN 3060 Writing in Aviation
- CRCJ 3100 Writing for Criminal Justice
- CIST 3000 Advanced Composition for IS&T
- ENGL 2400 Advanced Composition
- ENGL 3050 Writing for the Workplace
- ENGL 3980 Technical Writing Across the Disciplines
- MKT 3200 Business Communications
- or a course approved by the Academic Advisor.

## Minors Offered

- Emergency Management Minor (p. 729)
- Fire Service Management Minor (p. 729)
- Tribal Management and Emergency Services Minor (p. 730)

## Certificates Offered:

- Tribal Management and Emergency Services Certificate (p. 730)

*Emergency Management is the profession of individuals who focus on helping communities prior to, during, and following natural and manmade disasters to minimize risk and vulnerability. Emergency Managers plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (tornadoes, floods) and manmade (technological, terrorism) disasters, as well as public health epidemics. Our program meets the demand for professionals at the federal, state, and local levels, and the business community.*

*Emergency Managers can work in many different industries including federal, state, county, and city governments, educational institutions, hospitals and public health agencies, nonprofits and community/international relief organizations, private industry, transportation, the military, and many others.*

- Disaster Recovery Manager
- Emergency Management Specialist
- Emergency Management Coordinator
- Emergency Preparedness Specialist
- Emergency Response Coordinator
- Emergency Services Director
- Safety Manager
- Public Information Officer

## Aviation Administration

- Federal Aviation Administration (FAA)
- Airport Security

- Commercial Aviation Companies
- Department of Transportation

## Criminology and Criminal Justice

- Law Enforcement Officer
- Federal Agencies such as the FBI, ATF, DIA, DHS, etc.
- Corrections
- Homeland Security Officer
- Security Director

## Fire Service Management

- City Firefighter
- Wildland Firefighter
- Commend Level Supervisor
- Fire Prevention Specialist

## Geospatial Science

- Search and Rescue
- GIS Administrator, Analyst, Coordinator, or Manager
- Transportation Planner
- Data Collection for Drones

## Gerontology

- Public Policy and Education
- Hospitals, Nursing and Assisted Living Homes
- Housing and Home Modification
- Evacuation Specialist

## Information Technology and Communication

- Emergency Communication Specialist
- Information Security Analyst
- Information Security Director

## Intelligence and Security

- Intelligence Analyst
- State, Federal and Local Government: FBI, CIA, DIA, DHS
- Military Intelligence

## Logistics Management

- Logistics Engineer
- Transportation Manager
- Distribution Manager
- Transportation companies

## Natural Disasters

- Environmental Protection Specialist
- Urban/Regional Planner
- Soil and Water Conservationist

## Nonprofit Management

- Volunteer Coordinator/Manager
- Community Development Planner/Director
- Grant/Fundraising Manager

## Planning and Preparing for Urban Hazards

- Urban/Regional Planner
- Community Development Planner
- Housing Department Specialist

### Private Sector Management

- Business Continuity Planner
- Emergency Preparedness Planner
- Media Communications Specialist

### Public Administration and Management

- City, Urban and Regional Planning
- City/County Government
- Policy/Budget Analyst
- School/University Emergency Manager

### Public Health

- Public Health Preparedness
- Community Health Education Specialist
- Biopreparedness Coordinator
- Public Health Specialist
- Hospital/Public Health Administrators
- Hospital Emergency Preparedness Coordinator

### Tribal Management and Emergency Services

- Tribal Emergency Manager
- Tribal Government
- Tribal Law

### Unmanned Aircraft Systems (Drones)

- Unmanned Aircraft Systems Pilot
- Unmanned Aircraft Systems Operator
- Unmanned Aircraft Systems Management

#### EMGT 1000 INTRODUCTION TO EMERGENCY MANAGEMENT (3 credits)

This course is an introduction to the National Response Framework (NRF) and the National Incident Management System (NIMS) and their influence on modern community Emergency Management and Homeland Security. The course conceptually introduces the four phases of Emergency Management: Mitigation, Preparedness, Response, and Recovery.

**Distribution:** Social Science General Education course

#### EMGT 1150 INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES (3 credits)

This course is an introduction to how Tribal history and contemporary governance affect the delivery of emergency management services on Tribal lands as well as how the National Response Framework (NRF) and the National Incident Management System (NIMS) are integrated to provide emergency services. The course focuses on the challenges of implementing the five mission areas of Emergency Management: Mitigation, Preparedness, Prevention, Response, and Recovery for Native American Communities.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

#### EMGT 2020 EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION (3 credits)

This course covers tactical issues, current communication methods, and critical information channels utilized during actual disaster and emergency management field operations. Topics include inter-agency linkages, command and control tactics, National Incident Management System and the Incident Command System, (NIMS-ICS) and other crucial management requirements for successful disaster planning, mitigation, and recovery operations.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

#### EMGT 2050 POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES (3 credits)

The provision of Emergency Services in contemporary society occurs within an environment of legal requirements and community resource allocation that often requires difficult administrative and political decisions. Successful professionals who control, manage, and operate these services must understand and adhere to the demand and intent of the law. Also, they must master the practical art of politics related to the various community constituents and shareholders who fund and support them, staff them, and utilize them. This course examines the legal aspects and social consequences of emergency management provision. Environmental issues and Occupational Health and Safety policy and programs affecting emergency services are also examined.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or taken concurrently with EMGT 1000.

#### EMGT 2060 FOUNDATIONAL INDIAN LAW & POLICY ISSUES (3 credits)

This course provides an examination of the federal and tribal legal cases and policies that affect the delivery of critical services on tribal lands. The course will also examine how such case law and resulting policy affects current U.S./Tribal/State relationship, specifically in the area of sovereignty and regulatory jurisdiction of emergency management principles. The student will gain an understanding of the legal obligations of Tribal Government and the emergency manager with regard to disaster response within the legal context of tribal law and policy.

**Prerequisite(s)/Corequisite(s):** EMGT 1150 (can be taken currently with EMGT 1150 with instructor approval).

#### EMGT 2500 DISASTERS AND VULNERABLE POPULATIONS (3 credits)

This course is an introduction to the sociological examination of disasters. In the course students will learn about vulnerability in terms of social, economic, political, geographical and cultural factors. Students will investigate how vulnerable groups such as children, elderly, racial and ethnic minorities, and low income, are affected and cope before, during and after hazardous events. Other topics covered include: disaster warning responses, evacuation behavior, survival behavior, roles of volunteers, and disaster impacts.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

#### EMGT 3020 FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS (3 credits)

This course will introduce the Federal/Tribal government to government relationship that has evolved through U.S. Supreme Court case law; federal Indian policy; and through the Indian Self Determination and Education Assistance Act of 1975. Specifically, this course will focus on overcoming the challenges of implementing Emergency Management principles between the U. S. and Tribal governments by understanding how the government to government relationship works.

**Prerequisite(s)/Corequisite(s):** EMGT 1150; (can be taken currently with EMGT 1150 with instructor approval).

#### EMGT 3040 PREPAREDNESS/PLANNING AND RISK MITIGATION (3 credits)

Provision of emergency and management of emergency services is dependent on extensive planning and preparedness. This process aids in the reduction of loss of property and life in extreme circumstances, even when confronted with a variety of environmental and politically motivated risks. An open society, which becomes ever more highly technological, demonstrates new sources of stress, complicated threats, and complex inter-relationships. Together, these factors present a significant challenge to those tasked with preventing and managing emergencies and disasters. This course provides a theoretical framework for the understanding of the ethical, sociological, organizational, political, and legal components of community risk analysis and mitigation, and a methodology for the development of comprehensive community risk preparedness planning.

**Prerequisite(s)/Corequisite(s):** EMGT 2020, EMGT 2050, PA 3000 / CRCJ 3000 or concurrent.

**EMGT 3080 AGENCY COLLABORATION DURING DISASTERS (3 credits)**

Federal, state, and local agency cooperation and interoperability in the provision of emergency management will be studied in this course. Federal, state, and local government authority and roles will be explored in concert with collaborative management programs. The origins of collaborative partnerships will be presented along with introduction of the Emergency Management Assistance Compact, development of volunteer networks, and formation of partnerships with the Citizen Corps, Community emergency Response Teams, the Medical Reserve Corps and Mercy Medical Airlift, and other groups that have the potential to contribute to the emergency management and response effort.

**Prerequisite(s)/Corequisite(s):** EMGT 2020, EMGT 2050, PA 3000 / CRCJ 3000 or concurrent.

**EMGT 4020 PROTECTING AND SUSTAINING TRIBAL ECONOMIES (3 credits)**

This course provides an understanding of unique tribal economies and how they operate under tribal law, constitutions and federal legislation, as well as an appreciation of how vulnerable tribal economies are to man-made and natural disasters. This course will also introduce Emergency Management principles and practices designed to assist tribal governments in protecting and sustaining their economies during crisis events.

**Prerequisite(s)/Corequisite(s):** EMGT 1150 Introduction to Tribal Management and Emergency Services

**EMGT 4050 INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT (3 credits)**

This course covers application and integration of Tribal Management and Emergency Service (TMES) principles and practices, as well as contemporary issues affecting Tribal nations and their citizens; recent federal/tribal TMES legislation and case law; Federal/Tribal agency collaborative efforts; TMES Tribal Code development and implementation; and TMES funding resources such as PL 93-638 Contracts, grants and tribal taxation.

**Prerequisite(s)/Corequisite(s):** EMGT 1150

**EMGT 4060 DISASTER RESPONSE AND RECOVERY (3 credits)**

This course examines concepts and principles of: 1) community risk assessment, 2) disaster recovery planning, 3) responses specific to fires and natural and man-made disasters, 3) National Incident Management System and the Incident Command System (NIMS ICS), 4) mutual aid and automatic response, 5) training and preparedness, 6) communications, 7) civil disturbances, 8) terrorist threats/incidents, 9) hazardous materials planning, 10) mass casualty incidents, 11) earthquake preparedness, and 12) disaster mitigation and recovery.

**Prerequisite(s)/Corequisite(s):** EMGT 3040 (May be taken concurrently) or by instructor's permission

**EMGT 4200 INTERNSHIP IN EMERGENCY MANAGEMENT (3 credits)**

This course is designed to provide direct work experience in the emergency management field for selected students. This experience will be in a full-time or part-time, preferably paid position, in a highly structured environment. Student will be selected following formal job placement procedures and screening by Emergency Management Faculty and the participating organization. This course is intended for upper level, Emergency Management majors who have been selected following an application and interview process approved by both the School of Public Administration and the intern provider.

**Prerequisite(s)/Corequisite(s):** PA 3000 / CRCJ 3000; EMGT 3040, EMGT 3080, EMGT 4060; Instructor's Permission Required.

**EMGT 4800 SPECIAL READING IN EMERGENCY MANAGEMENT (3 credits)**

This course is intended for upper-level Emergency Management degree students who are pursuing advanced specialized areas of knowledge in Emergency Management. The course is conducted under an independent study format, and subject matter will vary based on the interests of the student. Learning outcome objectives will be established by the instructor and shall remain consistent with Emergency Management curriculum goals. Faculty approval is required prior to registration.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree or non-degree graduate students. Students will need faculty approval.

**EMGT 4900 SPECIAL TOPICS IN EMERGENCY MANAGEMENT (3 credits)**

This course is meant to provide upper-level EMGT students with an in-depth look at current and future issues affecting the Emergency Management industry and industry professionals. Possible topics include disaster case studies, comparative international studies, issues in federalism, and Continuity of Operations (COOP). Subject matter will vary by student interest and by faculty preference. Students may repeat the course for additional academic credit as long as the course topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree or non-degree graduate students. Students will need faculty approval.

**EMGT 4990 CAPSTONE PROJECT IN EMERGENCY MANAGEMENT (3 credits)**

This course fulfills the Emergency Management Capstone senior project demonstrating expertise on a specific issue area and/or problem in emergency management. The student will be required to construct and execute a research project analyzing a contemporary operational, economic, or managerial issue within emergency management utilizing an appropriate research or analytical methodology. Both a written report and PowerPoint presentation will be presented as part of the course requirements.

**Prerequisite(s)/Corequisite(s):** PA 3000 / CRCJ 3000; EMGT 3040, EMGT 3080, EMGT 4060; Writing in the Discipline course; all with a C- or better; Instructor's Permission Required.

**FSMT 1600 FUNDAMENTALS OF FIRE SCIENCE (3 credits)**

Fundamentals of Fire Science is an applied science which focuses on basic understanding of the chemical and physical nature of fire. Students will learn about common fire hazards, extinguishing agent properties, as well as fire ignition and growth phenomena.

**Distribution:** Natural/Physical Science General Education course

**FSMT 2200 CODES AND INSPECTIONS (3 credits)**

Fire protection requirements, including zoning laws and primary access routes for flammable and explosive materials will be discussed. Major considerations and rationales employed in the formulation and creation of zoning and building codes are examined and exploration and understanding of local, state and national codes are also introduced. Safety education program development and implementation, fire inspection techniques and fire investigation procedures are additionally covered.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

**FSMT 2300 FIRE INVESTIGATION (3 credits)**

The origin and cause of fire and explosion incidents will be explored. Fire and arson investigation procedures such as on-site investigations and inspections, documentation, and fact gathering, collection of witness statements and canvassing, and procedures for gathering and storage of critical evidence will be presented. Legal and jurisdictional issues affecting fire investigation will also be discussed.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent

**FSMT 2310 FIRE PROTECTION SYSTEMS (3 credits)**

A study of the procedures necessary to evaluate the firefighting requirements and how these needs drive the design and utilization of various types of fire protection equipment, including design of structural protection systems and associated construction materials, fire detection technology and fire suppression systems.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent

**FSMT 2410 STRATEGIES AND TACTICS IN FIRE AND EMERGENCY SERVICES (3 credits)**

This course will provide examples of strategic and tactical considerations that members of the emergency services can employ during structure fires to include residential, commercial, high-rise, special hazard structures, and other types of emergencies like hazardous materials incidents, mass casualty emergencies, and technical rescues.

**Prerequisite(s)/Corequisite(s):** EMGT 1000

**FSMT 2510 BUILDING CONSTRUCTION FOR THE FIRE SERVICE (3 credits)**

The visible and hidden dangers inherently involved with fighting structural fires are examined in this course. Characteristics of construction materials, construction types, fire protection systems, smoke development, fire containment, high rise construction and many other topics relevant to firefighter life safety as related to building construction issues will be studied and evaluated.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

**FSMT 3020 FIRE DYNAMICS (3 credits)**

This course examines the underlying principles involved in structural fire protection systems, building furnishings, and fire protection systems including water-based fire suppression systems, fire alarm and detection systems, special hazard suppression systems, and smoke management systems.

**Prerequisite(s)/Corequisite(s):** Students must have completed FSMT 1600.

**FSMT 3140 FIRE RELATED HUMAN BEHAVIOR (3 credits)**

The goal of Fire Related Human Behavior is to provide students with knowledge about how humans respond to fire and how that knowledge has been integrated into life safety systems design and development.

**Prerequisite(s)/Corequisite(s):** FSMT 2200

**FSMT 3350 FIRE PREVENTION, ORGANIZATION, AND MANAGEMENT (3 credits)**

This course examines the factors that shape fire risk and the tools for fire prevention, including risk reduction education, codes and standards, inspection and plans review, fire investigation, research, master planning, various types of influences, and strategies.

**Prerequisite(s)/Corequisite(s):** FSMT 2200

**FSMT 3680 ANALYTICAL APPROACHES TO PUBLIC FIRE PROTECTION (3 credits)**

This course examines rational decision making tools and techniques that can be used in Fire and Emergency Services agencies, including data collection, statistics, probability, decision analysis, utility modeling, resource allocation, and cost-benefit analysis.

**Prerequisite(s)/Corequisite(s):** FSMT 2200.

**FSMT 4300 ADVANCED PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL (3 credits)**

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change within the emergency services industry relating to safety, incorporating leadership, supervision, accountability, and personal responsibility. Instruction utilizes the lessons learned from case studies and other investigations that support cultural change throughout emergency services administration.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4450 FIRE AND EMERGENCY SERVICES ADMINISTRATION (3 credits)**

This course provides students with the knowledge to understand how to help the fire and emergency services administrator perform as an effective risk manager by recognizing legal and political issues affecting public safety, finding and applying appropriate legal rules and/or political constructs, and articulating supportable conclusions and recommendations.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4800 SPECIAL READINGS IN FIRE SERVICE MANAGEMENT (3 credits)**

This course is intended for upper-level Fire Service Management degree students who are pursuing specialized areas of knowledge in Fire Services. The course is conducted under an independent study format, and subject matter will vary based on the interests of the student and learning outcome objectives established by the instructor. Faculty approval is required prior to registration.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree graduate students. EMGT students will need faculty approval.

**FSMT 4860 APPLICATIONS OF FIRE RESEARCH (3 credits)**

This course examines the basic principles of research and methodology for analyzing current fire-related research. The student will be able to understand the rationale that fire research organizations use for conducting fire-related research and evaluation.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4900 SPECIAL TOPICS IN FIRE SERVICE MANAGEMENT (3 credits)**

This course is meant to provide upper-level FSMT students with an in-depth look at current and future issues affecting the Fire Services industry and industry professionals. Possible topics include fire case studies, comparative international studies, issues in federalism, fire education, and fiscal administration. Subject matter will vary by student interest and by faculty preference. Students may repeat the course for additional academic credit as long as the course topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree graduate students. EMGT students will need faculty approval.

## Emergency Management (BSEM), Bachelor of Science

The Bachelor of Science in Emergency Management includes an interdisciplinary curriculum focusing on emergency management. The core coursework provides an overview of emergency management and the concentration areas sharpen student exposure to key areas of concern for disaster preparedness, hazard mitigation, response, and recovery. A minimum cumulative GPA of 2.0 is required to graduate.

The program prepares students academically for all levels of government employment as well as in nonprofit and private companies. Students will become adept at performing risk management, emergency preparedness planning and mitigation to support continuity of operations (COO), and sustainability of communities. Students will gain a thorough understanding of interagency cooperation, public/private partnership coordination, and communication as well as administrative issues involving policies and procedures, labor relations, and fiscal matters.

## Requirements

A minimum of 120 credit hours is required for a Bachelor of Science in Emergency Management (BSEM). Thirty of the last 36 hours must be courses taken from the University of Nebraska at Omaha (UNO).

Registering for courses without having taken the stated prerequisites could result in administrative withdrawal.

To obtain a BSEM, a student must fulfill the University, College, and Program requirements. Some courses may satisfy requirements in more than one area, but credit is awarded only once. Grades of C- or better are required in the University General Education courses and in the 60 core hours.

- 40 to 46 hours of University General Education courses
- 30 hours of Emergency Management Core courses
- 30 hours in two 15-hour areas of concentration
- Elective hours as needed to reach 120 total credit hours

TOTAL HOURS: 120

### Writing in the Discipline Courses:

The writing in the discipline courses for emergency management are:

Code	Title	Credits
AVN 3060	WRITING IN AVIATION	3
CRCJ 3100	WRITING FOR CRIMINAL JUSTICE	3
CIST 3000	ADVANCED COMPOSITION FOR IS&T	3
ENGL 2400	ADVANCED COMPOSITION	3
ENGL 3050	WRITING FOR THE WORKPLACE	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES	3
MKT 3200	BUSINESS COMMUNICATIONS	3
or a course approved by the academic advisor.		

### Courses Required for Major (Core Curriculum)

Code	Title	Credits
<b>Emergency Management Core</b>		
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT	3
EMGT 2020	EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION	3
EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES	3
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA/SOWK/CRCJ 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
EMGT 3040	PREPAREDNESS/PLANNING AND RISK MITIGATION	3
EMGT 3080	AGENCY COLLABORATION DURING DISASTERS	3
EMGT 4060	DISASTER RESPONSE AND RECOVERY	3
EMGT 4200	INTERNSHIP IN EMERGENCY MANAGEMENT	3
EMGT 4990	CAPSTONE PROJECT IN EMERGENCY MANAGEMENT	3
<b>Total Credits</b>		<b>30</b>

### Concentration Areas (two 15-hour concentrations with 9 upper level hours in each)

- Aviation Administration
- Criminology and Criminal Justice
- Fire Service Management
- Gerontology
- Geospatial Science
- Information Technology and Communication

- Intelligence and Security
- Logistics Management
- Natural Disasters
- Nonprofit Management
- Planning and Preparing for Urban Hazards
- Private Sector Management
- Public Administration and Management
- Public Health
- Tribal Management and Emergency Services
- Unmanned Aircraft Systems

### Aviation Administration

An emphasis on threats related to air travel, airport security, and disaster response.

Code	Title	Credits
<b>Required Courses:</b>		
AVN 1000	INTRODUCTION TO AVIATION AND AEROSPACE	3
AVN 2020	AIRLINE OPERATIONS	3
or AVN 2050	INTRODUCTION TO AIRPORT ADMINISTRATION	
AVN 4080	AIRPORT SAFETY AND SECURITY	3
Select six credit hours at the upper level from the following:		6
AVN 3000	BUSINESS AND CORPORATE AVIATION	
AVN 3150	AVIATION LAW	
AVN 3090	AIRPORT ADMINISTRATION AND PLANNING	
AVN 3600	INTERNATIONAL AVIATION	
AVN 3700	TRANSPORTATION ANALYSIS	
AVN 4050	GENERAL AVIATION OPERATIONS	
<b>Total Credits</b>		<b>15</b>

### Criminology and Criminal Justice

An emphasis on the role of law enforcement in emergency situations and threat management, and emergencies in prison/institutional settings.

Code	Title	Credits
<b>Required Course:</b>		
CRCJ 1010	SURVEY OF CRIMINAL JUSTICE	3
Select 12 credit hours, 9 at the upper-level, from the following:		12
CRCJ 2030	POLICE AND SOCIETY	
CRCJ 2110	CRIMINAL COURT SYSTEM	
CRCJ 2210	SURVEY OF CORRECTIONS	
CRCJ 2220	COMMUNITY-BASED CORRECTIONS	
CRCJ 3350	CRIMINOLOGY	
CRCJ 3370	JUVENILE DELINQUENCY AND JUVENILE JUSTICE	
CRCJ 3380	RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 3390	WOMEN, CRIME AND JUSTICE	
CRCJ 4060	CRIMINAL JUSTICE ETHICS	
CRCJ 4210	INSTITUTIONAL CORRECTIONS	
CRCJ 4410	VICTIMOLOGY	
CRCJ 4520	DRUGS AND CRIME	
CRCJ 4550	GANGS AND GANG CONTROL	
CRCJ 4760	TERRORISM	
CRCJ 4790	CYBER & COMPUTER CRIMES	
<b>Total Credits</b>		<b>15</b>

## Fire Service Management

An emphasis on fire safety and technology and the role of fire and rescue services in emergency and disaster situations.

Code	Title	Credits
<b>Required Courses:</b>		
FSMT 2200	CODES AND INSPECTIONS	3
FSMT 2410	STRATEGIES AND TACTICS IN FIRE AND EMERGENCY SERVICES	3
FSMT 3350	FIRE PREVENTION, ORGANIZATION, AND MANAGEMENT	3
FSMT 3680	ANALYTICAL APPROACHES TO PUBLIC FIRE PROTECTION	3
FSMT 4450	FIRE AND EMERGENCY SERVICES ADMINISTRATION	3
<b>Total Credits</b>		<b>15</b>

## Gerontology

An emphasis on the physical, psychological, and social aspects of aging with special attention to protecting this population in times of disaster.

Code	Title	Credits
<b>Required Courses:</b>		
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	3
Select six credit hours from the following:		6
GERO 4350	ISSUES IN AGING <sup>1</sup>	
GERO/PSYC 4470	MENTAL HEALTH AND AGING	
GERO 4500	LEGAL ASPECTS OF AGING	
GERO/PA 4510	LONG-TERM CARE ADMINISTRATION	
GERO/PHHB/WGST 4550	HEALTH ASPECTS OF AGING	
GERO 4690/SOWK 4040	WORKING WITH MINORITY ELDERLY	
GERO 4940	PRACTICUM	
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> GERO 4350 (Topic must be approved by academic advisor)

## Geospatial Science

An emphasis on the use of Geographic Information Systems, Remote Sensing, Global Positioning and Cartography, to understand people, places and their relative position on earth's surface, which aids in planning, preparedness and assistance in emergency situations.

Code	Title	Credits
Select one course from the following:		3
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	
GEOL 1010	ENVIRONMENTAL GEOLOGY	
Select one course from the following:		4
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
GEOG 1090	INTRODUCTION TO GEOSPATIAL SCIENCES	

Select courses from the following to reach a 15 hour minimum: 8

GEOG 3530 & GEOG 3540	CARTOGRAPHY AND DATA VISUALIZATION and FUNDIMENTALS OF GEOSPATIAL DATA SCIENCE	
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II	
<b>Total Credits</b>		<b>15</b>

## Information Technology and Communication

An emphasis on communication systems, information sharing and access, and threats to information assurance and security.

Code	Title	Credits
<b>Required Courses:</b>		
CYBR 1100	INTRODUCTION TO INFORMATION SECURITY	3
CIST 2100	ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY	3
ISQA 3420	MANAGING IN A DIGITAL WORLD	3
Select six credit hours at the upper level, from the following:		6
CIST 3110	INFORMATION TECHNOLOGY ETHICS	
ISQA 3910	INTRODUCTION TO PROJECT MANAGEMENT	
CIST/CYBR 3600	INFORMATION SECURITY POLICY AND AWARENESS	
CYBR 4360	FOUNDATIONS OF CYBERSECURITY	
ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
ISQA/ITIN 4880	SYSTEMS SIMULATION AND MODELING	
<b>Total Credits</b>		<b>15</b>

## Intelligence and Security

An emphasis on intelligence gathering and analysis and the role of politics in the formation of national and international security programs.

Code	Title	Credits
<b>Required Courses:</b>		
PSCI 2210	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PSCI 3260	UNITED STATES FOREIGN POLICY	3
PSCI 4250	INTELLIGENCE AND NATIONAL SECURITY	3
Select six credit hours, 3 at the upper level, from the following:		6
PSCI 2500	INTRODUCTION TO COMPARATIVE POLITICS	
PSCI 3220	INTERNATIONAL ORGANIZATIONS	
PSCI 3250	GLOBAL SECURITY ISSUES	
PSCI 3500	EUROPEAN POLITICS	
PSCI 3580	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES	
PSCI 3640	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA	

PSCI/LLS 3680	GOVERNMENT AND POLITICS OF LATIN AMERICA
PSCI 3700	GOVERNMENT AND POLITICS OF THE MIDDLE EAST
PSCI 4200	INTERNATIONAL RELATIONS OF EAST ASIA
PSCI 4210	INTERNATIONAL RELATIONS OF THE MIDDLE EAST
PSCI 4240	INTERNATIONAL CONFLICT RESOLUTION
PSCI 4260	INTERNATIONAL LAW
PSCI/ENVN 4270	GLOBAL ENVIRONMENTAL POLITICS
PSCI/LLS 4280	INTERNATIONAL RELATIONS OF LATIN AMERICA
PSCI 4620	ISLAM AND POLITICS
PSCI 4500	GOVERNMENT AND POLITICS OF GREAT BRITAIN
PSCI 4520	POLITICS OF FRANCE

**Total Credits** **15**

### Logistics Management

An emphasis on management and coordination of resources to support government and private sector operations in normal and emergency situations.

Code	Title	Credits
<b>Required Courses:</b>		
SCMT 3410	SUSTAINABLE SUPPLY CHAIN MANAGEMENT	3
SCMT 4380	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
Nine credit hours from the following:		9
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
MGMT 3490	MANAGEMENT	
SCMT 2000	SURVEY OF SUPPLY CHAIN MANAGEMENT	
SCMT 3000	MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT	
SCMT 3500	OPERATIONS MANAGEMENT	
SCMT/ISQA 4160	INTRODUCTION TO ENTERPRISE RESOURCE PLANNING	
SCMT 4330	PROJECT MANAGEMENT	
SCMT 4350	GLOBAL SOURCING AND INNOVATION	
SCMT 4370	SUPPLY CHAIN ANALYTICS	
SCMT 4450	MANAGERIAL NEGOTIATION STRATEGIES	
SCMT 4540	SUPPLY CHAIN MANAGEMENT INTERNSHIP	

**Total Credits** **15**

### Natural Disasters

An emphasis on naturally occurring disasters and their scientific nature including prediction, preparedness and response.

Code	Title	Credits
Select two courses from the following:		7-8
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOL 1010	ENVIRONMENTAL GEOLOGY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
Select two courses from the following to reach a 15 hour minimum:		7-8
GEOG 3510 & GEOG 3514	METEOROLOGY and INTRODUCTION TO METEOROLOGY LABORATORY	
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGMENT	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG 4260	PROCESS GEOMORPHOLOGY	
GEOG 4320	CLIMATOLOGY	
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
GEOG 4340	WATER RESOURCES	
GEOG 4350	GLOBAL CLIMATE CHANGE	

**Total Credits** **14-16**

### Nonprofit Management

An emphasis on the role of nonprofit organizations during times of disaster including foundational knowledge of financial management, community change, marketing and managing volunteer and staff within the organization.

Code	Title	Credits
<b>Required Courses:</b>		
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3
PA 4500	NONPROFIT FUNDRAISING	3
PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS	3
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS	3
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS	3

**Total Credits** **15**

### Planning and Preparing for Urban Hazards

An emphasis on geography including human populations and their impact on dealing with urban hazards, such as natural or manmade disasters.

Code	Title	Credits
Select two courses from the following:		6-7
GEOG 1000	FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY	
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	
GEOG 1030	INTRODUCTION TO PHYSICAL GEOGRAPHY	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	
UBNS/PA 1010	INTRODUCTION TO URBAN STUDIES	
Select courses from the following to reach a 15 hour minimum:		9
GEOG/ECON 3130	ECONOMIC GEOGRAPHY	
GEOG 3930	POLITICAL GEOGRAPHY	
GEOG 4120	URBAN GEOGRAPHY	

GEOG 4160	URBAN SUSTAINABILITY
<b>Total Credits</b>	<b>15-16</b>

### Private Sector Management

Emphasis on business principles including business continuity planning, sustainability and resiliency.

Code	Title	Credits
<b>Required Courses:</b>		
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	3
or ACCT 2020	PRINCIPLES OF ACCOUNTING II	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
MKT 3310	PRINCIPLES OF MARKETING	3
MGMT 3490	MANAGEMENT	3
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	3
<b>Total Credits</b>		<b>15</b>

### Public Administration and Management

An emphasis on budgeting, organizational structure, human resources, and planning

Code	Title	Credits
<b>Required Courses:</b>		
PA 4300	SEMINAR IN PUBLIC POLICY	3
PA 4390	PUBLIC BUDGETING	3
PA 4410	PUBLIC PERSONNEL MANAGEMENT	3
Select six credit hours from the following:		6
PA 2000	LEADERSHIP & ADMINISTRATION	
PA 4430	MUNICIPAL ADMINISTRATION	
PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE	
PA 4530	STRATEGIC PLANNING	
<b>Total Credits</b>		<b>15</b>

### Public Health

Emphasis on the role of healthcare in disaster situations including epidemics, pandemics, bio-terrorism and other public health issues.

Code	Title	Credits
<b>Required Courses:</b>		
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	3
PHHB 4130	COMMUNITY HEALTH	3
PHHB 4880	PUBLIC HEALTH POLICY	3
Select six credit hours from the following:		6
PHHB 3310	INJURY PREVENTION IN PUBLIC HEALTH	
PHHB 4040	EPIDEMIOLOGY & PREVENTION OF DISEASE	
PHHB 4950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	
PHHB 4960	PUBLIC HEALTH - PLANNING AND ORGANIZATION	
<b>Total Credits</b>		<b>15</b>

### Tribal Management and Emergency Services

Emphasis on the knowledge of tribal government and law as well as how tribal governments interface with the local, state and federal government.

Code	Title	Credits
<b>Required Courses:</b>		
EMGT 1150	INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES	3
EMGT 2060	FOUNDATIONAL INDIAN LAW & POLICY ISSUES	3
EMGT 2500	DISASTERS AND VULNERABLE POPULATIONS	3
EMGT 3020	FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS	3
EMGT 4050	INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT	3
<b>Total Credits</b>		<b>15</b>

### Unmanned Aircraft Systems

Emphasis on flying unmanned aircraft and the skills to manage a full operation and utilize the data an imagery collected.

Code	Title	Credits
<b>Required Courses:</b>		
AVN 1020	PRIVATE PILOT THEORY	3
AVN 1500	INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS	3
AVN 2500	UNMANNED AIRCRAFT SYSTEMS FLIGHT OPERATIONS	3
AVN 4500	ADVANCED UNMANNED AIRCRAFT SYSTEMS PROCEDURES	3
Select one course from the following:		3
AVN 3040	HUMAN FACTORS IN AVIATION SAFETY	
AVN 3700	TRANSPORTATION ANALYSIS	
AVN 4990	AIR TRANSPORTATION	
AVN 4200	INTERNSHIP IN AVIATION	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
GEOG 3510	METEOROLOGY	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	
<b>Total Credits</b>		<b>15</b>

### Freshman

Fall	Credits
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT
General Education English and Writing	3
General Education Humanities and Fine Arts	3
General Education Public Speaking	3
General Education Natural/Physical Science	3
<b>Credits</b>	<b>15</b>

### Spring

General Education English and Writing	3
General Education Social Science	3
General Education Humanities and Fine Arts	3
General Education Quantitative Literacy	3
General Education Natural/Physical Science with Laboratory	4
<b>Credits</b>	<b>16</b>

**Sophomore****Fall**

EMGT 2020	EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION	3
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
General Education Social Science		3
Concentration 1 <sup>1</sup>		3
Elective		3
<b>Credits</b>		<b>15</b>

**Spring**

EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES	3
PA 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
Concentration 2		3
General Education Humanities and Fine Arts		3
Elective Course		3
<b>Credits</b>		<b>15</b>

**Junior****Fall**

EMGT 3040	PREPAREDNESS/PLANNING AND RISK MITIGATION	3
Concentration 1		3
Concentration 2		3
Elective Course		3
Elective Course		3
<b>Credits</b>		<b>15</b>

**Spring**

EMGT 3080	AGENCY COLLABORATION DURING DISASTERS	3
Concentration 1		3
Concentration 2		3
Elective Course		3
Elective Course		3
<b>Credits</b>		<b>15</b>

**Senior****Fall**

EMGT 4060	DISASTER RESPONSE AND RECOVERY	3
Writing in the Discipline Course		3
Concentration 1		3
Concentration 2		3
Elective Course		3
<b>Credits</b>		<b>15</b>

**Spring**

EMGT 4990	CAPSTONE PROJECT IN EMERGENCY MANAGEMENT	3
EMGT 4200	INTERNSHIP IN EMERGENCY MANAGEMENT	3
Concentration 1		3
Concentration 2		3
Elective Course		2
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

**GPA Requirements:**

- A 2.0 GPA is required to graduate.
- Grades of C- or better are required for general education, major and concentration courses.

**Graduation Requirements:**

- 120 credit hours with a cumulative GPA of 2.0 or better
- 30 of the last 36 hours must be UNO courses

## Emergency Management Minor

A minor in emergency management is designed for students with an interest in applying emergency management principles to their area of study. The minor provides an in depth cross-section of the emergency management profession. Students will gain valuable information that will enhance their primary field of study as well as their marketability in the public, private, and nonprofit sectors.

### Requirements

The minor requires the following 18 credit hours with grades of C- or better:

Code	Title	Credits
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT	3
EMGT 2020	EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION	3
EMGT 2050	POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES	3
EMGT 3040	PREPAREDNESS/PLANNING AND RISK MITIGATION	3
EMGT 3080	AGENCY COLLABORATION DURING DISASTERS	3
EMGT 4060	DISASTER RESPONSE AND RECOVERY	3
<b>Total Credits</b>		<b>18</b>

## Fire Service Management Minor

A minor in fire service management provides an in depth cross-section of the fire service profession. The minor provides expertise in emergency fire response, and prepares students for the management of fire service

<sup>1</sup> For more information on Concentration requirements, please see academic advisor.

and public safety personnel, physical and financial resources, and risk identification. The minor is a stepping-stone for those interested in careers related to fire.

## Requirements

The minor requires the following 18 credit hours with grades of C- or better:

Code	Title	Credits
EMGT 1000	INTRODUCTION TO EMERGENCY MANAGEMENT	3
FSMT 2200	CODES AND INSPECTIONS	3
FSMT 2410	STRATEGIES AND TACTICS IN FIRE AND EMERGENCY SERVICES	3
FSMT 3350	FIRE PREVENTION, ORGANIZATION, AND MANAGEMENT	3
FSMT 3680	ANALYTICAL APPROACHES TO PUBLIC FIRE PROTECTION	3
FSMT 4450	FIRE AND EMERGENCY SERVICES ADMINISTRATION	3
<b>Total Credits</b>		<b>18</b>

## Tribal Management and Emergency Services Minor

Tribal management and emergency services provides an in depth cross-section of the tribal management and emergency services profession. At present, there are more than 575 recognized U.S. Tribal Nations. Each of these nations possess inherent rights of self-governance that are expected to simultaneously conduct governmental tribal functions while cooperating and complying with many local, state, and federal government regulations and laws.

This complex system of administration presents many challenges for Native Governments, particularly when faced with natural or man-made disasters that threaten tribal lands and interests. These threats to tribal communities are often compounded by lack of resources existing in reservation populations. Understanding the complex legal, historical, and cultural issues affecting tribal government management and provision of crisis response is essential to provide routine and emergency services to native communities.

## Requirements

The minor requires the following 18 credit hours with grades of C- or better:

Code	Title	Credits
EMGT 1150	INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES	3
EMGT 2060	FOUNDATIONAL INDIAN LAW & POLICY ISSUES	3
EMGT 2500	DISASTERS AND VULNERABLE POPULATIONS	3
EMGT 3020	FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS	3
EMGT 4020	PROTECTING AND SUSTAINING TRIBAL ECONOMIES	3
EMGT 4050	INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT	3
<b>Total Credits</b>		<b>18</b>

## Tribal Management and Emergency Services Certificate

Tribal management and emergency services provides an in depth cross-section of the tribal management and emergency services profession. At present, there are more than 575 recognized U.S. Tribal Nations. Each of these nations possess inherent rights of self-governance that are expected to simultaneously conduct governmental tribal functions while cooperating and complying with many local, state, and federal government regulations and laws.

This complex system of administration presents many challenges for Native Governments, particularly when faced with natural or man-made disasters that threaten tribal lands and interests. These threats to tribal communities are often compounded by lack of resources existing in reservation populations. Understanding the complex legal, historical, and cultural issues affecting tribal government management and provision of crisis response is essential to provide routine and emergency services to native communities.

## Requirements

The certificate requires 15 credit hours of the following with grades of C- or better.

Code	Title	Credits
EMGT 1150	INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES	3
EMGT 2060	FOUNDATIONAL INDIAN LAW & POLICY ISSUES	3
EMGT 3020	FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS	3
EMGT 4020	PROTECTING AND SUSTAINING TRIBAL ECONOMIES	3
EMGT 4050	INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT	3
<b>Total Credits</b>		<b>15</b>

## Gerontology

### Mission:

We develop knowledge and inspire future leaders to positively influence the aging process and to advocate for older adults, their caregivers, and the communities in which they live.

### General Information

#### Overview of Degree Programs

#### Bachelor of Science in Gerontology

The Bachelor of Science in Gerontology requires completion of 120 credit hours with a cumulative GPA of 2.0. Admission into the program requires a 2.50 GPA. The Bachelor of Science in Gerontology can be completed online with an Administration concentration or with certain minors.

#### Double Major or Double Degree in Gerontology

Due to the multidisciplinary nature of Gerontology, a double major or double degree may be applicable to many programs. Admission into the program requires a 2.50 GPA. A double major requires 42 credit hours.

## Double Degree in Gerontology

Students must complete all general education, college requirements and major requirements for two programs with a minimum of 150 credit hours. Students will receive two diplomas and must meet the University Double Degree requirements outlined in the catalog.

## Maximum/Minimum Credit Hours

Bachelor of Science in Gerontology – 120 credit hours  
 Certificate in Gerontology – 18 credit hours (15 credit hours of coursework, 3 credit hours of practicum)  
 Minor in Gerontology – 18 credit hours (at least 9 credits must be upper division)

## Residency Requirement

*Bachelor of Science in Gerontology:*

Thirty out of the last thirty-six credit hours must be taken within the University of Nebraska System.

Twenty-one credit hours of Gerontology Core and Gerontology Electives must be taken at UNO or UNL.

## Transfer Credit Policy

Transfer courses from other institutions must be a “C-” or higher.

Transfer coursework will only be accepted from regionally accredited institutions.

*Bachelor of Science in Gerontology:*

Sixty-four credit hours from regionally accredited two-year institutions may be applied toward the degree.

Twelve credit hours of military training can be applied to the degree.

## Unacceptable Credits

Gerontology coursework from UNO, UNL and other institutions over 10 years old will be reviewed on an individual basis. Depending on current course content and updated research, older courses may not be applicable to the program.

Credit from technical programs such as Certificate Nursing Assistant (CNA) and Medical Assistant (MA) do not apply to Gerontology programs. Clinical hours from Nursing programs (RN, BSN & LPN) do not apply. Students with these types of transfer credits should consider the Gerontology concentration in the Division of Continuing Studies as an alternative.

## Quality of Work

A 2.50 GPA is required for admission to any program.

*Bachelor of Science in Gerontology:*

All Gerontology coursework must be completed with a “C-” or higher.

Students must maintain a 2.0 GPA to be in good academic standing with the University.

*Certificate in Gerontology:*

All Gerontology courses must be completed with a “C” (2.0 GPA) average.

*Minor in Gerontology:*

All Gerontology courses must be completed with a “C” (2.0 GPA) average.

## Completion of Incomplete Grade

Coursework must be completed by the end of the following semester, per University guidelines.

## Repeating Courses

Allowed with no limit.

## Administration of the Program

The Bachelor of Science is available on the UNO campus only (or online). The minor is available on the UNL and UNO campuses.

The UNO Department of Gerontology administers the Certificate in Gerontology program for all campuses of the University of Nebraska under an agreement approved by the Board of Regents in 1977. Students at UNL, UNO, UNK, and UNMC are thus able to earn the certificate as part of their academic work at the University of Nebraska.

In addition to undergraduate and graduate courses, the Department of Gerontology conducts research, community service, and provides educational programming for the community.

## Student Group

Sigma Phi Omega

## Academic Advising

Academic advising is provided for all students. The program recommends advising each semester to ensure degree completion. The academic advisor assists students with degree planning, course scheduling, addressing any questions or concerns regarding major/minor/certificate, academic performance, and/or policies and procedures. To contact an advisor, visit CPACS 210A, email [hford@unomaha.edu](mailto:hford@unomaha.edu) or call 402.554.2114.

## Contact Information

Department of Gerontology  
 211 CPACS  
 402.554.2272  
[unogero@unomaha.edu](mailto:unogero@unomaha.edu)

Gerontology Department Website (<http://www.unomaha.edu/gero/>)

## Admission Requirements

All undergraduate Gerontology programs require a 2.50 GPA to be admitted. Students should consult with their academic advisor on the best program to fit their needs. To set up an appointment, students should contact the academic advisor directly.

## Degrees Offered

- Gerontology, Bachelor of Science (p. 734)

Code	Title	Credits
<b>Gerontology Core <sup>1</sup></b>		
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS	
or GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	
GERO 3070	DEATH AND DYING	3
GERO 3500	BIOLOGICAL PRINCIPLES OF AGING	3
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO 4470	MENTAL HEALTH & AGING	3
GERO 4550	HEALTH ASPECTS OF AGING	3
GERO 4690	WORKING WITH MINORITY ELDERLY	3
<b>Gerontology Electives <sup>1</sup></b>		
Select an additional 9 credit hours of Gerontology coursework, based on interests and career objectives.		9
<b>Gerontology Practicum <sup>2</sup></b>		
GERO 4940	PRACTICUM <sup>3,4</sup>	3

**Statistics**

Each student must complete three credit hour course in basic statistics. Acceptable courses include statistics courses include:

3

PA/CRCJ/SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR
STAT 3000	STATISTICAL METHODS I
SOC 2130	SOCIAL STATISTICS
STAT 1530	ELEMENTARY STATISTICS
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES

Other statistics courses may be approved by academic advisors.

**Research Methods**

Each student must complete three credit hour course in basic research methods. Acceptable courses include:

3

CRCJ 2510	RESEARCH METHODS
SOC 3510	RESEARCH METHODS

Other research methods courses may be approved by academic advisors.

**Area of Concentration or Minor**

Select an "Area of Concentration or Minor"

18

**Total Credits**

57

- Each course must be completed with a "C-" or higher. No CR/NC can be applied.
- Course must be completed with a "C" or higher. No CR/NC can be applied.
- Pre-requisite: 9 credit hours in Gerontology, 2.50 GPA
- To facilitate important real-world experience before graduation, all students will complete 156 hours in a practicum site of their choice.

**Writing in the Discipline**

Students must complete a writing in the discipline course to demonstrate further development of the writing skills learned in foundational composition courses, to engage the major discipline's research practices, and to demonstrate command of the major discipline's discourse practices, vocabulary, and style. Approved writing in the discipline course are MKT 3200 Managerial Communication, ENGL 2400 Advanced Composition, ENGL 3980 Technical Writing, and ENGL 3050 Writing for the Workplace.

**Double Major in Gerontology**

Students who choose a double major in gerontology will earn one diploma and will complete all general education, college requirements and major requirements for one program, while completing only Gerontology major coursework for their second major.

**Minors Offered**

- Gerontology Minor (p. 737)

**Certificates Offered**

- Gerontology Certificate (p. 736)

*Gerontology is the study of the physical, psychological, and social aspects of aging. It also includes the built environment such as homes, buildings, streets, open spaces, and infrastructure. The field of aging is multidisciplinary. Because of this, the gerontology degree allows students to have flexibility with coursework and is tailored to each student's needs and goals. Students will choose a concentration within the major including pre-health, administration, or healthy aging. Students will complete a practicum in the community, providing students with invaluable real-world experience to prepare them to work with aging adults and their families. A degree in*

*Gerontology can also easily be integrated with majors and minors in other disciplines to expand into many various career opportunities.*

- Adult Day Program Director
- Aging Services Administrator
- Program Specialist/Director
- Social Services Coordinator
- Life Enrichment Coordinator
- Activity Director
- Information and Referral Specialist
- Volunteer coordinator/manager
- Geriatric Case Manager
- Long Term Care Administrator
- Adult Protective Services worker
- Advocate/Ombudsman
- Research/Data Analysis
- Professional programs including nursing, medicine, physical therapy, occupational therapy, law, interior design, etc.

**GERO 2000 INTRODUCTION TO GERONTOLOGY (3 credits)**

An introduction to social gerontology and human development in later life; emphasis is on important elements of aging, such as socialization, family interaction, retirement, physical and psychological aging, and perceptions of older persons in contemporary society.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**GERO 3000 COMMUNITY RESOURCES FOR OLDER ADULTS (3 credits)**

This course is designed to introduce the student to community resources for older adults, to identify the organizations and individuals in the public and private sectors that help support aging in place, and to examine the impact of the efforts on older adults at the national, state and local levels.

**Prerequisite(s)/Corequisite(s):** Completion of GERO 2000. Not open to non-degree graduate students.

**GERO 3070 DEATH AND DYING (3 credits)**

An interdisciplinary survey of literature in the field of thanatology, with an emphasis on working with the older patient and his or her family. (Cross-listed with PHHB 3070).

**GERO 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with BIOL 3500, NEUR 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

**GERO 4050 ADVANCED BIOLOGY OF AGING (3 credits)**

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 8056, NEUR 4050).

**GERO 4100 EDUCATIONAL GERONTOLOGY (3 credits)**

An introduction to the field of education for and about the aging. The institutions and processes of education will be analyzed to determine their relationships and value to persons who are now old and those who are aging. (Cross-listed with GERO 8106).

**Prerequisite(s)/Corequisite(s):** Students must have a junior, senior or graduate student status.

**GERO 4200 VOLUNTEER MANAGEMENT (3 credits)**

The purpose of this course is to equip managers of volunteers in aging services to develop, maintain, assess impact and evaluate a sustainable volunteer program that will provide reliable and necessary services to older adults and further to be embraced as a valuable asset by professionals working in the field of aging. (Cross-listed with GERO 8206).

**Prerequisite(s)/Corequisite(s):** Junior or Senior Standing

**GERO 4350 ISSUES IN AGING (3 credits)**

This course is intended for students in gerontology and in other fields who are interested in a humanistic approach to understanding significant issues which affect the lives of older people. (Cross-listed with GERO 8356).

**GERO 4420 RECREATION FOR THE AGING (3 credits)**

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with GERO 8426, RLS 4420, RLS 8426).

**GERO 4460 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)**

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with PSYC 4460, GERO 8466).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**GERO 4470 MENTAL HEALTH & AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with GERO 8476, PSYC 4470, PSYC 8476).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**GERO 4480 GLOBAL AGING (3 credits)**

The study of aging around the world by a comparative method in a cross-cultural and cross-national framework. An explanation of some practical experiences and developments in Europe, Asia and Africa will be examined. (Cross-listed with GERO 8486).

**GERO 4500 LEGAL ASPECTS OF AGING (3 credits)**

This course centers on the legal concerns likely to arise as people age. We will discuss the American legal system with an emphasis on underlying legal concepts and issues of special importance to older persons. Some of the topics include guardianship, finances in retirement, abuse and neglect, Social Security, and Medicare and Medicaid. Consideration of the legal concerns which are likely to arise as people age. Includes introduction to American legal system, and emphasis on underlying legal concepts and issues of special importance to older persons. (Cross-listed with GERO 8506).

**GERO 4510 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 8516, PA 4510, PA 8516).

**GERO 4520 SENIOR HOUSING (3 credits)**

The senior housing course is designed to provide students with an in-depth understanding of the various housing options available to older adults including aging in place to hospice. At the end of the course students will have a working knowledge of the needs of older adults and how this is used in making decisions about housing. (Cross-listed with GERO 8526).

**Prerequisite(s)/Corequisite(s):** Junior/Senior Standing

**GERO 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 8556, PHHB 4550, PHHB 8556, WGST 4550).

**GERO 4560 NUTRITION AND AGING (3 credits)**

The goal of this course is to provide an understanding of the relationship between nutrition and successful or usual aging. This course will review the basics of good nutrition and relate them to the usual food intake of older adults. It will identify the impact of poor nutrition. This course will also look at the role nutrition plays in various disease processes that are associated with aging. It will provide information about support services that are available to assure good nutrition into old age for those living independently. (Cross-listed with GERO 8566).

**Prerequisite(s)/Corequisite(s):** Junior Standing.

**GERO 4670 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student an historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 8676, PA 8676).

**Prerequisite(s)/Corequisite(s):** Junior or senior. Not open to non-degree graduate students.

**GERO 4690 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 8696, SOWK 4040, SOWK 8046).

**GERO 4720 BABY BOOMERS AND THE 21ST CENTURY (3 credits)**

Marketing decisions and strategies apply to all businesses and are influenced by the target market. The economic realities and the character of America will change due to shifting demographics of baby boomers. Businesses that understand the power of the baby boomers will succeed; failure to understand that power may lead to economic consequences. Students from many disciplines will benefit from this cross-referenced course blending the realities of gerontology with the predictions of baby boomer behavior and the resulting impact to all businesses. (Cross-listed with GERO 8726).

**Prerequisite(s)/Corequisite(s):** Junior, Senior or Graduate Level Standing.

**GERO 4750 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with COUN 8756, GERO 8756).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 4850 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 8856, SOWK 4850, SOWK 8856.)

**GERO 4920 SPECIAL STUDIES IN GERONTOLOGY (1-3 credits)**

Special studies designed around the interests and needs of the individual student in such areas as the psychology, sociology, economics or politics of aging, as well as operation of various service systems. The studies may be either a literature review project or a field project in which experience is gained in the community identifying and analyzing needs and services related to older people.

**Prerequisite(s)/Corequisite(s):** Six hours in gerontology or permission.

**GERO 4940 PRACTICUM (3 credits)**

This course provides the opportunity to students to share field experiences; to obtain guidance concerning various relationships with agency, staff and clients; and to develop a broadly based perspective of the field of aging.

**Prerequisite(s)/Corequisite(s):** Nine hours in gerontology and permission. Students must be enrolled in the GERO program and have a minimum GPA of 2.5. Not open to non-degree graduate students.

**GERO 4950 PALLIATIVE CARE: MENTORING A HEALTHCARE APPROACH OF PATIENT-CENTERED CARE WITH FOCUS ON WELL-BEING (3 credits)**

This course provides a foundation for the recognition of the need to implement palliative medical care. Using current texts and literature, video and podcast lectures by colleagues, and review of cases and topics, a student will understand the definitions, purposes, and benefits of palliative medical care. The student will learn the avenues and ways to implement palliative care to provide care that promotes well-being. (Cross-listed with GERO 8956).

**Prerequisite(s)/Corequisite(s):** Junior, senior, graduate standing

**GERO 4970 SENIOR HONORS PROJECT/THESIS (3 credits)**

An independent research project supervised by gerontology department/school faculty. The senior honors project must be approved by the University Honors Program.

**Prerequisite(s)/Corequisite(s):** Senior in the University Honors Program.

**GERO 4980 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with COUN 8986, GERO 8986).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

# Gerontology, Bachelor of Science

## Requirements

Code	Title	Credits
<b>Gerontology Core</b> <sup>1</sup>		
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS	3
or GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	
GERO 3070	DEATH AND DYING	3
GERO 3500	BIOLOGICAL PRINCIPLES OF AGING	3
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO 4470	MENTAL HEALTH AND AGING	3
GERO 4550	HEALTH ASPECTS OF AGING	3
GERO 4690	WORKING WITH MINORITY ELDERLY	3
<b>Gerontology Electives</b> <sup>1</sup>		

Select an additional 9 credit hours of gerontology coursework, based on interests and career objectives. 9

**Gerontology Practicum** <sup>2</sup>

GERO 4940	PRACTICUM	3,4	3
-----------	-----------	-----	---

**Statistics**

Each student must complete three credit hour course in basic statistics. Acceptable courses include statistics courses include: 3

PA/CRCJ/SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR
STAT 3000	STATISTICAL METHODS I
SOC 2130	SOCIAL STATISTICS
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES

Other statistics courses may be approved by academic advisors.

**Research Methods**

Each student must complete three credit hour course in basic research methods. Acceptable courses include: 3

CRCJ 2510	RESEARCH METHODS
SOC 3510	RESEARCH METHODS

Other research methods courses may be approved by academic advisors.

**Area of Concentration or Minor**

Select an "Area of Concentration or Minor"	18
--	----

<b>Total Credits</b>	<b>60</b>
----------------------	-----------

- Each course must be completed with a "C-" or higher.
- Course must be completed with a "C-" or higher. No CR/NC can be applied.
- Pre-requisite: 9 credit hours in gerontology, 2.50 GPA
- To facilitate important real-world experience before graduation, all students will complete 156 hours in a practicum site of their choice.

## Area of Concentration or Minor

Students choose a concentration or minor to complement their degree. Students may choose any approved UNO minor or from three Gerontology-approved concentrations: Pre-Health Concentration, Long Term Care Administration Concentration, or Health Aging Concentration. Students may also complete a double degree or double major to fulfill this requirement.

If a minor is chosen, students must abide by specific UNO minor requirements. All courses for Gerontology-approved concentrations must be completed with a "C-" or higher and no CR/NC is accepted.

**Pre-Health Concentration**

Code	Title	Credits
<b>Gerontology Core Requirements:</b>		
GERO 4560	NUTRITION AND AGING	3
GERO 4850	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	3
Select 12-14 credits from the following:		12-14
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY <sup>1</sup>	
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY <sup>1</sup>	

CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY
CHEM 2250	ORGANIC CHEMISTRY I
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY
BIOL 1450	BIOLOGY I <sup>1</sup>
BIOL 1750	BIOLOGY II
BIOL 2140	GENETICS
BIOL 2440	THE BIOLOGY OF MICROORGANISMS
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL
HEKI 3090	APPLIED NUTRITION
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I
BMCH 2500	HUMAN PHYSIOLOGY AND ANATOMY II
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY <sup>1</sup>
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I <sup>1</sup>
PHYS 1120 & PHYS 1164	GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I
PHYS 2120 & PHYS 1164	GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II
<b>Total Credits</b>	<b>18-20</b>

<sup>1</sup> Denotes a Natural Science general education course. To maximize credits, students may choose to use these courses toward their general education instead and take the more advanced courses for their Pre-Health concentration. (These will **not** double count in both Natural Science **and** the concentration.)

### Administration Concentration

Students will be advised to take courses that will prepare them to meet the course requirements for nursing home administrators in Nebraska.

Code	Title	Credits
<b>Gerontology Course Requirements:</b>		
GERO 4520	SENIOR HOUSING	3
GERO 4600	MANAGEMENT AND ADMINISTRATION OF AGING PROGRAMS	3
GERO 4510	LONG-TERM CARE ADMINISTRATION	3
<b>Related Electives:</b>		
Select 9 credits from the following (students must meet all applicable pre-requisites):		9
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS <sup>1</sup>	
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) <sup>1</sup>	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) <sup>1</sup>	
GERO 4350	ISSUES IN AGING	
MGMT 3490	MANAGEMENT	
ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	

MKT 3310	PRINCIPLES OF MARKETING
PA 2000	LEADERSHIP & ADMINISTRATION
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION
PA 3200	PROGRAM PLANNING AND EVALUATION
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT
RELU 2410	REAL ESTATE PRINCIPLES AND PRACTICES
CMST 3130	SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS
<b>Total Credits</b>	<b>18</b>

<sup>1</sup> Denotes a Social Science course. Students may choose to use these courses within General Education **or** within their concentration. If using the courses in General Education, this allows more advanced coursework within their concentration area.

### Healthy Aging Concentration

Code	Title	Credits
<b>Gerontology Course Requirements:</b>		
GERO 4420	RECREATION FOR THE AGING	3
GERO 4560	NUTRITION AND AGING	3
GERO 4850	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	3
<b>Related Electives</b>		
Select 9 credits from the following:		9
PHHB 1500	FOUNDATIONS IN PUBLIC HEALTH	
PHHB 2070	DRUG AWARENESS	
PHHB 2850	STRESS MANAGEMENT	
PHHB 2310	HEALTHFUL LIVING	
PHHB 3080	HEALTH CONCEPTS OF SEXUAL DEVELOPMENT	
PHHB 3310	INJURY PREVENTION IN PUBLIC HEALTH	
PHHB 4050	INTRODUCTION TO RESEARCH IN PUBLIC HEALTH	
PHHB 4130	COMMUNITY HEALTH	
PHHB 4650	GLOBAL HEALTH	
HEKI 3090	APPLIED NUTRITION	
KINS 1800	FITNESS FOR LIVING	
KINS 3900	MOTIVATION FOR PHYSICAL ACTIVITY	
RLS 2440	FOUNDATIONS OF RECREATION AND LEISURE	
RLS 3500	FOUNDATIONS OF RECREATION THERAPY	
RLS 4240	RECREATION ADMINISTRATION	
May also choose up 3 courses from:		
PEA 111S	RELAXATION TECHNIQUES	
PEA 111T	YOGA I	
PEA 111U	YOGA II	
PEA 112D	PILATES MATWORK	
PEA 112H	BALLROOM DANCE I	
PEA 112I	T'AI CHI FOR MOVEMENT IMPROVEMENT	
PEA 112L	WALKING/JOGGING	
PEA 111V	BEGINNING/INTERMEDIATE SWIMMING	
PEA 112A	SWIM CONDITIONING	
PEA 112S	CROSS-TRAINING	

PEA 112V	MINDFULNESS MEDITATION
PEA 112X	BARRE FITNESS
PEA 112C	POWER YOGA
PEA 111H	WEIGHT TRAINING/BODY CONDITIONING

**Total Credits 18**

### Freshman

Fall		Credits
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS	3
Humanities and Fine Arts		3
English and Writing		3
Quantitative Literacy Course		3

**Credits 15**

### Spring

GERO 3070	DEATH AND DYING	3
GERO 3500	BIOLOGICAL PRINCIPLES OF AGING	3
English and Writing		3
Social Sciences		3
Natural/Physical Science		3

**Credits 15**

### Sophomore

Fall		
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
GERO 4550	HEALTH ASPECTS OF AGING	3
Humanities and Fine Arts		3
Social Sciences		3
Natural/Physical Sciences with Laboratory		4

**Credits 16**

### Spring

GERO 4470	MENTAL HEALTH AND AGING	3
GERO 4690	WORKING WITH MINORITY ELDERLY	3
Humanities and Fine Arts		3
Gerontology Concentration or Minor Course <sup>1</sup>		3
Elective Course		3

**Credits 15**

### Junior

Fall		
Gerontology Elective Course <sup>2</sup>		3
Research Methods Course (CRCJ 2510 is recommended)		3
Gerontology Concentration or Minor Course		3
Gerontology Concentration or Minor Course		3
Elective Course		3

**Credits 15**

### Spring

Gerontology Elective Course <sup>2</sup>		3
Gerontology Concentration or Minor Course <sup>1</sup>		3
Statistics Course (CRCJ 3000 is recommended)		3
Writing in the Discipline (ENGL 3050 is recommended) <sup>3</sup>		3
Elective Course		3

**Credits 15**

### Senior

Fall		
Gerontology Concentration or Minor Course <sup>1</sup>		3

Gerontology Concentration or Minor Course <sup>1</sup>	3
Gerontology Elective Course <sup>2</sup>	3
Elective Course	3
Elective Course	3

**Credits 15**

### Spring

GERO 4940	PRACTICUM <sup>4</sup>	3
Gerontology Concentration or Minor Course <sup>1</sup>		3
Public Speaking		3
Elective Course		3
Elective Course		3

**Credits 15**

**Total Credits 121**

<sup>1</sup> Gerontology students must choose an 18 credit concentration in Healthy Aging, Administration, Pre-Health OR any university minor.

<sup>2</sup> Gerontology students must take a total of 9 credits of elective courses from within the Gerontology department.

<sup>3</sup> Approved Writing in the Discipline courses are MKT 3200, ENGL 2400, ENGL 3980 and ENGL 3050

<sup>4</sup> To complete the practicum a student must have a 2.5 GPA.

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

### Additional Information About this Plan:

#### University Degree Requirements:

The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

#### Placement Exams:

For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study

#### GPA Requirements:

GERO courses must be a C- or higher

General Education must be a C- or higher

Gerontology Concentration courses must be C- or higher.

#### Graduation Requirements:

120 Credits and a 2.0 GPA is required to graduate from UNO.

## Gerontology Certificate

The certificate in gerontology requires completion of 18 credit hours and a cumulative GPA of 2.0 for all gerontology coursework. Admission into the program requires a 2.50 GPA. The requirements for the certificate can be completed online or on campus.

## Gerontology Coursework

(15 credit hours, an overall average of 2.0, no CR/NC can be applied.)

Students choose coursework based on career objectives and interest areas and should consult with a gerontology academic advisor for a plan of study.

Strongly recommended courses for all students: GERO 2000, GERO 4460 and GERO 4670

Strongly recommended course for Pre-Health: GERO 4550

## Gerontology Practicum

(3 credit hours, course must be complete with a "C-" or higher. No CR/NC can be applied.)

To facilitate important real-world experience before graduation, all students will complete 156 hours in a practicum site of their choice.

GERO 4940: Practicum (Pre-requisite: 9 credit hours in gerontology, 2.50 GPA. No CR/NC can be applied.)

The certificate program may be used as a minor or a concentration within other degrees. Students should consult with their major/college academic advisor to determine how the certificate applies to their degree program. Students who wish to work toward the certificate must meet with an academic advisor in the Department of Gerontology to apply.

## Gerontology Minor

### Requirements

The minor in gerontology requires completion of 18 credit hours with a cumulative GPA of 2.0 for all gerontology coursework. Nine of these credits must be upper division. Admission into the program requires a 2.50 GPA. The requirements for the minor can be completed online or on campus.

Code	Title	Credits
<b>Gerontology Coursework</b> <sup>1</sup>		
GERO 2000	INTRODUCTION TO GERONTOLOGY	3
GERO 3000	COMMUNITY RESOURCES FOR OLDER ADULTS	3
or GERO 4670	PROGRAMS AND SERVICES FOR THE ELDERLY	
GERO 4460	PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING	3
<b>Gerontology Electives</b> <sup>1</sup>		
Select coursework based on career objectives and interest areas and consult with a Gerontology academic advisor for a plan of study.		9
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> An overall average of 2.0.

For students pursuing a career path in the Pre-Health, GERO 4550 is strongly recommended.

GERO 4670 may be taken online in place of GERO 3000.

## BSSW Program

The Bachelor of Science in Social Work (BSSW) program has received continuous accreditation from the Council on Social Work Education since 1975. The mission of the Grace Abbott School of Social Work is to educate students to become highly qualified social workers who serve people of all ages and influence the systems that affect them, to advance knowledge through teaching and research, and to engage with diverse communities to promote socially just societies.

The BSSW program prepares graduates for beginning social work practice within a variety of social service settings. This degree qualifies graduates to receive the Certified Social Worker credential (CSW) in the state of Nebraska. Other states with licensure and certification of BSSW level social workers will also recognize this degree for licensure or certification. It also prepares students for advanced graduate social work education (the MSW degree).

### Contact Information

Dr. Peter Szto, BSSW Coordinator  
Email: pszto@unomaha.edu

Call - 402.554.2793

Website

### Admission to the BSSW Program

Upon completion of approximately 50 credit hours, the student may apply for formal admission into the BSSW degree program. The deadline for application is February 15th for admission for the following fall semester. Admission to the BSSW Program is competitive, based on a combination of the following criteria:

- Completion of pre-professional courses (to include UNO Fundamental Academic Skills) with a cumulative Grade Point Average of 2.50 or higher.
- Successful performance in the two pre-professional social work courses (SOWK 1000 and SOWK 1500) with a grade of B or better.
- Positive references and a well written personal statement evidencing potential for successful practice in the field of Social Work.

### Degrees Offered

- Social Work, Bachelor of Science (p. 740)

### Writing in the Discipline

SOWK 3890 Writing for Social Work

Social Work is a profession for those with a strong desire to help improve people's lives. Social workers fight for social justice, build community, and strengthen those who are vulnerable, oppressed, or living in poverty. Social work is a versatile career choice. Social workers can specialize in service to a particular population, work in a certain setting, or focus on research, social welfare planning and policy development. Social work is one of the fastest growing professions in the United States.

Social workers are employed in hospitals and health care settings, community mental health and private practice clinics, child welfare agencies, criminal justice and corrections programs, elementary, and secondary schools, crisis and homeless shelters, drug and alcohol treatment centers, as well as local, state, and federal government agencies.

#### SOWK 1000 SOCIAL WORK AND SOCIAL WELFARE (3 credits)

This course is designed for the student who wants to learn about social welfare and to explore a possible major in social work. The student examines historical and current issues in social welfare, social services, and the social work profession. The course focuses on values, beliefs, and goals of social services and social work, and provides a historical perspective for present activities.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**SOWK 1500 SOCIAL WORK AND CIVIC ENGAGEMENT (3 credits)**

This course is designed to acquaint the student with the social work profession, professional roles and functions, and social services delivery systems. Students will have an opportunity to observe and participate in social services activities within Nebraska and Iowa communities incorporated with didactic experiences. Students will also have an opportunity to explore their vocational aptitude for social work practice via interactive encounters with clients and helping professionals.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOWK 2120 RACE, CLASS AND GENDER IN THE UNITED STATES (3 credits)**

This course examines the effects of race, class, and gender on social policy and social injustice. The focus is on how institutional manifestations of racism, classism, and sexism, and how these are interconnected and are mutually reinforcing. The consequences of institutionalized oppressions are examined at the individual, group, family, and societal levels.

**Distribution:** U.S. Diversity General Education course

**SOWK 3000 APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR (3 credits)**

A course on the use of data and statistical methods to explore and make inferences about society, while critically considering the influence of context and the powers and limitations of quantitative evidence. (Cross-listed with CRCJ 3000, PA 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1120 or 1130 or 1220, or an ACT of 19, or above or permission from the department.

**SOWK 3010 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3 credits)**

This course is the first part of a two-semester sequence within the Bachelor of Science in Social Work (BSSW) required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan, particularly infancy through adolescence, within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** PSYC 1010, SOC 1010, BIOL 1020, and admission to the BSSW program. Not open to non-degree graduate students.

**SOWK 3020 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3 credits)**

This course is the second part of a two-semester sequence within the Bachelor of Science in Social Work (BSSW) required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the life span – particularly during young, middle, and late adulthood – within the social environment at the micro- and macro-level social systems (e.g., individuals, families, groups, institutions, organizations, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** SOWK 3010. Not open to non-degree graduate students.

**SOWK 3110 SOCIAL WELFARE POLICY (3 credits)**

This course is an introduction to social welfare policy analysis. It informs the Bachelor of Science in Social Work (BSSW) student about the history of professional social work, the development of social services in the United States, and the values, beliefs, ethics and social welfare theory that frames professional policy practice. The course examines social welfare policy taking into account historical, political, economic, social, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** PSCI 1000, ECON 1200, HIST 1120, and admission to the BSSW program

**SOWK 3320 SOCIAL WORK PRACTICE I (3 credits)**

This course introduces students to the values, ethics, knowledge, and skills of generalist social work practice. Using constructs from the Generalist Intervention Model, systems theory, and the strengths-based perspective, students learn about engagement, assessment, planning and contracting, intervention, evaluation, and termination. Diversity and case management are emphasized as part of bringing planned change to client systems, including individuals and families.

**Prerequisite(s)/Corequisite(s):** PSYC 1010, SOC 1010, and admission to the BSSW program.

**SOWK 3350 SOCIAL WORK PRACTICE II (3 credits)**

This course reinforces the values, ethics, knowledge, and skills of generalist social work practice. Students gain specific knowledge and skills in assessing, intervening and terminating with families. Students will learn about the process of development and implementation of groups.

**Prerequisite(s)/Corequisite(s):** SOWK 3320.

**SOWK 3890 WRITING FOR SOCIAL WORK (3 credits)**

This course emphasizes the process of critical thinking and analysis and the process of effective professional writing as required for generalist social work practice. Students will apply selected generalist social work concepts to prepare writing samples such as research/term papers, client progress/psychosocial reports, analytical reviews, professional development papers, business communications, and grant proposals. Research and writing skills emphasized are: conducting electronic literature searches, outlining, paragraph and sentence structure, revising, using APA format, and proofreading for correct grammar, word usage, and punctuation.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1160, and admission to the BSSW program.

**SOWK 4010 SOCIAL WORK WITH AMERICAN INDIANS (3 credits)**

This course provides the student with a broad study of the origins, influences and issues of the American Indian which affect social work practice. The usefulness of established social work generalist methods is explored. Alternative methods applicable to culturally diverse people across the lifespan are presented. This is a Service Learning class. (Cross-listed with SOWK 8016).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOWK 4020 SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY (3 credits)**

This course seeks to develop in students an awareness and understanding of some of the social and psychological/cognitive realities influencing the behavior of African American youth and families across the lifespan. The content draws upon theories, research and social work practice skills relevant to African American youth and families, as well as the cognitive process and social systems which impact African youth and families. (Cross-listed with SOWK 8026)

**Prerequisite(s)/Corequisite(s):** Admitted to the BSSW program or permission of the school.

**SOWK 4040 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, GERO 8696, SOWK 8046).

**Prerequisite(s)/Corequisite(s):** Admitted to the BSSW program or [SOWK 1000, junior or senior standing, and permission of the School

**SOWK 4050 ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE (3 credits)**

This course focuses on effective generalist social work practice with clients of ethnic diversity. (Cross-listed with SOWK 8056)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school.

**SOWK 4360 SOCIAL WORK PRACTICE III (3 credits)**

This course is an introduction to a goal-oriented planned change process with an emphasis on task groups, organizations, and communities.

**Prerequisite(s)/Corequisite(s):** SOWK 2120, SOWK 3110, and SOWK 3350.

**SOWK 4400 RESEARCH METHODS IN SOCIAL WORK PRACTICE (3 credits)**

Focus will be on the scientific method as it is applied to social work research. The purpose of all social work research is to answer questions or solve problems. The six phases of the research process will be identified and the basic tasks to be accomplished in each phase will be learned. Special attention will be given to evaluating social work practice.

**Prerequisite(s)/Corequisite(s):** Prior or concurrent STAT 1530, CRCJ 3000, PA 3000, PSYC 3130, SOWK 3000, or STAT 3000

**SOWK 4410 GENERALIST SOCIAL WORK PRACTICUM I (5 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a selected social service agency. The student will be introduced to a variety of social work practice roles, develop professional relationships with client systems and learn to apply a number of interventive modalities to effect change across the life span. In order to facilitate integration of classroom theory with practice, students will attend a seven-week practicum seminar (2 hours per week).

**Prerequisite(s)/Corequisite(s):** Prior: SOWK 2120, SOWK 3020, SOWK 3350. Prior to or concurrent: SOWK 4360.

**SOWK 4420 GENERALIST SOCIAL WORK PRACTICUM II (5 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a social service agency, typically the same agency as in SOWK 4410. This course builds upon opportunities provided and competence achieved in Generalist Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** SOWK 4410 prior or concurrent.

**SOWK 4450 SOCIAL WORK CAREER PREP (1 credit)**

This course is intended as an integrating senior seminar designed to be taken with the final course of practicum. It facilitates the transition from student to professional social worker through the use of specific assignments focused on areas of resume development, continuation of research, awareness of continuing education needs, issues of licensure, and exposure to social work professionals.

**Prerequisite(s)/Corequisite(s):** SOWK 4410 prior or concurrent.

**SOWK 4510 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, COUN 8516, SOWK 8516).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. Not open to non-degree graduate students.

**SOWK 4530 SCHOOL SOCIAL WORK (3 credits)**

This course explores the field of social work practice in school settings, including the history of social work practice in schools, school environment, roles of school social workers, mandated foundations for school social work services, eligibility for special education and 504 plans, theories of practice that include school and community based models, and interventions for target populations in schools. (Cross-listed with SOWK 8536).

**Prerequisite(s)/Corequisite(s):** Admission to MSW program OR permission of the school. Not open to non-degree graduate students.

**SOWK 4620 TRAUMA AND RESILIENCE (3 credits)**

This course provides an overview of issues related to trauma including: the factors related to development of trauma, definitions of trauma, the impact of trauma on individuals, families and communities, and the programs and practices that are most effective and appropriate regarding the social work role in responding to trauma. (Cross-listed with SOWK 8626)

**Prerequisite(s)/Corequisite(s):** SOWK 3320

**SOWK 4640 SOCIAL WORK IN CHILD WELFARE (3 credits)**

This course examines the history, challenges, and issues of governmental intervention in families to protect at-risk children. The course concentrates on the effects of the 1980 federal legislation (PL 96-272) on child welfare delivery systems and practice. It provides a comprehensive overview of child welfare services, including child protective services, in-home services, foster care, group care, intergenerational childcare, and adoption. It also provides an overview of the juvenile justice system and its impact on children and their families.

**Prerequisite(s)/Corequisite(s):** Admission to the Bachelor of Science in Social Work (BSSW) program or permission of the Grace Abbott School of Social Work.

**SOWK 4650 SOCIAL WORK IN MENTAL HEALTH (3 credits)**

This is an introductory course to develop basic knowledge and skills of mental health concepts, interventions, and services for social workers. The focus is on history, contemporary trends, legal and practice implications, human rights, social justice, assessment and delivery of culturally competent social services.

**Prerequisite(s)/Corequisite(s):** Admission to the Bachelor of Science in Social Work (BSSW) program or permission of the Grace Abbott School of Social Work.

**SOWK 4660 SOCIAL WORK WITH INDIVIDUALS WITH DISABILITIES (3 credits)**

This is an introductory course to increase awareness of intellectual and developmental disability issues across the lifespan that affect social work practice. The focus is on history, contemporary trends, legal and practice implications, human rights, social justice, assessment, and delivery of culturally competent services.

**SOWK 4680 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 8686, COUN 4680, COUN 8686).

**SOWK 4690 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, COUN 8696, SOWK 8696).

**SOWK 4800 SOCIAL WORK AND THE LAW (3 credits)**

This course presents the fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include: the legal system, legal research methods, professional ethical/legal responsibilities and liabilities, family law, elder law, criminal law, juvenile law, personal injury law, employment discrimination law, capacity to make contracts and wills, rights of institutionalized patients, and rights of handicapped children to an education. (Cross-listed with SOWK 8806).

**Prerequisite(s)/Corequisite(s):** SOWK 3110

**SOWK 4810 SPIRITUALITY AND SOCIAL WORK PRACTICE (3 credits)**

Social work literature defines spirituality as the human striving for a sense of meaning, purpose, values, and fulfillment. Spirituality is expressed through diverse forms throughout a client's lifespan; it is central to clients' understanding of suffering and their attempts to resolve it. This course examines major issues pertaining to spiritually-sensitive social work practice with clients of diverse religious and non-religious (i.e., outside sectarian institutional contexts) perspectives. (Cross-listed with SOWK 8816)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW program or permission of the school

**SOWK 4820 GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE (3 credits)**

This course prepares students to work in a global setting. Students examine theories, concepts, and skills related to social development, cross-cultural engagement, and issues related to particular countries. The course is designed with two elements: 1) On-campus classroom learning focused on global social work knowledge, and, 2) Field-based labs that involve direct engagement with an international population. Students select one lab: i) faculty-led trip to China for two-weeks, ii) refugee resettlement service-learning project in Omaha. (Cross-listed with SOWK 8826).

**SOWK 4830 CRISIS INTERVENTION (3 credits)**

The prevalence of crisis experiences within our society and lifespan development necessitates that social workers acquire a knowledge and skill-base for effective and professional crisis intervention practice. Students will study the ABC Model of Crisis Intervention and how to ethically practice with diverse and vulnerable populations. Students will apply crisis intervention theory and models of intervention to various concern areas including but not limited to: suicide, sexual assault, domestic violence, substance abuse, grief and loss, and violence. A systems, strengths, and cultural emphasis will be applied to the various crisis situations covered. (Cross-listed with SOWK 8836)

**Prerequisite(s)/Corequisite(s):** SOWK 3320

**SOWK 4850 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, GERO 8856, SOWK 8856.)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school

**SOWK 4880 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with Grace Abbott School of Social Work program objectives, faculty expertise, and student needs. (Cross-listed with SOWK 8886)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school.

**SOWK 4890 SPECIAL STUDIES IN SOCIAL WORK (1-4 credits)**

This independent study course allows students to pursue a special selected area or topic within social welfare in order to deepen knowledge and/or skills in that particular area.

**Prerequisite(s)/Corequisite(s):** Admission to BSSW program or permission of the school.

**SOWK 4980 SENIOR HONORS PROJECT/THESIS (3-6 credits)**

An independent research project supervised by an approved faculty member. The senior honors project must be approved by the CPACS Honors Coordinator.

**Prerequisite(s)/Corequisite(s):** Senior in Honors Program and permission of the School.

# Social Work, Bachelor of Science

## Requirements

The social work program is divided into two segments – pre-professional coursework and the professional BSSW program. Students also have room for general electives to further pursue their interests. The number of general electives required varies for each student (12-18 credit hours).

### Pre-Professional Social Work Courses

Students are required to complete some university general education courses and social work specific requirements prior to admission into the Professional Social Work Program.

1. UNO General Education (43 credit hours) - all BSSW students must complete the UNO General Education Curriculum. Some general education courses may overlap with social work requirements – see your advisor for more details.
2. Social Work Pre-requisite Course Requirements (21 credit hours) – a variety of courses are designated as pre-requisites to the social work program. These courses are intended to provide a foundation of understanding in a variety of areas relevant to social work.

### Professional BSSW Program

Students who apply and are accepted into the BSSW program complete a sequence of professional social work courses as well as a practicum experience and social work specific electives (44 credit hours).

Code	Title	Credits
<b>Social Work Pre-requisite Courses:</b>		
SOWK 1000	SOCIAL WORK AND SOCIAL WELFARE	3
SOWK 1500	SOCIAL WORK AND CIVIC ENGAGEMENT	3
ENGL 1150/1154	ENGLISH COMPOSITION I	3
ENGL 1160/1164	ENGLISH COMPOSITION II	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	3
Students may take MATH 1120, 1130, or 1220 instead, but are then required to take SOWK 3000 to fulfill the program statistics course		
SOC 1010	INTRODUCTORY SOCIOLOGY	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
HIST 1120	AMERICAN HISTORY SINCE 1865	3
ECON 2220 or ECON 1200	PRINCIPLES OF ECONOMICS (MACRO) AN INTRODUCTION TO THE U.S. ECONOMY	3
BIOL 1020	PRINCIPLES OF BIOLOGY	4
<b>Other Required Courses (not pre-requisites):</b>		
SOWK 2120	RACE, CLASS AND GENDER IN THE UNITED STATES	3
SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
This course is not required if students take MATH 1530 or a transferred equivalent to meet the statistics requirement		

Code	Title	Credits
<b>Professional BSSW courses:</b>		
(must be formally admitted to SOWK to take these courses)		

SOWK 3010	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 3320	SOCIAL WORK PRACTICE I	3
SOWK 3890	WRITING FOR SOCIAL WORK	3
SOWK 3020	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 3350	SOCIAL WORK PRACTICE II	3
SOWK 3110	SOCIAL WELFARE POLICY	3
SOWK 4360	SOCIAL WORK PRACTICE III	3
SOWK 4400	RESEARCH METHODS IN SOCIAL WORK PRACTICE	3
SOWK 4410	GENERALIST SOCIAL WORK PRACTICUM I	5
SOWK 4420	GENERALIST SOCIAL WORK PRACTICUM II	5
SOWK 4450	SOCIAL WORK CAREER PREP	1
Select one of the following minority content courses:		3
SOWK 4020	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	
SOWK 4030	SOCIAL WORK WITH LATINOS	
SOWK 4040/ GERO 4690	WORKING WITH MINORITY ELDERLY	
SOWK 4050	ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE	
Select one of the following electives:		3
SOWK 4640	SOCIAL WORK IN CHILD WELFARE	
SOWK 4650	SOCIAL WORK IN MENTAL HEALTH	
SOWK 4660	SOCIAL WORK WITH INDIVIDUALS WITH DISABILITIES	
Select one of the following electives:		3
SOWK 4510	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 4620	TRAUMA AND RESILIENCE	
SOWK 4680	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 4690	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 4810	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 4800	SOCIAL WORK AND THE LAW	
SOWK 4830	CRISIS INTERVENTION	
SOWK 4850	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 4880	TOPICAL SEMINAR IN SOCIAL WORK	
SOWK 4890	SPECIAL STUDIES IN SOCIAL WORK	
SOWK 4980	SENIOR HONORS PROJECT/THESIS	
<b>Total Credits</b>		<b>44</b>

**Freshman****Fall**

SOWK 1000	SOCIAL WORK AND SOCIAL WELFARE <sup>1</sup>	3
ENGL 1150	ENGLISH COMPOSITION I	3
CMST 1110	PUBLIC SPEAKING FUNDS	3
Humanities and Fine Arts		3
Quantitative Literacy		3
<b>Credits</b>		<b>15</b>

**Spring**

ENGL 1160	ENGLISH COMPOSITION II	3
-----------	------------------------	---

HIST 1120	AMERICAN HISTORY SINCE 1865	3
PSYC 1010	INTRODUCTION TO PSYCHOLOGY I	3
Humanities and Fine Arts		3
Elective Course		3

**Credits 15****Sophomore****Fall**

SOWK 1500	SOCIAL WORK AND CIVIC ENGAGEMENT <sup>2</sup>	3
PSCI 1100	INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT	3
SOC 1010	INTRODUCTORY SOCIOLOGY	3
Social Science		3
Elective Course		3

**Credits 15****Spring**

Students can apply for the professional social work program during the spring term if all of the pre-requisite courses for the social work program will be complete by the end of the spring term.

BIOL 1020	PRINCIPLES OF BIOLOGY	4
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Global Diversity		3
Elective Course		3
Elective Course		3

**Credits 16****Junior****Fall**

SOWK 3010	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 3320	SOCIAL WORK PRACTICE I	3
SOWK 3890	WRITING FOR SOCIAL WORK	3
SOWK 2120	RACE, CLASS AND GENDER IN THE UNITED STATES	3
UL Social Science		3

**Credits 15****Spring**

SOWK 3020	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 3350	SOCIAL WORK PRACTICE II	3
SOWK 3110	SOCIAL WELFARE POLICY	3
SOWK 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
UL Social Science		3

**Credits 15****Senior****Fall**

SOWK 4410	GENERALIST SOCIAL WORK PRACTICUM I	5
SOWK 4360	SOCIAL WORK PRACTICE III	3
SOWK 4400	RESEARCH METHODS IN SOCIAL WORK PRACTICE	3
Required Social Work Elective		3

**Credits 14****Spring**

SOWK 4420	GENERALIST SOCIAL WORK PRACTICUM II	5
-----------	-------------------------------------	---

SOWK 4450	SOCIAL WORK CAREER PREP	1
Required Social Work Elective		3
Required Social Work Elective		3
Elective Course		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

- Must receive a grade of B or better in SOWK 1000
- Must receive a grade of B or better in SOWK 1500

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**\*\*Transfer credit or placement exam scores may change suggested plan of study**

**GPA Requirements:**

Students can apply for the professional social work program in the spring semester of their sophomore year given that the proper pre-requisite courses will be complete by the end of the sophomore spring term. Students must have a minimum cumulative GPA at or above 2.5 in order to apply for and begin the professional social work courses in their junior and senior year. Students must maintain a minimum GPA of 2.5 in order to continue in the professional social work program.

# Cross-Sector Collaborative Leadership Minor

**The Need**

Many societal challenges are complex in nature, with a variety of interdependent causal factors that cannot be addressed independently by public sector, private sector, or non-profit sector organizations working in isolation. Yet, through collaboration across those sectors, significant impact is possible.

**The Goal**

The goal of this cross-sector collaborative leadership minor is to prepare graduates to lead and serve effectively in such cross-sector collaborative initiatives.

**Skills Acquired**

Students who successfully complete the cross-sector collaborative leadership minor will have gained knowledge and experiences that will enable them to:

- Understand and apply collaborative leadership across the public, nonprofit and business sectors.
- Effectively approach and communicate with cross-sector partners.

- Analyze issues and challenges from the perspectives of all three sectors.
- Recognize the interconnectedness of all three sectors.
- Demonstrate cultural understanding.
- Develop and evaluate cross-sector collaboration initiatives.
- Apply strategic and project management skills.

**Interdisciplinary**

This interdisciplinary minor will prepare students to collaboratively address complex cross-sector challenges. Students will develop their leadership skills through developing and leading a collaborative cross-sector project and collaborating with private, nonprofit and public sectors.

**Contact**

To learn more about the cross-sector collaborative leadership minor, contact:

Dr. Meagan Van Gelder | Cross-Sector Collaborative Leadership Minor Advisor | [mvangelder@unomaha.edu](mailto:mvangelder@unomaha.edu) | 402.554.3480

18 credit hours of courses completed with grades of C- or better are required for the minor.

Code	Title	Credits
<b>Required Courses</b>		
PA/MGMT 3800	CROSS-SECTOR COLLABORATIVE LEADERSHIP	3
PA 2000	LEADERSHIP & ADMINISTRATION	3
PA 4960	CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE	3
9 hours from one of the below		9
<b>Total Credits</b>		<b>18</b>

Code	Title	Credits
<b>Bachelor of Science in Business Administration (BSBA) majors are required to take the following three courses (9 credit hours):</b>		
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	9
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS	
or PA 4390	PUBLIC BUDGETING	
PA 3200	PROGRAM PLANNING AND EVALUATION	
or PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE	
or PA 4530	STRATEGIC PLANNING	9

**Political Science undergraduate majors and Public Administration undergraduate minors are required to take the following three courses (9 credit hours):**

MGMT 1500	INTRODUCTION TO BUSINESS	9
ACCT 2000	ACCOUNTING BASICS FOR NON-BUSINESS MAJORS	
or ENTR 3710	ENTREPRENEURIAL FOUNDATIONS	
PA 3200	PROGRAM PLANNING AND EVALUATION	
or PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE	
or PA 4530	STRATEGIC PLANNING	9

**Other UNO undergraduate majors are required to take the following three courses (9 credit hours):**

MGMT 1500	INTRODUCTION TO BUSINESS	9
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	
or PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	

PA 3200	PROGRAM PLANNING AND EVALUATION
or PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE
or PA 4530	STRATEGIC PLANNING

## Nonprofit Management Minor

As UNO continues to serve as the Nebraska's premiere metropolitan university, the nonprofit management minor exemplifies UNO's metropolitan and collaborative extension to the community.

### Our Mission

Along with the University of Nebraska at Omaha's (UNO) strategic plan, the School of Public Administration upholds the esteemed pleasure of placing students first and achieving academic excellence all while engaging with the community.

By entrusting students with the necessary information to lead, manage, and ignite change within the nonprofit sector, our university continues to rise to the forefront of community engagement.

### Skills Acquired

Upon completion of the nonprofit management minor, students will have the necessary skills needed to work in the nonprofit field.

- To equip students with the knowledge and competencies to successfully manage and lead organizations in the nonprofit sector.
- To provide a foundation in financial management, facilitating community change, marketing, and managing volunteers and staff with a nonprofit organization.
- To complement a wide variety of majors across the university system.

### Student-Centered

The nonprofit sector is on the rise, with wages and employment exceeding both private and government entities the past decade. With 1.6 million registered nonprofits in the U.S., the need to educate and empower UNO students with the skills to lead the nonprofit sector in the Omaha metro is crucial. As interest in the nonprofit sector continues to climb, so will the need to service the Omaha community and the State of Nebraska in its effort to meet the needs of its growing population. The nonprofit management minor is open to students in any discipline area at UNO.

### Contact

To learn more about the nonprofit management minor, contact:

Meagan Van Gelder | Nonprofit Management Minor Advisor |  
mvangelder@unomaha.edu | 402.554.3480

### Requirements

The minor requires the following 18 credit hours with grades of C- or better:

Code	Title	Credits
<b>Required Nonprofit Management Minor Courses (must complete all)</b>		
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA 3500	NONPROFIT ORGANIZATIONS AND MANAGEMENT	3
PA 4500	NONPROFIT FUNDRAISING	3
<b>Elective Nonprofit Management Minor Courses</b>		
Select three of the following:		9
PA 2000	LEADERSHIP & ADMINISTRATION	

PA 3600	PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS
PA 3700	FINANCIAL MANAGEMENT FOR NONPROFITS
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS
PA 4300	SEMINAR IN PUBLIC POLICY
PA 4410	PUBLIC PERSONNEL MANAGEMENT
PA 4440	ORGANIZATIONAL DEVELOPMENT AND CHANGE
PA 4530	STRATEGIC PLANNING
PA 4950	INTERNSHIP

**Total Credits**

**18**

## Public Administration Minor

As UNO continues to serve as the Nebraska's premiere metropolitan university, the public administration minor exemplifies UNO's metropolitan and collaborative extension to the community.

### Our Mission

Along with the University of Nebraska at Omaha's (UNO) strategic plan, the School of Public Administration upholds the esteemed pleasure of placing students first and achieving academic excellence all while engaging with the community.

By entrusting students with the necessary information to lead, manage, and ignite change within the public sector, our university continues to rise to the forefront of community engagement.

### Skills Acquired

Upon completion of the public administration minor, students will have the necessary skills needed to work in the public sector. The minor is designed to accomplish the following:

- Describe the political context of public administration as well as the historical development and evolution of these institutions of the United States;
- Explain the role of public administrators in policy development and policy implementation;
- Empower future leaders to serve communities, to advance the common good and to effect positive change; and
- Develop students to become professionals who are equipped with the skills needed to manage at all levels of government (local, state and federal) as well as nonprofit organizations.

### Student-Centered

To continue the momentum of serving the UNO campus, the greater Omaha community and beyond, there is a great need to empower our students and the knowledge, skills and abilities necessary to lead the future of the public sector and public service. The public administration minor is open to students in any discipline area at UNO.

### Contact

To learn more about the public administration minor, contact:

Dr. Meagan Van Gelder | Public Administration Minor Advisor |  
mvangelder@unomaha.edu | 402.554.3480

Code	Title	Credits
<b>Required Public Administration Courses</b>		
PA 2170	INTRODUCTION TO PUBLIC ADMINISTRATION	3
PA 4390	PUBLIC BUDGETING	3

PA 4410	PUBLIC PERSONNEL MANAGEMENT	3
Public Administration Electives (select three from the following)		9
PA 2000	LEADERSHIP & ADMINISTRATION	
PA 4100	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS	
PA 4300	SEMINAR IN PUBLIC POLICY	
PA 4500	NONPROFIT FUNDRAISING	
PA 4530	STRATEGIC PLANNING	
PA 4950	INTERNSHIP	
<b>Total Credits</b>		<b>18</b>

## Goodrich Scholarship Program

The Goodrich Scholarship Program, established by the Nebraska legislature in 1972, is an academic unit of the College of Public Affairs and Community Service. The program offers a merit-and-need-based scholarship for Nebraska residents who qualify through the Goodrich scholarship application process. The program provides financial aid in the form of tuition and general fees for up to 135 credit hours or until graduation (whichever comes first). The Goodrich scholarship is designed for full-time students at UNO only. The program offers a special humanities/social science curriculum (which is also a part of UNO's General Education Curriculum); this Goodrich curriculum emphasizes intellectual and cultural diversity at local and global levels. Goodrich programming includes a comprehensive menu of academic and non-academic support services and activities that enhance or advance student success.

### Mission

The mission of the Goodrich Scholarship Program is to offer affordable quality undergraduate education to eligible low-income Nebraska residents who qualify through the Goodrich scholarship application process.

### Other Information

#### Strategic Goals

The Goodrich Scholarship Program's strategic goals are consistent with CPACS and the University of Nebraska at Omaha's strategic goals of being student-centered, academic excellence-centered, and community-engaged.

#### Program Goals

- To provide scholars opportunities for sound and innovative educational experiences;
- To enable scholars to connect with each other, with faculty, with the university, and with the community at large;
- To empower scholars to build strong positive self-concepts – and
- To equip scholars with skills that will enable them to assume leadership roles.

### Scholarship Note

Applicants who receive tuition scholarships, including but not limited to Regents, Chancellor's, Dean's and Buffett Foundation, cannot combine or stack any of those awards with a Goodrich scholarship. For more information about stacking scholarships, please contact UNO's Office of Financial Support and Scholarships at 402.554.2327.

### Student Group

The Goodrich Organization (GO!), Goodrich's student body, opens up leadership opportunities. GO!'s many activities include fundraising and community engagement with organizations such as P4K and BBBS. For suggestions or more specific GO! information, contact GO! faculty advisers Dr. Carolina Hotchandani at 402.554.2274 or Dr. Stevie Seibert Desjarlais 402.554.6302.

### Contact

Goodrich Scholarship Program  
University of Nebraska at Omaha  
123 CPACS  
6001 Dodge Street  
Omaha, NE 68182  
Phone: 402.554.2274

Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/goodrich-scholarship-program/>)

### Admissions

Goodrich uses a composite of selection criteria to evaluate both merit and financial need. Criteria include the individual's application data, financial analysis, academic record, interview, English Placement/Proficiency Exam (EPPE), personal life-experience essay, and references. Note that applicants who will have earned more than 31 college credits by May of the application year are not eligible. For more information, contact the Goodrich Scholarship Program.

## Courses A-Z

### A

- Accounting (ACCT) (p. 746)
- Aerospace Studies (AERO) (p. 747)
- Anthropology (ANTH) (p. 748)
- Architectural Engineering (AREN) (p. 749)
- Architecture (ARCH) (p. 751)
- Art (ART) (p. 752)
- Aviation (AVN) (p. 758)

### B

- Bioinformatics (BIOI) (p. 761)
- Biology (BIOL) (p. 762)
- Biomechanics (BMCH) (p. 768)
- Black Studies (BLST) (p. 769)
- Business Administration (BSAD) (p. 773)

### C

- Chemical Engineering (CHME) (p. 773)
- Chemistry (CHEM) (p. 774)
- Chinese (CHIN) (p. 777)
- Civil Engineering (CIVE) (p. 778)
- College of Information Science & Technology (CIST) (p. 780)
- Communication Disorders (CDIS) (p. 781)
- Communication Studies (CMST) (p. 783)
- Communication, Fine Arts, & Media (CFAM) (p. 786)
- Community & Regional Planning (CRP) (p. 786)
- Computer Science (CSCI) (p. 787)
- Construction Engineering (CONE) (p. 791)
- Construction Management (CNST) (p. 792)
- Cooperative Education (COOP) (p. 794)
- Counseling (COUN) (p. 794)
- Criminology and Criminal Justice (CRCJ) (p. 795)
- Cybersecurity (CYBR) (p. 798)

### D

- Design (DSGN) (p. 800)

**E**

- Economics (ECON) (p. 801)
- Educational Professional Sequence (EDUC) (p. 803)
- Electrical and Computer Engineering (ECEN) (p. 803)
- Emergency Management (EMGT) (p. 809)
- Engineering (ENGR) (p. 810)
- Engineering Mechanics (EMEC) (p. 812)
- English (ENGL) (p. 812)
- Entrepreneurialship (ENTR) (p. 819)
- Environmental Studies (ENVN) (p. 820)
- Exploratory (EXPL) (p. 822)

**F**

- Finance and Banking (FNBK) (p. 822)
- Fire Service Management (FSMT) (p. 823)
- Food Science & Technology (FSCI) (p. 824)
- Foreign Language & Literature (FLNG) (p. 824)
- French (FREN) (p. 824)

**G**

- Geography (GEOG) (p. 826)
- Geology (GEOL) (p. 829)
- German (GERM) (p. 831)
- Gerontology (GERO) (p. 832)
- Goodrich Program (GDRH) (p. 834)

**H**

- Health & Kinesiology (HEKI) (p. 834)
- History (HIST) (p. 835)
- Honors Program (HONR) (p. 838)
- Horticulture (HORT) (p. 839)
- Humanities (HUMN) (p. 839)

**I**

- Information Systems & Quantitative Analysis (ISQA) (p. 841)
- Interdisciplinary Studies (INDS) (p. 843)
- International Studies (INST) (p. 843)
- IT Innovation (ITIN) (p. 839)

**J**

- Japanese (JAPN) (p. 843)
- Journalism and Media Communication (JMC) (p. 844)

**K**

- Kinesiology (KINS) (p. 847)

**L**

- Latin (LATN) (p. 852)
- Latino/Latin American Studies (LLS) (p. 852)
- Law and Society (LAWS) (p. 854)

**M**

- Management (MGMT) (p. 855)
- Marketing (MKT) (p. 857)
- Materials Engineering (MATL) (p. 859)

- Mathematics (MATH) (p. 860)
- Mathematics for Teachers (MTCH) (p. 864)
- Mechanical Engineering (MECH) (p. 865)
- Medical Humanities (MEDH) (p. 870)
- Military Science (MILS) (p. 871)
- Multidisciplinary Studies (MLTI) (p. 872)
- Music (MUS) (p. 872)

**N**

- Native American Studies (NAMS) (p. 883)
- Natural Sciences (NSCI) (p. 883)
- Neuroscience (NEUR) (p. 885)

**P**

- Philosophy (PHIL) (p. 886)
- Physical Education Activities (PEA) (p. 890)
- Physics (PHYS) (p. 891)
- Political Science (PSCI) (p. 894)
- Psychology (PSYC) (p. 899)
- Public Administration (PA) (p. 902)
- Public Health & Behavior (PHHB) (p. 904)

**R**

- Real Estate & Land Use Economics (RELU) (p. 905)
- Recreation-Leisure Study (RLS) (p. 906)
- Religion (RELI) (p. 907)
- Russian (RUSS) (p. 910)

**S**

- Science, Tech, Engr, and Math (STEM) (p. 910)
- Social Sciences (SSCI) (p. 911)
- Social Work (SOWK) (p. 911)
- Sociology (SOC) (p. 913)
- Spanish (SPAN) (p. 917)
- Special Education & Communication Disorders (SPED) (p. 920)
- Statistics (STAT) (p. 924)
- Supply Chain Management (SCMT) (p. 925)
- Sustainability (SUST) (p. 926)

**T**

- Teacher Education (TED) (p. 927)
- Theatre (THEA) (p. 931)

**U**

- University Seminar (US) (p. 934)
- Urban Studies (UBNS) (p. 934)

**W**

- Women's and Gender Studies (WGST) (p. 934)
- Writer's Workshop (WRWS) (p. 936)

# Accounting (ACCT)

## ACCT 2000 ACCOUNTING BASICS FOR NON-BUSINESS MAJORS (3 credits)

This course is designed to provide non-business students with an understanding of basic accounting terms and concepts, an understanding of the usefulness of accounting data for decision-making by internal and external business stakeholders, and the skills to actually use accounting data in decision-making.

**Prerequisite(s)/Corequisite(s):** Student must be a non-business student. ENGL 1150 and MATH 1310 or MATH 1220 with 'C'-(2.0) or better. Not open to non-degree graduate students

**Distribution:** Social Science General Education course

## ACCT 2010 PRINCIPLES OF ACCOUNTING I (3 credits)

Basic concepts and assumptions underlying financial accounting; basic structure of accounting; the accounting cycle; external financial statements of the enterprise with emphasis on the corporation; income determination; accounting for and reporting of assets, liabilities and owners' equity; analysis and reporting of cash flows; financial statement analysis.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 with a 'C' (2.0) or better, a GPA of 2.5 or higher, and MATH 1370 or MATH 1930 with a 'C' (2.0) or better or concurrent enrollment in MATH 1370 or MATH 1930

## ACCT 2020 PRINCIPLES OF ACCOUNTING II (3 credits)

A study of techniques and concepts affecting internal accounting in a business organization. These include budgeting in general, costing systems, variance analysis and generating reports for management decision-making. Special topics include segment reporting, control of decentralized operations, capital budgeting, and service department cost allocations.

**Prerequisite(s)/Corequisite(s):** ACCT 2010, ENGL 1150, and MATH 1370 or MATH 1930, each with a C (2.0) or better, and a GPA of 2.5 or higher.

## ACCT 3000 MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT (3 credits)

This course highlights the important role of a managerial accountant in managing a global supply chain and covers the key accounting techniques for supply chain management. (Cross-listed with SCMT 3000)

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with a grade of C (2.0) or better or ACCT 2000 with a grade of C (2.0) or better and cumulative GPA of 2.5 or higher. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160. Not open to non-degree graduate students.

## ACCT 3020 BASIC FEDERAL INCOME TAXATION (3 credits)

This course provides an introduction to the basic concepts and principles of federal income tax with an emphasis on concepts unique to individual taxpayers.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ENGL 1150, ECON 2200 and ECON 2220 with a 'C' (2.0) or better in each course. Cumulative GPA of at least 2.5.

## ACCT 3030 INTERMEDIATE FINANCIAL ACCOUNTING I (3 credits)

A more intensive study of basic accounting theory and principles learned in ACCT 2010. Topics include a conceptual framework of accounting, net income concepts, financial statements, present value applications, revenue recognition, current assets, plant assets, and intangible assets.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, and ECON 2220, with a grade of 'C' (2.0) or better in each course and a 2.5 GPA. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

## ACCT 3040 INTERMEDIATE FINANCIAL ACCOUNTING II (3 credits)

This is the second of two courses in intermediate financial accounting. This course focuses on financial reporting issues relating investments, debt financing, leases, contingencies, cash flows reporting and income taxes.

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a 'C' (2.0) or better.

## ACCT 3050 INTERMEDIATE MANAGERIAL ACCOUNTING (3 credits)

The objective of managerial accounting is to provide management with relevant and timely information to aid economic decision making. This course analyzes numerous economic decisions and identifies what information is relevant. Special attention is given to how different cost accumulation systems and different cost accounting and estimating techniques can aid the decision-making process.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, ECON 2220, and BSAD 2130, BSAD 3140 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

## ACCT 3080 ACCOUNTING INFORMATION SYSTEMS (3 credits)

Introduction to professional accounting information systems, including information systems concepts, accounting and database software and research tools to provide a foundation for subsequent accounting courses.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200 and ECON 2220, with "C" (2.0) or better in each. Cumulative GPA of at least 2.5. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160.

## ACCT 4010 ADVANCED FINANCIAL ACCOUNTING (3 credits)

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 8016)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ACCT 3040 with "C+" (2.33) or better in each and ENGL 1160 with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

## ACCT 4020 ANALYTICS FOR ACCOUNTING (3 credits)

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 8026).

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, and ENGL 1160 each with C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

## ACCT 4040 ADVANCED FEDERAL INCOME TAXATION (3 credits)

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 8046.)

**Prerequisite(s)/Corequisite(s):** ACCT 3020, ACCT 3030, and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

## ACCT 4060 ADVANCED MANAGERIAL ACCOUNTING (3 credits)

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 8066.)

**Prerequisite(s)/Corequisite(s):** ACCT 3050, ACCT 3030, and ENGL 1160, each with "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4070 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 8076.)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a "C" (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division accounting GPA of at least 2.5. Not open to non-degree graduate students.

**ACCT 4080 PRINCIPLES OF AUDITING (3 credits)**

An introduction to auditing, Standards, responsibilities, professional ethics, the audit framework, evidence and reports are studied.

**Prerequisite(s)/Corequisite(s):** ACCT 3030, ACCT 3080, ENGL 1160, and BSAD 2130 or BSAD 3160, with a "C" (2.0) or better in each. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course will provide an introduction of auditing an advanced accounting information system. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association. Accounting information systems control and security practices, and their assessment, will be discussed in the areas of operations, physical and logical access, systems, networks, development and applications, and incorporating hands-on exposure to automated evaluation tools.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Cumulative GPA of at least 2.5. Cumulative upper-division Accounting GPA of at least 2.5.

**ACCT 4500 INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific problems in the field of accounting.

**Prerequisite(s)/Corequisite(s):** Must have permission of the School of Accounting director.

**ACCT 4510 ACCOUNTING INTERNSHIP (1-3 credits)**

A course for junior or senior accounting students to apply their academic accounting knowledge to accounting practice in an employment situation. A student report on the internship experience and an employer's evaluation of the student's performance are course requirements. Can be applied to free electives, but not accounting specialization electives. (Maximum of 3 hours)

**Prerequisite(s)/Corequisite(s):** ACCT 3030 and ENGL 1160, each with a C (2.0) or better, and permission of internship coordinator.

## Aerospace Studies (AERO)

**AERO 1010 LEADERSHIP LABORATORY (0 credits)**

AERO 1010, "Leadership Laboratory" (LLAB) augments the Air Force ROTC academic curriculum by providing prospective Air Force officers opportunities and feedback needed to develop leadership, managerial, and supervisory skills. Applications include a study of Air Force customs and courtesies, drill and ceremonies, problem solving, communication, and learning about career opportunities available to commissioned officers. During the junior and senior year, LLABs consist of activities classified as leadership and management experiences. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop leadership potential.

**Prerequisite(s)/Corequisite(s):** Corequisite - Students need to register for respective year-level equivalent Aerospace Studies Course (AERO 1310/1320, AERO 2310/2320, AERO 3110/3120, AERO 4110/4120)

**AERO 1310 U.S. AIR FORCE HERITAGE AND VALUES I (1 credit)**

AERO 1310, "Air Force Heritage and Values I," is a survey course designed to introduce students to the United States Air and Space Forces. It provides an overview of the basic characteristics, missions, and organization of the Air and Space Forces. As a foundational course, the topics covered in AERO 1310 will include Air Force Core Values, Formation of the Air Force, Customs and Courtesies, Writing and Verbal Communications, Benefits of Services as well as Introduction to Leadership to name a few. For students who continue in the Air Force ROTC (AFROTC) program, this course will be the foundation for becoming an Air or Space professional by outlining our heritage and values. Leadership Laboratory (AERO 1010) is mandatory for AFROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Fall)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010

**AERO 1320 U.S. AIR FORCE HERITAGE AND VALUES II (1 credit)**

AERO 1320, "Air Force Heritage and Values II," is a survey course designed to introduce students to the United States Air and Space Forces. It provides an overview of the basic characteristics, missions, and organization of the Air and Space Forces. As a foundational course, the topics covered in AERO 1320 will include What is War?, Evolution of the Air Force, Principles of War and Tenets of Airpower, Ethical Decision-Making as well as Air Force Major Commands to name a few. For students who continue in the Air Force ROTC (AFROTC) program, this course will be the foundation for becoming an Air or Space professional by outlining our heritage and values. Leadership Laboratory (AERO 1010) is mandatory for AFROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Spring)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010

**AERO 2310 TEAM AND LEADERSHIP FUNDAMENTALS I (1 credit)**

AERO 2310, "Team and Leadership Fundamentals I," is designed to provide students the foundation for both leadership and team building. The topics covered will include Listening, Followership, Problem Solving, Motivation as well as Standards and Accountability to name a few. All these concepts will be applied during activities and class discussions. Students will also practice and apply their verbal and written communication skills throughout the course. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment. Leadership Laboratory (AERO 1010) is mandatory for AFROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Fall)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisite - AERO 1310/1320 or permission from instructor

**AERO 2320 TEAM AND LEADERSHIP FUNDAMENTALS II (1 credit)**

AERO 2320, "Team and Leadership Fundamentals II," is designed to provide students the foundation for both leadership and team building. The topics covered will include Team Building, Human Relations, Conflict Management, Stress Management and Resiliency as well as Ethical Decision Making to name a few. All these concepts will be applied during activities and class discussions. Students will also practice and apply their verbal and written communication skills throughout the course. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment. Leadership Laboratory (AERO 1010) is mandatory for Air Force ROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Spring)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisite - AERO 1310/1320/2310 or permission from instructor

**AERO 3110 LEADING PEOPLE AND EFFECTIVE COMMUNICATION I (3 credits)**

AERO 3110, "Leading People/Effective Communication I," focuses on the development of advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership and communication skills through case studies and practical application. The topics covered will include Critical Thinking, Change Management, Effective Supervision, Ethical Decision Making as well as Bias to name a few. As cadet officers in the Air Force ROTC program, students have an opportunity to apply these leadership and management techniques in a supervised environment. Leadership Laboratory (AERO 1010) is mandatory for Air Force ROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Fall)  
**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisite - AERO 1310/1320/2310/2320 or permission from instructor

**AERO 3120 LEADING PEOPLE AND EFFECTIVE COMMUNICATION II (3 credits)**

AERO 3120, "Leading People/Effective Communication II," focuses on the development of advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership and communication skills through case studies and practical application. The topics covered will include Leadership Theory, Mentoring, Professionalism, Self-Awareness, Organizational Climate as well as Establishing Expectations to name a few. As cadet officers in the Air Force ROTC program, students have an opportunity to apply these leadership and management techniques in a supervised environment. Leadership Laboratory (AERO 1010) is mandatory for Air Force ROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Spring)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisite - AERO 1310/1320/2310/2320 or permission from instructor

**AERO 4110 NATIONAL SECURITY AND COMMISSIONING PREPARATION I (3 credits)**

AERO 4110, "National Security and Commissioning Preparation I," is designed for college seniors and gives them the foundation to understand their role as Air or Space Force officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. The topics covered will include Civilian Control of the Military, National Security Strategy, the Department of Defense, Joint Operations, Unified Combatant Commands, How the Department of the Air Force Deploys as well as the Law of War to name a few. Leadership Laboratory (AERO 1010) is mandatory for Air Force ROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Fall)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisites - AERO 1310/1320/2310/2320/3110/3120 or permission from instructor

**AERO 4120 NATIONAL SECURITY AND COMMISSIONING PREPARATION II (3 credits)**

AERO 4120, "National Security and Commissioning Preparation II," is designed for college seniors and gives them the foundation to understand their role as Air or Space Force officers. The topics covered will include Base Agencies, Ethical Decision-Making, Leadership Authority and Responsibility, Officer and Enlisted Evaluations Systems as well as Career Progression to name a few. As cadet officers in the Air Force ROTC program, students have an opportunity to apply these leadership and management techniques in a supervised environment. Leadership Laboratory (AERO 1010) is mandatory for Air Force ROTC cadets and complements this course by providing advanced leadership experiences in a hands-on, supervised environment. (Fall)

**Prerequisite(s)/Corequisite(s):** Corequisite - AERO 1010, Prerequisite - AERO 1310/1320/2310/2320/3110/3120/4110

# Anthropology (ANTH)

**ANTH 1050 INTRODUCTION TO ANTHROPOLOGY (3 credits)**

Anthropology is the humanistic and scientific study of humans, past and present. This course will present an overview of the four subdisciplines of anthropology: sociocultural, archaeological, biological, and linguistic.

**Distribution:** Social Science General Education course

**ANTH 2000 ETHNOGRAPHY (1-4 credits)**

This is a self-paced course in which the student views films and reads books and articles regarding a specific culture. Each culture will be a one (1) credit hour module. The intent is to acquaint the student in some depth with other cultures in the world.

**Prerequisite(s)/Corequisite(s):** One course in the social sciences and the instructor's permission.

**ANTH 2990 GUIDED READING (1-6 credits)**

The course is designed to allow the student enrolled in an anthropology course to pursue a specialized interest or topic in greater depth than is or was possible for the other course as a whole.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in an anthropology course or enrollment in an anthropology course in the immediately preceding semester and permission of instructor.

**ANTH 3210 CULTURES OF AFRICAN PEOPLE (3 credits)**

An introduction to cultures and societies of Africa. Analysis of kinship systems; political, economic and religious institutions; social change. Emphasis on the dynamics of social organization of African people.

**Prerequisite(s)/Corequisite(s):** Sophomore or above with one three-hour introductory social science course

**ANTH 3220 PEOPLES AND CULTURES OF NATIVE NORTH AMERICA (3 credits)**

A survey of the Native peoples and cultures of North America, past and present. Topics covered include: economics, religion, social organization, kinship, political organization, material culture, gender and culture change through time.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of Instructor

**ANTH 3260 WORLD CULTURES AND PEOPLES (3 credits)**

This course utilizes ethnography to examine human cultures in a specific geographic context. The area approach in cultural anthropology reveals how the physical environment shapes culture and how those cultures, in turn, shape their environments. This course will also examine the larger social milieu and cultural change over time. The specific area will be announced each time the course is offered.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor.

**ANTH 3910 INTRODUCTION TO PHYSICAL ANTHROPOLOGY (3 credits)**

An introduction to physical anthropology through an examination of theories and techniques used to investigate human origins; the relationship between humans and their physical environment; human variation, growth and development; and the evolution of human diseases.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or High School Biology recommended.

**Distribution:** Natural/Physical Science General Education course

**ANTH 3920 ESSENTIALS OF ARCHAEOLOGY (3 credits)**

This course introduces students to the essentials of scientific archaeology. Topics addressed include the history of archaeology, site survey, mapping, testing, excavation, laboratory methods, analysis, interpretation, and documentation. Scientific archaeology focuses upon the use of empirical data to test or evaluate our interpretations of past human behavior.

**Prerequisite(s)/Corequisite(s):** Anthropology 1050 or permission of instructor.

**ANTH 4210 CULTURAL ANTHROPOLOGY (3 credits)**

Cultural Anthropology is the sub-discipline of Anthropology that systematically considers cultural diversity (similarities and differences) in all known human societies. The scope of cultural anthropology is one of the broadest in the social sciences and includes the study of subsistence strategies and economies, kinship and social organization, political organization, religion, gender, language, expressive arts, human-environment relationships, and globalization. (Cross-listed with ANTH 8216).

**Prerequisite(s)/Corequisite(s):** Junior or senior with a minimum of six hours of social science.

**ANTH 4220 NORTH AMERICAN ARCHAEOLOGY (3 credits)**

This course explores more than 20,000 years of Native American culture and lifeways in North America. Indigenous peoples faced numerous challenges throughout this vast and diverse continent. Hunters, gatherers, fishers, and horticulturalists adapted to all regions of North America. Students will be introduced to a range of archaeological concepts, methods and theoretical perspectives central to learning about this rich heritage of American archaeology. (Cross-listed with ANTH 8226).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or ANTH 4210.

**ANTH 4230 ETHNOMEDICINES OF THE AMERICAS (3 credits)**

An anthropological approach to the study of the cultural systems of specific American ethnomedicines (traditional medicines) of North, Central and South America. For each ethnomedicine, the historical context, philosophy, practice, therapeutics, and utilization will be examined to understand how and why each ethnomedicine has survived despite tremendous extermination pressure. (Cross-listed with ANTH 8236).

**Prerequisite(s)/Corequisite(s):** ANTH 1050

**ANTH 4240 MEDICAL ANTHROPOLOGY (3 credits)**

Medical anthropology is the cross-cultural study of human culture, health and illness. Using multiple theoretical perspectives, this course examines how cultural, social, environmental, and biological factors interact to produce patterns of health and illness in past and present human societies. (Cross-listed with ANTH 8246)

**Prerequisite(s)/Corequisite(s):** ANTH 1050 and junior or senior standing; or permission of the instructor.

**ANTH 4250 ENVIRONMENTAL ANTHROPOLOGY AND NATIVE PEOPLES OF THE GREAT PLAINS (3 credits)**

Environmental anthropology seeks to understand the interrelationships between human societies and their biophysical and social environments. This course introduces students to basic concepts and theories used by anthropologists to study environmental influences upon both past and present Native American societies on the North American Great Plains. Particular attention will be given to the rapid and dramatic environmental changes that continue to challenge Native Americans in the Great Plains today. (Cross-listed with ANTH 8256)

**Prerequisite(s)/Corequisite(s):** Anthropology 1050 and junior standing; or permission of instructor.

**ANTH 4260 TOPICS IN CULTURAL ANTHROPOLOGY (3 credits)**

Cultural Anthropology (Ethnology) is the comparative study of cultures. Each semester the course is offered, one topic will be selected from the subfield of Cultural Anthropology, such as: Applied Anthropology, Economic Anthropology, Political Anthropology, Visual Anthropology, Anthropology of Gender and Sexualities, Comparative Analysis of Kinship, or the Anthropology of Religion. Since the topic will vary, students may elect to take this course more than once.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor.

**ANTH 4920 SEMINAR IN ANTHROPOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of anthropology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with ANTH 8926).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor

**ANTH 4940 ARCHAEOLOGICAL FIELD METHODS (3 credits)**

This course introduces students to the field methods of scientific archaeology. These field methods include map reading, use of satellite and aerial photographs, instrument survey and mapping, pedestrian survey or reconnaissance, site survey data collection, identification of artifacts (stone tools, ceramics, etc.) and ecofacts (animal remains, macrobotanicals, etc.), systematic artifact collection and documentation, soil probes and coring methods, GPS-based mapping, excavation methods, and data recording. Additional topics include laboratory methods (artifact and ecofact analysis, interpretation, and documentation). This field course ultimately focuses upon the use of empirical data to test or evaluate our interpretations of past human behavior.

**Prerequisite(s)/Corequisite(s):** ANTH 1050 and Junior standing. Not open to non-degree graduate students.

**ANTH 4990 INDEPENDENT STUDY IN ANTHROPOLOGY (1-3 credits)**

Guided readings and/or independent research in a special anthropological topic under the supervision of an Anthropology faculty member. A formal contract specifying the nature of the work to be completed must be signed before enrolling in the course. May be taken for a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Architectural Engineering (AREN)

**AREN 1000 DURHAM SCHOOL OF ARCHITECTURAL ENGINEERING AND CONSTRUCTION SEMINAR (0 credits)**

Presentation of professional problems and practices by students, faculty, and professionals associated with careers in the Durham School of Architectural Engineering and Construction

**AREN 1010 INTRODUCTION TO ARCHITECTURAL ENGINEERING (1 credit)**

An overview of architectural engineering. Descriptions of structural, lighting and electrical, and mechanical engineered systems in buildings. Design and measurement exercises. Field visits to buildings.

**AREN 1030 DESIGN AND SIMULATION STUDIO I (3 credits)**

Focus on virtual modeling in the context of conceptual design. Study of fundamentals of Building Information Modeling (BIM), iterative design processes, early design analysis techniques, and technical problem-solving processes. Development of modeling skills in various software programs including Autodesk Revit, Formit, Dynamo, and Trimble Sketchup.

**AREN 2010 ARCHITECTURAL ENGINEERING SEMINAR (1 credit)**

This course will inform students about careers in Architectural Engineering and about non-technical issues of engineering practice. It will include visits to offices and job sites, and talks by practicing professionals. Professional, ethical, social, and environmental issues will be addressed. Students will gain experience in teamwork, and in presentation of information.

**Prerequisite(s)/Corequisite(s):** AREN 1010 or AE 1010; 30 credit hours completed

**AREN 2030 DESIGN AND SIMULATION STUDIO II (3 credits)**

Focus on building systems as integral elements in architecture, building and construction assemblies, materials and methods, fabrication, and tectonic exploration using building information modeling (BIM) processes. Exposure to building construction systems, stereotomic and tectonic construction assemblies, and fundamentals of the architectural design process.

**Prerequisite(s)/Corequisite(s):** AREN 1030 or AE 1030 Design and Simulation Studio I

**AREN 2110 THERMODYNAMICS FOR ARCHITECTURAL ENGINEERING (3 credits)**

First and Second Laws of Thermodynamics, properties of gases and vapors. Sources of energy and its conversion to work. Applications on Architectural Engineering and Construction.

**Prerequisite(s)/Corequisite(s):** MATH 1960, PHYS 2110. Not open to non-degree graduate students.

**AREN 2250 CONSTRUCTION GRAPHICS AND DESIGN PROCESS (3 credits)**

Introduction to typical computer-graphics and calculation applications used in a contemporary architectural engineering design office. Extensive use of CADD and electronic spreadsheet software to solve typical analysis and design problems. Fundamentals of descriptive geometry and two and three-dimensional drawing systems. Use of drawing conventions common to construction design. Basics of personal computer applications. Conceptual review of engineering design and technical problem solving processes.

**AREN 2400 BUILDING SYSTEMS (3 credits)**

Building systems as integral elements in architecture; building assemblies and materials; building system relationships; communication of ideas between design professionals, clients, contractors and manufacturers; construction drawings and specifications.

**Prerequisite(s)/Corequisite(s):** AREN 2250 or AE 2250

**AREN 3030 AE DESIGN AND SIMULATION STUDIO III (3 credits)**

A comprehensive focus on building design and construction through integrating program, structure, site, and enclosure aligned with architectural engineering. Topics include structure and construction assemblies; envelope performance; and whole building organization and space-making using BIM processes.

**Prerequisite(s)/Corequisite(s):** AREN 3030 or permission of instructor

**AREN 3070 MECHANICS OF MATERIALS LAB (1 credit)**

Introduction to the behavior and testing of various building materials. The concepts of axial stress and strain, flexural stress and strain, beam deflections and column buckling.

**Prerequisite(s)/Corequisite(s):** Coreq: MECH 3250.

**AREN 3100 HVAC FUNDAMENTALS (3 credits)**

Topics will include an introduction to the types of air conditioning systems; the properties of moist air, psychometric processes in HVAC equipment; indoor air quality; thermal comfort; heat transmission in buildings; solar radiation; and the calculation of building infiltration rates, space heating loads and space cooling loads.

**Prerequisite(s)/Corequisite(s):** MECH 2000 or MENG 2000; corequisite AREN 4040

**AREN 3120 MECHANICAL SYSTEMS FOR BUILDINGS (3 credits)**

Fluid flow, pumps, and piping design; space air diffusion; fans, ducts, and building air distribution; refrigeration equipment.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100 and CIVE 310 and CIVE 319

**AREN 3130 HVAC LAB (1 credit)**

Conduct experiments and prepare written reports involving fluid flow, pumps, fans, ducts, piping; basic heat transfer and thermodynamic principles.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100 and CIVE 310 and CIVE 319

**AREN 3200 LIGHTING I: FUND FOR DESIGN (3 credits)**

Introduction to illumination engineering for building interiors. Topics include the fundamentals of light and vision, lighting equipment, requirements for building lighting, and basic illuminating engineering design methods.

**Prerequisite(s)/Corequisite(s):** ECEN 2110

**AREN 3220 ELECTRICAL SYSTEMS FOR BUILDINGS I (3 credits)**

Study of basic design of building electrical systems including circuit design, power distribution and service equipment, communications systems, and special electrical systems.

**Prerequisite(s)/Corequisite(s):** ECEN 2110

**AREN 3230 LIGHTING AND ELECTRICAL SYSTEMS LAB (1 credit)**

General introduction to lighting and electrical systems in building interiors, through hands-on exercises using a range of currently available lighting and electrical technologies. Topics include: principles of object modeling, lamp and luminaire workshops, field measurements of lighting and electrical systems, motor workshop, power consumption and power factor workshops.

**Prerequisite(s)/Corequisite(s):** AREN 3200 or AE 3200; coreq AREN 3220

**AREN 3300 BUILDING ACOUSTICS FUNDAMENTALS (3 credits)**

An introduction to the acoustics of buildings. Topics include the fundamentals of sound generation, propagation, and measurement; human hearing; acoustic properties of materials and constructions; basic room acoustics; and noise control.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**AREN 3770 GLOBAL EXPERIENCES IN ARCHITECTURAL ENGINEERING (1-3 credits)**

Individual or group educational experience in Architectural Engineering that combine classrooms, lectures, discussions, and/or seminars with field and/or classroom studies in a foreign country. Choice of subject matter and coordination of on- and off-campus activities are at the discretion of the instructor.

**AREN 3920 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING III (1-3 credits)**

Individual instruction in Architectural Engineering at the junior level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**AREN 3940 SPECIAL TOPICS IN ARCHITECTURAL ENGINEERING III (3 credits)**

Special topics in Architectural Engineering at the junior level that are not yet covered in other courses in the Architectural Engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**AREN 4020 ARCHITECTURAL ENGINEERING SENIOR DESIGN PROJECT IN LIGHTING (4 credits)**

Senior design project that integrates lighting design and illuminating engineering through a semester long design problem. A self-directed execution of the lighting design process culminating with a professional design solution.

**Prerequisite(s)/Corequisite(s):** AREN 3220 or AE 3220; AREN 4200 or AE 4200

**AREN 4030 AE DESIGN AND SIMULATION STUDIO IV (3 credits)**

Advanced topics in Building Information Modeling (BIM) are presented including modeling tools and processes for building engineers, designers, contractors, and operators. BIM management throughout the building lifecycle, technical engineering use cases, and specific topics in virtual reality, simulation, augmented reality, and graphical programming environments are covered. Advanced topics relevant to all AE fields include collaborative design and interoperability.

**Prerequisite(s)/Corequisite(s):** AREN 3030

**AREN 4040 BUILDING ENVELOPES (3 credits)**

Design and analysis of building envelopes is an important and interdisciplinary topic within the Architectural Engineering field that relates to all AE subdisciplines (lighting, electrical systems, structures, mechanical systems, and acoustics). This introductory Building Envelopes course is created to supplement the sub-discipline specific introductory courses as well as combine some of these topics under the umbrella of building envelopes. It aims to fill an important gap in the BSAE curriculum and cover a comprehensive introduction to the processes of Building Energy Modeling.

**Prerequisite(s)/Corequisite(s):** MECH 2000 or MENG 2000; junior standing; corequisite: AREN 3100

**AREN 4120 BUILDING ENERGY II: PRIMARY AND SECONDARY SYSTEMS (3 credits)**

Analysis and design of building air distribution systems, fans, pumps, piping, space air diffusion and heat exchangers.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100; CIVE 310

**AREN 4150 HVAC DESIGN (4 credits)**

Develop and design the mechanical system for an actual building, from the programming phase to the final construction documents.

**Prerequisite(s)/Corequisite(s):** AREN 4120 or AE 4120. Not open to non-degree graduate students.

**AREN 4200 LIGHTING II: THEORY, DESIGN & APPLICATION (3 credits)**

Design and analysis of lighting systems; the emphasis is on the integration between the lighting design process and the technical foundations for building lighting; topics include design criteria; lighting design procedures, lighting modes and subjective effects; calculation tools. Lab sessions include photometric measurements and computer applications. (Cross-listed with AREN 8206).

**Prerequisite(s)/Corequisite(s):** AREN 3200 or AE 3200

**AREN 4250 LIGHTING DESIGN (4 credits)**

Advanced design and analysis of lighting systems. Application of the lighting design process for advanced interior applications such as multimedia facilities, and outdoor applications such as sports lighting. (Requires the initiation of the design process, proceeding in a self-directed manner through intermediate steps, and producing professional lighting design solutions.)

**Prerequisite(s)/Corequisite(s):** AREN 4200 or AE 4200. Not open to non-degree graduate students.

**AREN 4300 ADVANCED NOISE CONTROL (3 credits)**

Characterization of acoustic sources; use and measurement of sound power and intensity; sound-structure interaction; acoustic enclosures and barriers; muffling devices; vibration control; and active noise control. (Cross-listed with AREN 8306).

**Prerequisite(s)/Corequisite(s):** AREN 3300 or AE 3300

**AREN 4600 SMART BUILDING SENSORS AND PROGRAMMING (3 credits)**

Principles of modeling, interfacing, and signal conditioning of sample building sensors, and acquisition and analysis of data utilizing engineering programming language such as LabVIEW. Overview of current sensing technology and control in buildings.

**Prerequisite(s)/Corequisite(s):** CIST 1400

**AREN 4620 MEMS SENSORS DYNAMICS (3 credits)**

Study of the dynamics of Microelectromechanical system (MEMS) beam-structures. Modeling principles and data analysis from different types of MEMS will be explained along with deep theoretical and experimental investigation of nonlinear MEMS dynamics. Learn to conduct experiments using state-of-the-art MEMS characterization tools. (Cross-listed with AREN 8626).

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**AREN 4920 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING IV (1-3 credits)**

Individual instruction in Architectural Engineering at the senior level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**AREN 4940 SPECIAL TOPICS IN ARCHITECTURAL ENGINEERING IV (3 credits)**

Special topics in Architectural Engineering at the senior level that are not yet covered in other courses in the Architectural Engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Architecture (ARCH)

**ARCH 1060 INTRODUCTION TO DESIGN (3 credits)**

Investigations into architecture, interior design and related design fields. The forces that shape these fields and the process of production they rely upon. (Cross-listed with IDSG 1060).

**ARCH 1400 VISUAL LITERACY LECTURE I (1 credit)**

Introduction to critical and analytical skills in a variety of contexts. Focus on understanding modes of visual language as they relate to descriptive and analytical understanding modes of visual language as they relate to descriptive and analytical process, drawing upon contemporary and historical works and issues. Cross-listed with IDSG 1400.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture and Parallel ARCH 1404.

**ARCH 1404 VISUAL LITERACY LAB I (4 credits)**

Development of creative and perceptual skills through problem solving in drawing and design with emphasis on composition, analysis, and perceptual drawing. (Lab rotations consist of analysis/composition and perceptual drawing.) Cross-listed with IDSG 1404.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture and Parallel ARCH 1400.

**ARCH 1410 VISUAL LITERACY LECTURE II (1 credit)**

Introduction to critical and analytical skills in a variety of contexts. Focus on understanding modes of visual language as they relate to descriptive and analytical understanding modes of visual language as they relate to descriptive processes and color theory application, drawing upon contemporary and historic works and issues. Cross-listed with IDSG 1410.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture and Parallel ARCH 1414.

**ARCH 1414 VISUAL LITERACY LAB II (4 credits)**

Development of creative and perceptual skills through problem solving in drawing and design with emphasis on composition, color theory application and drawing. (Lab rotations consist of color theory application and speculative drawing.) Cross-listed with IDSG 1414.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture and Parallel ARCH 1410.

**ARCH 2100 ELEMENTS OF ARCHITECTURAL DESIGN I (3 credits)**

Exploration of the controls that determine abstract form. Exercises in two- and three-dimensional composition. Introduction to the design vocabulary and elements of visual organization. (Cross-listed with IDSG 2100).

**Prerequisite(s)/Corequisite(s):** Pre-architecture and pre-interior design majors only. ARCH 1400/ARCH 1404 or by permission. Parallel: ARCH 2200.

**ARCH 2110 ELEMENTS OF ARCHITECTURAL DESIGN II (3 credits)**

Basic design concepts as applied to the design of architectural space and form. Human scale, natural light, and structure as for determinants. Design parameters initially considered as isolated entities and then synthesized into mutually reinforcing totalities. (Cross-listed with IDSG 2110).

**Prerequisite(s)/Corequisite(s):** Pre-architecture and pre-interior design majors only, and ARCH 2100, ARCH 2200. Parallel: ARCH 2210.

**ARCH 2200 GRAPHIC COMMUNICATIONS I (2 credits)**

(Lect 1, Studio 4) Representation of depth, movement, and structure through use of line, tone, and transparency. Perspective drawings of interior and exterior architectural space. Projects emphasizing pencil and pen and ink as presentation tools. (Cross-listed with IDSG 2200).

**Prerequisite(s)/Corequisite(s):** Pre-architecture and pre-interior design majors only and ARCH 1400/1404, ARCH 1410/1414 or by permission. Parallel: Arch 2100.

**ARCH 2210 GRAPHIC COMMUNICATIONS II (2 credits)**

(Lect 1, Studio 4) Introduction to theory and effects of color. Representation of depth, movement, and structure through use of color. Perspective drawing interior and exterior architectural space in color. (Cross-listed with IDSG 2210).

**Prerequisite(s)/Corequisite(s):** Pre-architecture and pre-interior design majors only, and ARCH 2100, 2200. Parallel: ARCH 2110.

**ARCH 2230 COMPUTER APPLICATIONS IN ARCHITECTURAL AND INTERIOR DESIGN I (3 credits)**

The architecture student will be provided with a basic understanding of the wide range of man-machine relationships that apply to the profession of architecture. Emphasis will be directed toward introducing the student to the operational procedure and usage of computer programs that exist in the architecture computer program library. Upon completion of this course, the student should be able to make effective use of the computer facilities. Cross-listed with IDSJ 2230.

**Prerequisite(s)/Corequisite(s):** Pre-architecture and pre-interior design majors only.

## Art (ART)

**ART 1010 ART APPRECIATION (3 credits)**

This course is designed as an introductory-level art history for the non-art major. It surveys the aesthetic principles of the visual arts and their interpretation in a socio-historical context. (May not be taken for major credit.) Lab fee required.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ART 1040 CROSS-CULTURAL SURVEY OF ART (3 credits)**

This is an introductory course that explores the painting, sculpture and decorative arts of five cultures: Mesoamerican, Native American, Asian, European and African. Typical of art history introductory courses, it surveys several cultures and time periods. Students explore reasons for making art and its relationship to the religion, politics and everyday life of the cultures. This course also explores the influence of these various cultures on contemporary American art. Lab fee required.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 1100 FOUNDATION: DRAWING (3 credits)**

This course is an introduction to the essential tools of art making through an active exploration of drawing mediums and design concepts. The focus is on the development of conceptual and technical skills used in contemporary studio practice. The course will have a strong emphasis on learning to see in the context of an observational studio practice.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1110 FOUNDATION: 3D DESIGN (3 credits)**

This course is an introduction to the technical and conceptual aspects of three dimensional design, focusing on drawing and sculpture problems. Students will develop an understanding of 3-D design components and principles, learn handmade and shop oriented technologies, and explore analytical and conceptual drawing. They will also address critical skills and the cultural analysis of art practice.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1210 FOUNDATION: 2-D DESIGN (3 credits)**

This course is an introduction to the elements and principles of design utilizing a variety of 2-D media and formats. These will be investigated through compositional strategies, studio techniques, gestalt understanding, critical thinking and concepts of contemporary methodologies in art making. Lab fee required.

**ART 1220 FOUNDATION: DIGITAL MEDIA (3 credits)**

An introduction to digital art and design skills, nomenclature, and practice while learning aesthetics and art and design history. Students learn to balance practical knowledge with visual, theoretical, and historical frameworks, and they complete digital skills exercises that incorporate art and design history. These digital skills are then practiced and reinforced with more in-depth art and design projects.

**Prerequisite(s)/Corequisite(s):** Lab fee required.

**ART 1810 WATERCOLOR I (3 credits)**

This course cover beginning watercolor techniques with basic water media skills taught in the class. No experience is necessary for students enrolled in 1810.

**ART 1820 WATERCOLOR II (3 credits)**

This course will review fundamental methods and techniques associated with watercolor painting and will introduce more advanced techniques. Advanced watercolor students submit a written contract for their semester plan which includes the concept or content and approximate number of paintings. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 credit hours.)

**Prerequisite(s)/Corequisite(s):** ART 1810

**ART 2000 CORE ONE PORTFOLIO REVIEW (0 credits)**

ART 2000 Core One Portfolio Review is a zero credit hour course offered every Fall and Spring semester. All BASA majors on the 2013-14 catalog year and after must complete the ART 2000 Core I Portfolio review to graduate with the BASA or BFA major. ART 2000 will usually be completed during the sophomore year; i.e. between 27 and 57 credit hours, but may be completed later.

**Prerequisite(s)/Corequisite(s):** Students must complete ART 1100; ART 1110; ART 1210; ART 1220. Not open to non-degree graduate students.

**ART 2050 SURVEY OF WESTERN ART HISTORY I (3 credits)**

A survey of the major developments in painting, sculpture and architecture from Paleolithic cave paintings through the Middle Ages.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 2060 SURVEY OF WESTERN ART HISTORY II (3 credits)**

This course is a survey of the major developments in painting, sculpture and architecture from the Renaissance to the 20th century. Lab fee required.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**ART 2070 ART OF INDIA AND SOUTHEAST ASIA (3 credits)**

A study of the arts of India and cultures under its influence, with attention to religious and philosophical background. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore standing. Not open to non-degree graduate students.

**ART 2080 ART OF CHINA AND JAPAN (3 credits)**

This course is a study of the arts of China and Japan, with attention to religious and philosophical backgrounds. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore standing . Not open to non-degree graduate students.

**ART 2100 LIFE DRAWING I (3 credits)**

Life Drawing I is an introduction to drawing the human form. The goal of the course is to introduce drawing media and relate them to the problems of drawing the figure. Both perceptual and conceptual skill building are emphasized. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210.

**ART 2110 LIFE DRAWING II (3 credits)**

Life Drawing II is an expansion of the instruction and skill set obtained during Life Drawing I. This course continues to assist the student become aware of unfamiliar forms in the figure. Perceptual and conceptual skill building is again emphasized. Lab Fee required.

**Prerequisite(s)/Corequisite(s):** ART 2100

**ART 2200 TYPEFACE DESIGN AND TYPOGRAPHY (3 credits)**

Typeface Design and Typography is foundational to the practice of graphic design and the Graphic Design Concentration sequence. This intensive studio course focuses on the skills, theory, history and practice of typeface design as well as the theory and practice of typography and layout.

**Prerequisite(s)/Corequisite(s):** ART 1220 ART 3130

**ART 2300 WEB DESIGN (3 credits)**

This course is an introduction to basic web design skills and topics, with an emphasis on design and visual communication.

**Prerequisite(s)/Corequisite(s):** ART 1220. Not open to non-degree graduate students.

**ART 2600 SURVEY OF COMICS: MORE THAN CAPES AND TIGHTS (3 credits)**

This course is a survey of the history of the Western comic from its earliest days to the modern era.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ART 2610 EXPLORATION OF GLOBAL COMICS (3 credits)**

This course is a survey of the history, influences and evolution of comics from countries around the world such as France, Italy, the Middle East, Japan, South America and Africa. Students will come to understand how comics grew and evolved under different social, political and cultural climates around the world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ART 3000 MEDIA ARTS 1 (3 credits)**

This course is an introduction and overview to the concentration of Media Arts. The curriculum is designed to provide a basic knowledge of electronic imaging and production techniques for students wishing to continue in digital media or those working with media production artists. Areas introduced will be Digital Image Production, Digital Video Production, and Animation.

**Prerequisite(s)/Corequisite(s):** Art 1220 or permission of instructor

**ART 3100 ADVANCED DRAWING I (3 credits)**

Instruction in drawing at an advanced level to develop practical skills and techniques through directed classroom projects.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3110 ADVANCED DRAWING II (3 credits)**

Instruction in drawing at an advanced level to develop practical skills and techniques through directed classroom projects. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 2110 and ART 3100

**ART 3120 MEDIA ARTS 2 (3 credits)**

Advanced overview of Intermedia and digital production as well as critical theory for artists. The course includes both fine art and applied uses of Intermedia and digital art through the development of individual and group projects using digital and electronic media means.

**Prerequisite(s)/Corequisite(s):** Art 3000 or permission of instructor.

**ART 3130 GRAPHIC DESIGN 1 (3 credits)**

The first course in the Graphic Design sequence, Graphic Design I is an upper division course focusing on the essential elements of Graphic Design as a discipline and practice. Working individually, students learn the tools, terminology, theory, and history of Graphic Design as a professional and artistic practice. Focused attention and time is spent learning conceptualization skills, digital skills, design practice and the relationship between the designer and their social and historical context.

**Prerequisite(s)/Corequisite(s):** ART 1220, or permission of instructor

**ART 3140 COMPUTER GENERATED IMAGERY (3 credits)**

The goal of this course is to introduce students to basic principles and aesthetic considerations of computer generated imagery and interactive virtual spaces (such as game mods and second life). The course will focus on the use of computers as a tool to generate three dimensional forms and create spaces and navigable worlds. The course exposes students to a variety of theoretical and aesthetic positions and encourages them to think of CGI and virtual space building as an art making process. Students will produce art works through the acquisition of technical skills and the exploration of creative uses within the medium.

**Prerequisite(s)/Corequisite(s):** ART 1220 or permission of the instructor

**ART 3150 VIDEO ART (3 credits)**

An introduction to video art production and critical theory for artists. The course exposes students to a variety of theoretical and aesthetic positions and encourages them to think of video as an art making process rather than mass media product. Students are required to produce a number of video art works. Production rather than consumption is stressed as a pedagogical mode.

**Prerequisite(s)/Corequisite(s):** ART 3000 or permission of instructor

**ART 3160 GAME DESIGN AS ART (3 credits)**

This course will encompass theory and practice of game development, game creation as an art process, and an exploration of the work of artists who have created game based work. Areas of study during the course will include game design and mechanics, explorations of theory, narrative and storytelling with game paradigms, social and ethical concerns of gaming and gaming as cultural resistance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**ART 3170 DIGITAL GAME DESIGN (3 credits)**

This course provides an introduction to digital game development. It will explore all aspects of creating 2d games. Students will work on individual and team projects. Students will learn to do concept art, pre-production planning, prototyping and testing, all working towards creating completed games.

**Prerequisite(s)/Corequisite(s):** Non-degree graduate students not allowed.

**ART 3200 THE HAND PRODUCED BOOK I: TYPOGRAPHY AND BOOK DESIGN (3 credits)**

This course is an introduction to the typographic principles and fundamental letterpress techniques as applied to printed books. Each student learns hand typesetting and letterpress procedures, then designs and prints a small edition of their selected text. Lab fee required.

**ART 3210 COLOR THEORY (3 credits)**

Instruction in the study of color through directed classroom assignments.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3220 HAND PRODUCED BOOK II: LETTERPRESS PRINTING (3 credits)**

Continuing work in typography and book design with an emphasis on book illustration, multi-color printing, and the standardization and control of edition work. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3200

**ART 3230 BOOK STRUCTURES: INTRODUCTION TO BOOKBINDING (3 credits)**

This course investigates basic approaches to bookbinding, introducing students to the history, tools and techniques of the discipline. In addition to the concertina structure and simple presentation wrappers, students execute a variety of non-adhesive bindings, both Western and Japanese, and learn basic case-binding methods. Lab fee required.

**ART 3250 PATTERNED PAPER (3 credits)**

This course examines various techniques employed in the creation of decorative patterned papers traditionally used in bookbinding for both cover material and/or end sheets. The emphasis of the course will be on effective pattern design, the mastery of pattern paper production methods, and fine craft standards. Lab fee required.

**ART 3300 ELEMENTARY ART METHODS (3 credits)**

Study of the theory, methods, curriculum and recent research affecting art education with emphasis on the elementary art program. Lab fee required.

**Prerequisite(s)/Corequisite(s):** TED 2400 & Praxis Core, K-12 ART/ED majors only. Junior standing. Lab fee required.

**ART 3304 ELEMENTARY ART FIELD EXPERIENCE (0 credits)**

ART 3304 is an in-school practicum taken in conjunction with ART 3300. Candidates must demonstrate competencies related to performance in their assigned classroom. This is the first of two required art practicum experiences prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** EDUC 2520 or TED 2400; Co-requisite ART 3300. Not open to non-degree graduate students.

**ART 3310 ELEMENTARY SCULPTURE (3 credits)**

This course begins the exploration of the 3-dimensional artistic form which can be constructed using a variety of materials including clay, plaster, wood, steel and new media. Lab fee required..

**Prerequisite(s)/Corequisite(s):** ART 1220

**ART 3320 INTERMEDIATE SCULPTURE (3 credits)**

Intermediate Sculpture continues and expands upon the elementary level of sculpture and builds upon methods, technologies, problem solving and professional practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3310

**ART 3330 ART IN PUBLIC PLACES (3 credits)**

The goal of this course is to introduce students to the concepts and practice related to displaying artwork in public places. Following a thorough examination of the history of public art, the course will focus on the various visual languages and iconography appropriate for public venues. The course emphasizes building original artwork using both traditional and digital technologies, displaying work in public spaces, artist responsibilities and related professional practice.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3340 DIGITAL SCULPTURE - DESIGN AND BUILD TECHNOLOGIES (3 credits)**

The goal of this course is to introduce students to the methods of designing objects in a digital environment and realizing them as objects in the physical world. Students will learn to create forms using a variety of 3D modeling software and scanning technologies. The course will introduce students to the Autodesk suite of programs, including 3D Studio Max, Maya Inventor, 123D Catch, as well as Zbrush. Once students have achieved a high level of competency on the computer, the class will begin exploring systems for building their creations. Using Make 123D, Pepakura and Makerware students will fabricate objects in plastic, cardboard and wood. Additionally, the class will address both the artistic and functional applications of these methods.

**Prerequisite(s)/Corequisite(s):** ART 1110

**ART 3360 APPLIED ART & DESIGN (3 credits)**

This course is designed to present an opportunity for education and other undergraduate students to develop basic skills, knowledge and appreciation of the arts and crafts of our culture and other world cultures. The course content will be individualized for the purposes of adapting methods, values, content, and media for students working with special populations or in special settings. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Sophomore.

**ART 3370 TECHNOLOGY IN ARTS EDUCATION (3 credits)**

This course is specifically designed for pre-service art teachers to learn how to integrate media arts, visual and instructional technology, and digital visual culture into arts curriculum appropriate for application to K-12 contexts. Students will critically examine digital arts, digital art media and technology, and digital visual culture environments and address pedagogical and implementation issues as they simultaneously create their own digital art and digital visual culture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Prereq: TED 2400 and Praxis Core; K-12 ART/ED majors only. Coreq: ART 3300. Or with permission of the instructor. Junior standing. Lab fee required. Not open to non-degree graduate students.

**ART 3410 ELEMENTARY PAINTING (3 credits)**

Instruction in oil painting permits each student the time and environment to work and develop individually. Perceptual and conceptual skill building emphasized. Knowledge of contemporary painting integral to painting practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3420 INTERMEDIATE PAINTING (3 credits)**

Instruction in oil painting permits each student the time and environment to work and develop individually. Emphasis on developing cohesive body of work in context of experimentation. Knowledge of contemporary painting integral to painting practice. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 3410

**ART 3510 ELEMENTARY PRINTMAKING (3 credits)**

This is an introductory course to the history and studio practices of printmaking. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3520 PHOTOGRAPHIC DIGITAL PRINTMAKING (3 credits)**

Introduction to photographic and digital printmaking technologies including pre-press and printing techniques. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3530 PAPERMAKING (3 credits)**

This course examines the history and techniques of classic papermaking, sheet formation and producing edition sheets. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1110 and ART 1210

**ART 3610 ELEMENTARY CERAMICS (3 credits)**

This course is an introduction to the medium of ceramics. The focus of this course will be the use of clay as a sculptural medium with the emphasis on various, basic techniques for creating objects in clay. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 1220

**ART 3620 INTERMEDIATE CERAMICS (3 credits)**

This course is a continuation of processes covered in the Elementary Ceramics course with basic pottery techniques utilizing the wheel, hand building, object prototyping and advanced mold making. Additional emphasis will be on scale and completion of mid-to large size projects.

**Prerequisite(s)/Corequisite(s):** ART 3610. Lab fee required.

**ART 3700 INTRODUCTION TO ANCIENT ART (3 credits)**

This course provides an introduction into the art and cultures of the ancient Mediterranean areas. Lab fee required.

**Prerequisite(s)/Corequisite(s):** ART 2050 or permission of instructor. Not open to non-degree graduate students.

**ART 3710 EGYPTIAN ART (3 credits)**

This course will examine ancient Egyptian culture through its art and architecture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of Art 2050 & Art 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3720 GREEK ART (3 credits)**

This course will immerse students in the art and culture of ancient Greece. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3730 ETRUSCAN & ROMAN ART (3 credits)**

This course provides an in-depth investigation of Etruscan and Roman civilizations. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3750 AMERICAN ART (3 credits)**

This course provides a study of art, architecture, and material culture produced in the United States approached through varied contexts (artistic, religious, political, economic, etc.) and methodologies. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3760 ART HISTORY SEMINAR (3 credits)**

This class prepares students for advanced level art history courses as well as a career in art history and/or related fields. Basic skills such as critical thinking, analytical reading, traditional and innovative research methods, writing, and public speaking will be emphasized.

**Prerequisite(s)/Corequisite(s):** ART 2050 and ART 2060

**ART 3770 HISTORY OF ARCHITECTURE TO 1850 (3 credits)**

A survey of the history, aesthetics and technical developments in architecture from ancient times to the middle of the 19th century. Lab fee required.

**Prerequisite(s)/Corequisite(s):** None. Recommended: ART 2050 or ART 2060 (prereq or coreq).

**ART 3780 HISTORY OF ARCHITECTURE SINCE 1850 (3 credits)**

This course is a survey of the history of architecture since the coming of the industrial age, including the major schools and movements in architecture of the 20th century.

**Prerequisite(s)/Corequisite(s):** None. Recommended: ART 2050 or ART 2060. Lab fee required.

**ART 3800 HISTORY OF DESIGN (3 credits)**

The history of modern global design movements, primarily 1851 to present. The movements cover a range of media, from graphic arts and industrial design to furnishing and interior design.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3830 HISTORY OF PHOTOGRAPHY (3 credits)**

This course provides an introduction to the history of photography from its earliest forms to that of contemporary society and culture. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3860 WOMEN IN ANCIENT AND MEDIEVAL ART (3 credits)**

The purpose of this course is to provide an introduction of women through the art and culture of the ancient Mediterranean and western Middle Ages.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 3870 GENDER & SEXUALITY IN MODERN ART (3 credits)**

This course provides an introduction to topics of gender and sexuality in modern art, from 1860 to the present.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 3910 INTERMEDIATE PRINTMAKING (3 credits)**

Intermediate Printmaking expands upon basic printmaking concepts and techniques and includes monotype variations, intaglio techniques, Moku Hanga woodcuts and other woodcut processes. Students will be involved with drawing, creating, problem solving and understanding the printmaking studio and its processes.

**Prerequisite(s)/Corequisite(s):** ART 3510. Not open to non-degree graduate students.

**ART 4000 SPECIAL SEMINARS IN ART EDUCATION (1-3 credits)**

A series of intensive courses in the history and theory of art education designed specifically for elementary and secondary school art teachers. These courses are scheduled as special seminars or workshops according to purpose. (Cross-listed with ART 8006.)

**Prerequisite(s)/Corequisite(s):** Junior and Department Permission

**ART 4010 SPECIAL TOPICS IN STUDIO ART (3 credits)**

This course concerns itself with a variety of limited topics in the field of Studio Art. At times this course is coordinated with an external event such as a visiting artist, exhibition or study trip. It may also be considered a testing ground for acceptance and interest in a relatively new topic in Studio Arts. Exact content will be determined by the offering instructor.

**Prerequisite(s)/Corequisite(s):** Prerequisites of each 4010 course will be determined by the instructor and therefore will require special permission.

**ART 4020 PROFESSIONAL STUDIO PRACTICES (3 credits)**

This is a capstone course for the Studio Arts area that includes book arts, ceramics, drawing, painting, printmaking, sculpture and media (2D, 3D, and Media). During the semester, students will learn the administrative component that is essential for cultivating and maintaining a sustainable studio practice in art. Activities include writing artist statements, an artist curriculum vitae alongside participating in the simulated arts activities of applying for an exhibition and artist grant and understanding the benefits and liabilities of social media.

**Prerequisite(s)/Corequisite(s):** Students must be of Junior standing. Not open to non-degree graduate students.

**ART 4130 MEDIA ART III (3 credits)**

This is a digital studio course for students interested in exploring interactive digital projects using current or emerging technologies. The course includes both fine art and applied uses of digital art through the development of individual and group projects using digital and electronic media means. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 3120 or permission of instructor.

**ART 4140 COMPUTER GENERATED IMAGERY II (3 credits)**

This course is a continuation of principles and practices introduced in ART 3140. The goal of this course is intended for experienced students to create projects that explore advanced principles and aesthetic considerations of computer generated imagery and interactive 3d virtual spaces.

**Prerequisite(s)/Corequisite(s):** ART 3140 or permission of the instructor.

**ART 4150 GRAPHIC DESIGN 2 (3 credits)**

A continuation of the Graphic Design sequence, Graphic Design 2 is an advanced course utilizing the knowledge and skills acquired in Graphic Design 1. In Graphic Design 2 students apply acquired knowledge and skills to solve design problems for more complex systems. Intermediate digital skills are paired with intermediate production and materials problems as students complete product and package design systems. These design systems are then paired with companion web and video components. Additionally, students continue their study of professional practices and presentation skills.

**Prerequisite(s)/Corequisite(s):** ART 3130, or permission of instructor.

**ART 4160 GRAPHIC DESIGN 3 (3 credits)**

A continuation of the Graphic Design sequence, Graphic Design 3 is an advanced, professional simulation course utilizing the knowledge and skills acquired in Graphic Design 1 and 2. Working individually and in teams, students create large-scale design systems over multiple communications channels for consumer product or services. The course culminates in a thesis presentation with accompanying brand book.

**Prerequisite(s)/Corequisite(s):** ART 4150, or permission of instructor.

**ART 4170 GRAPHIC DESIGN STUDIO (3 credits)**

A continuation of the Graphic Design sequence, Design Studio is an advanced, capstone course utilizing the knowledge and skills acquired in Graphic Design 1, 2, and 3. Working individually and in teams, students design thesis research projects, create professional portfolios, present their work to the public, and work on client projects for on and off-campus organizations.

**Prerequisite(s)/Corequisite(s):** ART 4160, or permission of instructor.

**ART 4180 ADVANCED DIGITAL GAME DESIGN (3 credits)**

This course provides an advanced experience to digital game development. It explores all aspects of creating 3d games. Students will work on individual and team projects and will learn concept art, pre-production planning, prototyping and testing while working towards creating completed games using a three dimensional platform.

**Prerequisite(s)/Corequisite(s):** ART 3140, ART 4140, or permission of the instructor. Not open to non-degree graduate students.

**ART 4190 GAME DESIGN STUDIO (3 credits)**

This course provides a capstone study in game development. It explores game design, game prototyping, finalization, distribution and promotion. Students will work in teams to conceptualize, pitch, prototype, and present an audience ready game. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.)

**Prerequisite(s)/Corequisite(s):** ART 4180, or permission of instructor. Not open to non-degree graduate students.

**ART 4210 PRINTED BOOKS (3 credits)**

This course covers the invention of moveable type through the refinement in printing styles and technology to the present age.

**Prerequisite(s)/Corequisite(s):** ART 3220 and ART 3230 or permission of instructor.

**ART 4300 SECONDARY ART METHODS (3 credits)**

This course is the study of theory, methods, art curriculum content, and recent research in art education relative to art education in middle and high school settings. Lab fee required

**Prerequisite(s)/Corequisite(s):** TED 2400 & Praxis Core; K-12 ART/ED majors only. Junior standing.

**ART 4310 ADVANCED SCULPTURE (3 credits)**

Advanced work in area of student's choice with facilities for oxyacetylene welding, arc welding and wood working. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8316.)

**Prerequisite(s)/Corequisite(s):** ART 3310

**ART 4320 BACHELOR OF FINE ARTS INDEPENDENT STUDY I (3 credits)**

This course is an advanced individualized study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design.

**Prerequisite(s)/Corequisite(s):** Advanced level courses in area of concentration, and permission of instructor.

**ART 4330 BACHELOR OF FINE ARTS INDEPENDENT STUDY II (3 credits)**

BFA II is the second semester of an advanced individualized study in a studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 (BFA I) in the area of emphasis.

**ART 4340 BACHELOR OF FINE ARTS INDEPENDENT STUDY III (3 credits)**

This course is the continuation of BFA II for the advanced individualized study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. This course is only used if, for some reason the student is unable to proceed to BFA Thesis after completing BFA II. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 and 4330 and permission of instructor as this course is only used when the student is unable to proceed to the BFA Thesis.

**ART 4350 TRENDING TOPICS IN ART EDUCATION (3 credits)**

This is a series of intensive courses dealing with the theory and practice of current trends in art education designed specifically for pre-service art teachers. These courses are scheduled as special seminars or workshops according to purpose. Lab fee may be required.

**Prerequisite(s)/Corequisite(s):** Prereq: TED 2400 and Praxis Core; K-12 ART/ED majors only. Junior standing or to be determined by the instructor based upon the preparation required for an adequate understanding of the material of the course.

**ART 4410 ADVANCED PAINTING (3 credits)**

Advanced instruction in oil painting permits students the time and environment to work and develop individually. Emphasis on developing cohesive body of work as continuation from work done in Intermediate painting. Knowledge of contemporary painting integral to painting practice. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8416.)

**Prerequisite(s)/Corequisite(s):** ART 3420

**ART 4420 BACHELOR OF FINE ARTS THESIS (3 credits)**

This course is the culmination of the BFA process with an individually designed study in studio art concentration area of Ceramics, Drawing, Hand Produced Book, Sculpture, Painting, Printmaking or Graphic Design. A faculty committee and thesis exhibition are required for completion of this course. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Completion of ART 4320 and ART 4330 and permission of instructor.

**ART 4440 INDEPENDENT STUDY IN STUDIO ART (1-3 credits)**

This course is an independent study with variable credit for studio art students who have already taken the most advanced level course in their chosen degree program.

**Prerequisite(s)/Corequisite(s):** This course requires permission from instructor.

**ART 4510 ADVANCED TECHNIQUES IN PRINTMAKING (3 credits)**

This course allows students to develop their skills in both lithography and intaglio and the color processes for each printmaking technique. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8516.)

**Prerequisite(s)/Corequisite(s):** ART 3510

**ART 4530 ART INTERNSHIP (1-3 credits)**

A tutored internship at a local arts institution that will introduce students to following areas of concentration: Curatorial Collections Research, Education Outreach, and Preparation/Installation. Working as an Artist's Studio Assistant or in the areas of Web page design or graphic design are also appropriate internship projects. Ideally, the internship should provide the student with an opportunity to gain pre-professional experiences and skills. It should also increase his or her awareness of current issues and practices within the field of art.

**Prerequisite(s)/Corequisite(s):** Reserved for studio art (BASA & BFA), Art Education, or Art History majors; junior standing & min GPA of 3.0. Permission of Faculty Advisor & Intern Sponsor required. Advanced art history, art education, or studio courses may be required.

**ART 4610 ADVANCED CERAMICS (3 credits)**

This course will consist of advanced work on the potter's wheel, casting and preparations in glaze composition, as well as loading and firing of a high-fire kiln. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 8616.)

**Prerequisite(s)/Corequisite(s):** ART 3610

**ART 4730 CLASSICAL ART HISTORY (3 credits)**

This course is a study of painting, sculpture, architecture and minor arts of the classical world beginning with Cycladic art and including Minoan, Mycenaean, Greek, Etruscan and Roman art through 300 A.D. Lab fee required. (Cross-listed with ART 8736.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4750 LATE ROMAN AND BYZANTINE ART HISTORY (3 credits)**

A study of painting, sculpture and architecture of the Eastern Roman Empire from the founding of Constantinople, and of Western Europe from the time of Constantine to the dissolution of the Western Roman Empire. Lab fee required. (Cross-listed with ART 8756.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4770 EARLY MEDIEVAL ART (3 credits)**

This course provides a study of painting, sculpture and architecture of Western Medieval Art. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4780 LATE MEDIEVAL ART HISTORY (3 credits)**

This course is a study of painting, sculpture and architecture of the European Middle Age periods of Romanesque and Gothic Art. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 4810 NORTHERN EUROPEAN RENAISSANCE ART HISTORY (3 credits)**

This course is a study of the paintings, sculpture and architecture during the 14th, 15th and 16th centuries in France, the Low Countries, Germany, Spain and England. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required. Not open to non-degree graduate students.

**ART 4830 ITALIAN RENAISSANCE ART HISTORY (3 credits)**

Study of painting, sculpture and architecture in Italy during the 14th, 15th and 16th centuries. Lab fee required. (Cross-listed with ART 8836.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4850 BAROQUE AND ROCOCO ART HISTORY (3 credits)**

This course is a study of painting, sculpture and architecture in Europe during the 17th and 18th centuries. Lab fee required. (Cross-listed with ART 8856.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 4880 MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920) (3 credits)**

A study of the most significant developments in European art and architecture dating from the early Modern period and examined in varied contexts (artistic, religious, political, economic, etc.). (Cross-listed with ART 8886.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4890 MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968) (3 credits)**

This course explores the major artistic movements and artists active in Europe and the Americas between the end of WWI and the Vietnam Era circa 1968. (Cross-listed with ART 8896.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of Art 2050 & Art 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4900 CONTEMPORARY ART HISTORY SINCE 1968 (3 credits)**

This course introduces contemporary visual arts in a global context from 1968 to the present with topics of discussion including art, aesthetics, politics, gender and sexuality, race and economics. (Cross-listed with ART 8906.)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of Art 2050 & Art 2060 plus junior standing. For non-majors, junior standing and permission of the instructor are required. Lab fee required.

**ART 4910 INDEPENDENT STUDY IN ART HISTORY (1-3 credits)**

This course is an independent research project under the direct supervision of the sponsoring faculty member, generally involving the writing of a paper. Lab fee required.

**Prerequisite(s)/Corequisite(s):** Art History major in upper division and permission of instructor.

**ART 4920 ART IN THEORY AND IN PRACTICE SINCE 1900 (3 credits)**

This course introduces BFA students to the essential theories and critical positions that have shaped the practice of contemporary art in the West since 1900. It also addresses the purpose and nature of the artist's statement, the studio critique, the exhibition, and professionally written art criticism.

**Prerequisite(s)/Corequisite(s):** Acceptance in BFA program, ART 2050 & ART 2060, & ART 4890 or ART 4900. Other students will need instructor's permission. Students not meeting the min qualifications or instructor's permission will be dropped. Not open to non-degree graduate students.

**ART 4930 SPECIAL TOPICS IN ART HISTORY (3 credits)**

These illustrated lecture courses deal with a limited topic in the field of art history. The course may be coordinated with an external event such as an exhibition, publication or study trip. Lab fee required. (Cross-listed with ART 8936)

**Prerequisite(s)/Corequisite(s):** ART 2060 or instructor permission.

**ART 4940 ART HISTORY METHODS (3 credits)**

This is a seminar course surveying major developments in aesthetics and selected problems in the discipline of Art History. Required for art history majors. Lab fee required.

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), and preferably, one other art history course.

**ART 4950 ART CRITICISM (3 credits)**

A study of art criticism from antiquity to the present. Students will both engage art critical writing as a creative and analytical tool.

**Prerequisite(s)/Corequisite(s):** Senior standing in Art History and completion of or concurrent enrollment in ART 3760 or ART 4940) plus the approval of the Art History faculty.

**ART 4990 ART HISTORY THESIS (1 credit)**

Art History majors will revise a scholarly paper from an upper-level Art History course in order to obtain a well-written and thoroughly researched paper (20 pages) to submit as part of a graduate school application. Students will also give a required 20-minute oral presentation.

**Prerequisite(s)/Corequisite(s):** Senior standing in Art History and completion of or concurrent enrollment in ART 3760 (Art History Seminar) or Art 4940 (Art History Methods) plus the approval of the Art History faculty.

## Aviation (AVN)

**AVN 1000 INTRODUCTION TO AVIATION AND AEROSPACE (3 credits)**

This course provides a broad understanding of all aspects of the air transportation and aerospace industries. Lectures will cover what has happened in the industry to date, with emphasis on present and future developments in air transportation. The course will include the impact the airline industry is making on airports and other segments of aviation and aerospace.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**AVN 1020 PRIVATE PILOT THEORY (3 credits)**

This course will familiarize the student with theories associated with flight. These include aerodynamics, weather, FAA regulations, navigation, airports, airspace and aviation safety. There is no flight requirement associated with this course.

**AVN 1024 PRIVATE PILOT FLIGHT LABORATORY (1 credit)**

This laboratory course is designed for students pursuing flight requirements for the FAA private pilot certificate. The student will complete all flight requirements for solo flight. Course will include flight in aircraft simulators and single-engine aircraft. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** Completion of or concurrent enrollment in AVN 1020, or successful completion of the FAA Private Knowledge Test.

**AVN 1030 PRIVATE PILOT FLIGHT CERTIFICATE (2 credits)**

This course will prepare the student for the FAA practical flight examination for the private pilot certificate. Course involves flight in personal computer assisted training device and single-engine aircraft. Student is required to successfully complete all FAA certification requirements and obtain a private pilot certificate. Classes will be conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 1020 and AVN 1024.

**AVN 1040 HISTORY OF AVIATION AND AEROSPACE (3 credits)**

The course introduces students to the history of aviation and aerospace with emphasis on the evolution of technologies, policies, business models, and transportation.

**Distribution:** Social Science General Education course

**AVN 1160 AVIATION SAFETY (3 credits)**

This course provides the student with a detailed introduction to aspects of aviation safety as well as the associated components of flight human factors, aircraft technology, weather related accidents and accident investigation.

**Prerequisite(s)/Corequisite(s):** AVN 1000

**AVN 1500 INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS (3 credits)**

This course is an introductory overview of Unmanned Aircraft Systems including the regulatory process, history, application and career opportunities, ethical concerns, and safety management of UAS operations.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and AVN 1020. Not open to non-degree graduate students.

**AVN 2020 AIRLINE OPERATIONS (3 credits)**

The purpose of this course is to introduce the student to operational aspects of airline management. Topics to be covered include management, leadership, labor relations, marketing, forecasting, and fleet planning.

**Prerequisite(s)/Corequisite(s):** AVN 1000

**AVN 2050 INTRODUCTION TO AIRPORT ADMINISTRATION (3 credits)**

This course examines airport operations, safety and security, various administrative roles within the airport community, and the impact airports can have on local and regional economies. Students will explore the unique role public airports play as an interface between the traveling public and private airlines.

**Prerequisite(s)/Corequisite(s):** AVN 1000

**AVN 2100 FLIGHT TEAM (1 credit)**

Students will learn and master the skills associated with the 9 different events associated with the National Intercollegiate Flying Association Regional and National Safety and Flight Evaluation Conferences or SAFECONs. The events include: Computer Accuracy, Simulated Comprehensive Aircraft Navigation (SCAN), Aircraft Recognition, Preflight Inspection, Ground Trainer, Message Drop, Navigation, Short-Field Landing, and Power-Off Landing.

**Prerequisite(s)/Corequisite(s):** Permission of the Flight Team Advisor is required

**AVN 2104 INSTRUMENT RATING 1 (2 credits)**

The student will complete approximately 25 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator and FAA-approved Advanced Aviation Training Devices on the UNO Main Campus; objective is to complete the first portion of training needed for the FAA Instrument Rating. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in AVN 2170 or instructor permission. Not open to non-degree graduate students.

**AVN 2114 INSTRUMENT RATING 2 (1 credit)**

The student will complete approximately 20 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the final portion of training needed for the FAA Instrument Rating. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2170 and AVN 2104 or instructor permission. Not open to non-degree graduate students.

**AVN 2124 COMMERCIAL PILOT CERTIFICATE 1 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator and FAA-approved Advanced Aviation Training Devices on the UNO Main Campus; objective is to complete the first of three sections of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in AVN 2180 or instructor permission. Not open to non-degree graduate students.

**AVN 2134 COMMERCIAL PILOT CERTIFICATE 2 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the second of three sections of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2124 or instructor permission. Not open to non-degree graduate students.

**AVN 2144 COMMERCIAL PILOT CERTIFICATE 3 (2 credits)**

The student will complete approximately 40 hours of training in a single-engine aircraft at a UNO-approved Fixed Base Operator; objective is to complete the final third of training needed for the FAA Commercial Pilot Certificate. Special fees, FAA medical examination and TSA clearance required. (AC 61-139 Area 1)

**Prerequisite(s)/Corequisite(s):** AVN 2134 or instructor permission. Not open to non-degree graduate students.

**AVN 2164 PROFESSIONAL PILOT DEVELOPMENT (2 credits)**

This course is intended to supplement the Instrument Rating and Commercial Certificate courses by providing flight experience and simulator training in the areas of instrument flying, complex airplane/multiengine operations, abnormal and emergency situations, and crew resource management.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or hold a valid US Private Pilot Certificate.

**AVN 2170 INSTRUMENT FLIGHT THEORY (3 credits)**

This course provides the student with an understanding of the theories and regulations involved in instrument flight. Course will include a strong foundation in attitude instrument flying and instrument navigation to prepare the student for the FAA Instrument Rating Knowledge Test. There is no flight training involved in this course.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or hold a valid U.S. Private Pilot Certificate; or instructor permission.

**AVN 2180 COMMERCIAL PILOT THEORY (3 credits)**

This course provides the student with an understanding of the theories involved in flight at the commercial level. Course will include extensive review and study of VFR and IFR cross-country procedures and night flight procedures to prepare the student for the FAA commercial Pilot Knowledge Test. There is no flight training involved in this course.

**Prerequisite(s)/Corequisite(s):** AVN 1030 or possess a U.S. FAA issued Private Pilot Certificate; or instructor permission. Strongly recommended that student possess a U.S. instrument rating.

**AVN 2500 UNMANNED AIRCRAFT SYSTEMS FLIGHT OPERATIONS (3 credits)**

This course will give students hands-on flight training experience with small unmanned aircraft including mission planning, operational control, and working with different types of payloads.

**Prerequisite(s)/Corequisite(s):** AVN 1500 and FAA Remote Pilot Certificate. Not open to non-degree graduate students.

**AVN 2510 DIVERSITY IN AVIATION (3 credits)**

This course provides an overview of the contributions women and minorities have made to the field of aviation. Emphasis is placed on past, present and future roles of women and minorities in aviation. The course includes other topics such as international aspects and issues of aviation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**AVN 2750 AVIATION METEOROLOGY (3 credits)**

An introductory study of the key elements of the atmosphere's structure from the earth's surface to the upper levels; weather systems and hazards to aviation operations plus impact of adverse weather on aeronautical operations. Course will include review of air mass characteristics, frontal weather, and pressure system structure.

**Prerequisite(s)/Corequisite(s):** AVN 1020, and MATH 1310 or MATH 1220 or equivalent.

**AVN 2900 INDEPENDENT STUDY IN GENERAL AVIATION (3 credits)**

This course will cover various topics in aviation to be determined with the instructor and student. Possible topics include Ground Instructor Ratings, crew resource management, airline airport analysis, military history, effects of privatization, etc.

**AVN 3000 BUSINESS AND CORPORATE AVIATION (3 credits)**

This course will provide a broad understanding of aspects related to the field of business and corporate aviation. Information that will be covered includes: the history of business and corporate aviation; regulations and associations; the value of using business aircraft; aircraft selection; the differences between corporate flight department, fractional ownership, and charter departments; insurance requirements; and safety and security issues.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and Junior or Senior standing

**AVN 3040 HUMAN FACTORS IN AVIATION SAFETY (3 credits)**

The purpose of this course is to provide students with an understanding of human factors as it applies to pilots and administrators. Topics will include pilot physiological and psychological issues, work station design, crew resource management, and related public sector issues for managers.

**Prerequisite(s)/Corequisite(s):** AVN 1160

**AVN 3050 UNMANNED AIRCRAFT SYSTEM DESIGN, DEVELOPMENT, AND MAINTENANCE (3 credits)**

This course offers students theoretical knowledge and hands-on experience with small unmanned aircraft system design, development, and maintenance. Students will learn principles of UAS design, development, and maintenance, and will apply interdisciplinary knowledge to build small UAS.

**Prerequisite(s)/Corequisite(s):** AVN 2500. Not open to non-degree graduate students.

**AVN 3060 WRITING IN AVIATION (3 credits)**

This course will further develop the communication skills of aviation students through various forms of writing. Students will compose a research paper and other writing assignments.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and AVN 1000

**AVN 3070 AIR TRAFFIC CONTROL (3 credits)**

The purpose of this course is to introduce students to the Federal Aviation Administration (FAA) Air Traffic Control system. Elements and requirements of the course will include: basic air traffic control procedures for pilots, navigation aids, control tower operations, radar approach and departure regulations, and airport traffic control (ATC).

**AVN 3090 AIRPORT ADMINISTRATION AND PLANNING (3 credits)**

This course covers the nation's airspace design, navigation and air traffic systems and their effect on airport capacity. Additionally, the national airport system will be investigated as well as airport design and development parameters, fiscal processes, and management considerations. (Cross-listed with AVN 8095)

**Prerequisite(s)/Corequisite(s):** AVN 2050

**AVN 3150 AVIATION LAW (3 credits)**

The purpose of this course is to increase the student's knowledge of aviation law and regulations. Particular attention will focus on the American legal system; important legal concepts, regulators of the industry and international aviation law. Case studies will be discussed throughout the course. (Cross-listed with AVN 8155).

**Prerequisite(s)/Corequisite(s):** AVN 1000 and junior standing.

**AVN 3190 CERTIFIED FLIGHT INSTRUCTOR THEORY (3 credits)**

Provide the student with an understanding of the theories involved in flight instruction. Course will include extensive oral presentation of complex aeronautical information and use of the personal computer assisted training device. Students are expected to pass FAA Fundamentals of Instructing and FAA Flight Ground Instructor Knowledge tests. There is no flight training in this course.

**Prerequisite(s)/Corequisite(s):** AVN 2184 and SPCH 1110.

**AVN 3194 CERTIFIED FLIGHT INSTRUCTOR I (2 credits)**

This course consists of approximately 25 hours of flight training in flight instruction procedures required to obtain the FAA flight instructor certificate. Special Fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 3190 (may enroll concurrently).

**AVN 3200 COOPERATIVE EDUCATION IN AVIATION (1-6 credits)**

This course will complement course work with a relevant professional work experience or practicum in aviation. The practicum/field experience may be a special project in an aviation organization to be coordinated by the instructor. Offered as a credit/no-credit course.

**Prerequisite(s)/Corequisite(s):** AVN 3060, aviation major, junior/senior standing, and instructor permission.

**AVN 3304 CERTIFIED FLIGHT INSTRUCTOR II (2 credits)**

This course consists of approximately 10 hours of flight training in instructing in instrument procedures and approaches in preparation for FAA certified flight instructor-instrument rating. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 3300 or concurrent enrollment.

**AVN 3400 MULTI-ENGINE CERTIFICATION (2 credits)**

Course consists of ground and flight training in multi-engine aircraft procedures. Student will meet all flight requirements for the FAA multi-engine rating. Training will include use of the Personal Computer Assisted Training Device. Class is conducted off campus. Special fees apply.

**Prerequisite(s)/Corequisite(s):** AVN 2184 or concurrent enrollment or instructor permission.

**AVN 3500 RESEARCH METHODS IN AVIATION (3 credits)**

An introductory research methods course focused on contemporary as well as historical aviation problems and topics, but from an investigative perspective. The primary focus will be the preparation of standard research documents and the use of traditional statistical methods to evaluate various data sources.

**Prerequisite(s)/Corequisite(s):** 60 hours of undergraduate credit and AVN 3060 completed or in progress.

**AVN 3510 AEROSPACE SCIENCES (3 credits)**

This introductory course will provide pre-service teacher candidates, aviation students, and students at large the opportunity for a science oriented general education course. The curriculum will be focused in the areas of earth and space science, geospatial technology, and aeronautics. Key topics for this course will include the geoscience practice of Geographic Information Systems, Global Positioning System, and the NASA Jet Propulsion Laboratory/ UNO designed Data-Slate remote sensing program. Also included will be space sciences focused solar system exploration, satellite technology, and astronautics. Students will engage in aeronautic science topics inclusive of the study of aerodynamics of flight, meteorological science and weather, and flight technology. All students will be provided opportunity to apply concepts of flight in the Aviation Institute's Advanced Simulation Facility.

**AVN 3600 INTERNATIONAL AVIATION (3 credits)**

This course examines global air transport and its impact on the development of the global economy. Lectures and readings will provide a solid foundation of historical knowledge about international air transport and its development in various countries, before exploring current policy debates about liberalization, global alliances, and other critical issues. (Cross-listed with AVN 8605)

**Prerequisite(s)/Corequisite(s):** AVN 2020

**AVN 3700 TRANSPORTATION ANALYSIS (3 credits)**

This course is an extension of introductory financial courses; special emphasis on service characteristics of air carriers. Review of airline revenue and expense streams, pricing and fares, fiscal market segmentation, and fleet planning. Focused approach to understanding the monetary forces that underlie the business practices of domestic and international passenger and cargo airlines.

**Prerequisite(s)/Corequisite(s):** ECON1200 or higher and junior standing

**AVN 4000 INDEPENDENT RESEARCH IN AVIATION (1-3 credits)**

The purpose of this course is to provide the aviation student an opportunity to complete an in-depth analysis of a specific aviation topic. Examples: aerodynamics, airports rates/charges analysis, cost-allocation for airside/ landside, aviation marketing relating to aircraft manufacturing, airline promotion, flight component, off-airport subjects, comprehensive regional planning, environmental subject, etc.

**Prerequisite(s)/Corequisite(s):** Aviation major, senior standing, and written permission of the instructor.

**AVN 4010 AERODYNAMICS AND AIRCRAFT PERFORMANCE (3 credits)**

Provides the student with an understanding of the factors affecting aircraft performance during various phases of flight. Topics will include aircraft performance requirements outlined in the Federal Aviation Administration Regulations, use of performance charts and tables, runway airport analysis, and climb cruise descent performance.

**Prerequisite(s)/Corequisite(s):** AVN 1000, 2184, MATH 1320 or instructor permission.

**AVN 4020 AIRCRAFT SYSTEMS (3 credits)**

Provides the student with an understanding of systems employed on technologically advanced, sophisticated aircraft. Systems covered will include electrical, hydraulic, engines, flight control and pneumatic systems.

**Prerequisite(s)/Corequisite(s):** AVN 1000 and AVN 2184 or instructor permission.

**AVN 4050 GENERAL AVIATION OPERATIONS (3 credits)**

Organization and operation of general aviation facilities to include administration, aircraft maintenance considerations, flight line operations, and decision making.

**Prerequisite(s)/Corequisite(s):** AVN 1000

**AVN 4060 ADVANCED AIR TRANSPORT FLIGHT OPERATIONS (3 credits)**

The course will be a capstone event in the professional pilot sequence. Specific emphasis will be on the pre-flight planning and execution of air carrier flight operations. Additional instructional segments will cover regional and corporate flight operations.

**Prerequisite(s)/Corequisite(s):** AVN 4020 or instructor permission.

**AVN 4080 AIRPORT SAFETY AND SECURITY (3 credits)**

This course will explore the role of airports in relation to safety and security. Topics will include regulations, responsibilities, security issues, ramp safety, disaster preparedness, and emergency management. (Cross-listed with AVN 8086).

**Prerequisite(s)/Corequisite(s):** Junior standing and AVN 1000

**AVN 4200 INTERNSHIP IN AVIATION (1-6 credits)**

This course is designed to provide direct hands-on experience in the aviation industry for selected students. Students will be selected for internships competitively by a panel of Aviation Institute faculty and industry representatives from companies providing the internships. This experience will be in a full-time, preferably paid position in a highly structured environment using a syllabus designated by the faculty and industry committee.

**Prerequisite(s)/Corequisite(s):** AVN 3060, junior/senior standing, aviation major, instructor permission.

**AVN 4500 ADVANCED UNMANNED AIRCRAFT SYSTEMS PROCEDURES (3 credits)**

This course will provide students with scenario based training sessions that focus on emergency procedures for inflight operations, risk assessment and mitigation tactics, and advanced communications procedures.

**Prerequisite(s)/Corequisite(s):** AVN 2500. Not open to non-degree graduate students.

**AVN 4900 SPECIAL TOPICS IN AVIATION (1-3 credits)**

This course will discuss various topics in the Aviation Industry determined each time the course is offered. Possible topics include International Aviation, Current Issues, and Cockpit Resource Management along with other topics. (Cross-listed with AVN 8906)

**Prerequisite(s)/Corequisite(s):** AVN 1000 and junior standing

**AVN 4990 AIR TRANSPORTATION (3 credits)**

This course fulfills the Aviation Institute capstone projects for undergraduates. Lectures and readings will cover contemporary issues and problems in air transportation, as well as material related to research design and implementation. (Cross-listed with AVN 8996).

**Prerequisite(s)/Corequisite(s):** AVN 3700, junior or senior standing, or instructor permission.

# Bioinformatics (BIOI)

## **BIOI 1000 INTRODUCTION TO BIOINFORMATICS (3 credits)**

Bioinformatics is a scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing rapidly with the advancement in molecular technology to sequence the genomes of many different organisms. This course will provide an introduction to the field and will examine some of the problems of interest to bioinformaticians and how these relate to biology, computer science, mathematics and engineering. Topics will include an overview of the biology, mathematics and computer science needed to understand these and tools.

**Distribution:** Natural/Physical Science General Education course

## **BIOI 2000 FOUNDATIONS OF BIOINFORMATICS (3 credits)**

Bioinformatics is a new scientific discipline that integrates mathematical and computational techniques with biological knowledge to develop and use computational tools to extract, organize and interpret information from genetic sequence data. The field is growing quickly due to rapid advances in sequencing and other biological techniques that allow the genomes of different organisms to be easily sequenced. This course provides an overview of the field and covers the chemical, biological, mathematical and computational foundations of bioinformatics upon which later courses will depend. In addition, it introduces problems of interest to bioinformaticians and the methods and tools used to address them.

**Prerequisite(s)/Corequisite(s):** BIOI 1000 or BIOL 1450

## **BIOI 3000 APPLIED BIOINFORMATICS (3 credits)**

This course will provide students with the practical skills needed for the analysis of -omics data. Topics covered will include biological databases, molecular biology tools (e.g., primer design, contig assembly), gene prediction and mining, database searches, genome comparison, sequence alignments, phylogenetic inference, gene expression data analyses, functional annotation of protein sequences, protein structure and modeling. Specialized software (e.g., Vector NTI) and widely used web-based computation tools (e.g., Entrez, BLAST, ClustalX, Phylip, PyMOL, and SwissPDBviewer) will be illustrated. Multiple approaches for solving particular problems will be presented.

**Prerequisite(s)/Corequisite(s):** BIOI 2000 and CIST 1400; or permission of instructor.

## **BIOI 3500 ADVANCED BIOINFORMATICS PROGRAMMING (3 credits)**

Because of the volume and complexity of biological data, advanced programming skills are required for researchers in order to get the most out of their data analyses. This course will provide the expanded programming skills necessary to develop software that can exploit the complex information landscape of bioinformatics. Specific topics covered will include molecular biology basics, Unix/Linux shell programming, Perl and BioPerl, databases and using the Perl DBI, and data visualization.

**Prerequisite(s)/Corequisite(s):** BIOI 3000 and CSCI 1620; or permission of instructor. CSCI 3320 is strongly recommended but not required.

## **BIOI 4500 INDEPENDENT STUDY (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Junior or Senior within the Bioinformatics undergraduate program. Not open to non-degree graduate students.

## **BIOI 4510 BIOINFORMATICS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Bioinformatics undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of Director of the School of Interdisciplinary Informatics. Not open to non-degree graduate students.

## **BIOI 4860 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BMI 8866).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

## **BIOI 4870 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "omics" data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with CSCI 8876).

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or permission of instructor. Not open to non-degree graduate students.

## **BIOI 4890 COMPUTERIZED GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the class will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor. Not open to nondegree students.

## **BIOI 4950 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)**

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 4950 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Prerequisites of a specific offering of BIOI 4950 will be determined by the supervising faculty member and identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required for registration.

## **BIOI 4970 SENIOR PROJECT IN BIOINFORMATICS I (1 credit)**

This course is the first part of a two-part series that allows students to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to decide on a research topic and to write a detailed proposal based on this topic that outlines the goals and objectives of the proposed research. The topic and proposal will be approved by the supervising faculty member.

**Prerequisite(s)/Corequisite(s):** BIOI 4860 and BIOI 4870; BIOI 4870 can be taken concurrently. Senior level status in the Bioinformatics program. Not open to nondegree students.

**BIOI 4980 SENIOR PROJECT IN BIOINFORMATICS II (2 credits)**

This course is the second part of a two-part series that allows the student to work on a guided research project on a specific topic in bioinformatics. The goal of this course is for the student to perform the research proposed in Part I of the course and to present the results of his or her work.

Presentations will be made in the form of a report, written as a scientific research paper, and an oral defense.

**Prerequisite(s)/Corequisite(s):** Junior or senior-level standing in the Bioinformatics program or permission from the instructor.

**BIOI 4990 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for the junior or senior bioinformatics major who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing, permission of supervising faculty member & approval of Bioinformatics UG Prog Comm Chair. A formal description of the problem area to be investigated, the resources to be used, & the results to be produced must be prepared.

## Biology (BIOL)

**BIOL 1020 PRINCIPLES OF BIOLOGY (4 credits)**

Principles of Biology introduces fundamental concepts at all levels of organization in biology. The laboratory emphasizes inquiry-based and problem-oriented approaches to these concepts. Must enroll in one laboratory. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** ENGL1150 placement by the English Placement and Proficiency Exam (EPPE), grade of C- or better in English 1050 or 1100, ACT English subscore of 20 or higher, or permission of the department.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 1060 INTRODUCTION TO MEDICAL CAREERS & ETHICS (2 credits)**

A general overview of modern healthcare professions, plus foundational career concepts which include vocational discernment, undergraduate preparation, healthcare ethics, HIPAA certification, challenges and opportunities in healthcare, and evidence-based medicine. An exploration of various careers in healthcare is included. Intended as a preparatory healthcare professional course. Usually offered during the Fall, Spring, and Summer semesters.

**BIOL 1160 TERMINOLOGY OF HUMAN HEALTH & DISEASE (2 credits)**

This completely online course is designed to help students learn clinical terminology in relation to human health and disease. The course will cover root words, terms, and phrases relating to human anatomy, disease conditions, and clinical procedures. The course will also serve as a survey of human diseases across all major organ systems, and common procedural diagnostics and treatments.

**BIOL 1330 ENVIRONMENTAL BIOLOGY (3 credits)**

This course is a study of human ecology with emphasis on the effects of human populations on the earth's resources and on the environment. Usually offered Fall, Spring, Summer.

**Distribution:** Natural/Physical Science General Education course

**BIOL 1350 SCIENCE OF FOOD (3 credits)**

A basic and applied science, general education course emphasizing scientific concepts in biology, chemistry and physics using food as a model. Students will study food from its chemical and nutritional perspectives and the fate of food from production to consumption. (Cross-listed with FSCI 1310).

**Distribution:** Natural/Physical Science General Education course

**BIOL 1450 BIOLOGY I (5 credits)**

First semester of a two semester series on the general principles of biology. Concepts including the chemical and physical basis of living systems, cell structure and function, energy and metabolism, genetics and molecular genetics, and evolution of biological diversity will be presented. Laboratory will provide inquiries into these same topics. Intended as the first course for Biology majors. Must enroll in one lab section. Usually offered Fall, Spring and Summer.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry. College level chemistry recommended.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 1750 BIOLOGY II (5 credits)**

Second semester of a two semester series on the general principles of biology. Introduction to the study of life, concentrating on whole organisms and their interactions with the environment. This course will focus on evolution and natural selection, biodiversity, physiologic responses to the environment, organ systems, population dynamics, community ecology, and energy and material flow through ecosystems. Laboratory will provide inquiries into these same topics. Intended as the second course for Biology majors. Must enroll in one lab section. Usually offered Fall, Spring and Summer.

**Prerequisite(s)/Corequisite(s):** Prerequisite is BIOL 1450. College level chemistry is recommended.

**BIOL 2030 INTRODUCTORY TOPICS IN BIOLOGY (3 credits)**

This is course is a lecture and/or laboratory course for Biology and non-Biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit if the topic differs.

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**BIOL 2060 ART AND SCIENCE OF MEDICAL DECISION-MAKING (3 credits)**

The course explores multiple facets of medical decision-making, including the perspective of the patient, the family, and the healthcare provider. Topics include basic anatomy and medical terminology, which will be used to understand decision-making in the context of the provider. Students use literature and other records to generate and critically evaluate clinical decisions. The course does not satisfy requirements for degree programs in the Department of Biology minor, BA, BS in Biology; BS in Biotechnology. (Cross-listed with MEDH 2060).

**Prerequisite(s)/Corequisite(s):** BIOL 1060 or concurrent.

**BIOL 2120 SUSTAINABLE LANDSCAPE PLANTS (4 credits)**

This course focuses on the identification of native and adapted landscape plants, including herbaceous perennials, groundcovers, vines, trees and shrubs in natural and urbanized landscapes. In addition, it covers the ecological and design contexts for the landscape roles, sustainable usage and management of identified plants in the Great Plains region. (Cross-listed with ENVN 2120)

**Prerequisite(s)/Corequisite(s):** High school biology

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BIOL 2140 GENETICS (4 credits)**

This course provides students with a foundational understanding of genetics. First, students will learn to analyze patterns of Mendelian inheritance. Then, they will develop molecular explanations for these patterns and understandings of how gene genes are defined and identified. They will also learn how variations in inheritance patterns arise, using analytical and statistical tools to distinguish between variations on inheritance patterns and to analyze quantitative traits. Then, students will focus in on the nucleus to examine the structure, organization, packaging, and inheritance of chromosomes. They will consider the consequences of genetic recombination on inheritance patterns and for genetic mapping.

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and 1750, CHEM 1140 or 1180 or the equivalent or permission of the instructor. Must enroll in discussion.

**BIOL 2440 THE BIOLOGY OF MICROORGANISMS (4 credits)**

An introduction to the structure and properties of different types of microorganisms, the importance of microorganisms to our society and our environment, the methods used to control microorganisms, the diseases caused by microorganisms and the defenses of the human body against microorganisms including immune cells. Must enroll in one lab section. Usually offered in Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry.

**BIOL 2740 HUMAN ANATOMY AND PHYSIOLOGY I (4 credits)**

This course is designed for students interested in human healthcare professions and anyone interested in learning about the structures and functioning of the human body. Material covered will include introductory terminology as well as the anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems and the special senses. Usually offered Fall, Summer.

**Prerequisite(s)/Corequisite(s):** High school or college biology or zoology and high school or college chemistry. Must enroll in one lab section.

**BIOL 2840 HUMAN ANATOMY AND PHYSIOLOGY II (4 credits)**

This course is designed for students interested in human healthcare professions and anyone interested in learning about the structures and functioning of the human body. Material covered will include the anatomy and physiology of the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems. Usually offered Spring, Summer.

**Prerequisite(s)/Corequisite(s):** BIOL 2740 or permission of instructor. Must enroll in one lab section.

**BIOL 3020 MOLECULAR BIOLOGY OF THE CELL (3 credits)**

A study of molecular and cellular biology. Topics to be covered include gene expression and regulation, structure and function of biological macromolecules, metabolism, membrane function and transport, and cell differentiation. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and at least one semester of general chemistry.

**BIOL 3100 INVERTEBRATE PALEONTOLOGY (3 credits)**

An introduction to the development of life through the study of the morphology, evolution and geological distribution of fossils. Must be taken concurrently with GEOL 3104/BIOL 3104. (Cross-listed with GEOL 3100.)

**Prerequisite(s)/Corequisite(s):** GEOL 1180. Must be taken concurrently with GEOL 3104/BIOL 3104.

**BIOL 3104 INVERTEBRATE PALEONTOLOGY LAB (1 credit)**

An examination of representative specimens of groups of organisms important in the fossil record and an introduction to analytical techniques in paleontology.

**Prerequisite(s)/Corequisite(s):** GEOL 1180 or permission; coreq BIOL 3100.

**BIOL 3150 WRITING AND COMMUNICATION IN THE BIOLOGICAL SCIENCES (3 credits)**

This is a course in writing for students majoring in the biological sciences. It is designed primarily to prepare students to report results of original research in a scientific, scholarly format. Topics will include scientific literature, the organization and presentation of data in biological reports, as well as the preparation of posters and oral presentations for scientific meetings. Usually offered Fall, Spring.

**Prerequisite(s)/Corequisite(s):** Biology major, junior or senior standing, ENGL 1150 and ENGL 1160 or equivalent.

**Distribution:** Writing in the Discipline Single Course

**BIOL 3240 INTRODUCTION TO IMMUNOLOGY (3 credits)**

An introduction to the fundamentals of immunology including the immune system, the immune response, humoral and cellular immunity, and antibodies. In addition, immunoassay, immunopathology, cancer immunology, and histocompatibility will be considered. Usually offered Fall and Spring.

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, 1750 and 2140 and junior-senior standing. Recommended: BIOL 3020. Not open to non-degree graduate students.

**BIOL 3340 ECOLOGY (4 credits)**

Study of interrelationships between organisms and their biotic and abiotic environment; includes the physical environment, population biology, community dynamics, biotic interactions and evolution. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 8345).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750, junior-senior. Must enroll in one lab section. Not open to non-degree graduate students.

**BIOL 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with GERO 3500, NEUR 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

**BIOL 3530 FLORA OF THE GREAT PLAINS (4 credits)**

A study of common vascular plants found in the Great Plains region, including identification, description, and classification techniques and an introduction to the plant communities of Nebraska. Usually offered every Fall and Summer. (Cross-listed with BIOL 8535.)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750 and junior-senior. Must enroll in lab.

**Distribution:** OBIOWRT3 - Tier III Biology Writing Course

**BIOL 3660 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN (3 credits)**

This course provides an overview of graphic techniques and process for landscape design; the analysis and conceptual design of the landscape; and the exploration of the design characteristics of plants, landform, and structures through discussion, case studies and applied design development. A focus on sustainable design components and applications is included, including native and adapted plant selection, stormwater management, water conservation, efficient irrigation concepts, and practical landscape management and maintenance considerations. (Cross-listed with ENVN 3660)

**Distribution:** Humanities and Fine Arts General Education course

**BIOL 3670 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY (1 credit)**

This course covers the basic use of graphic techniques for landscape design; the analysis and process for conceptual design of the landscape; studio problems in value, texture, form and space; and the exploration of the design characteristics of plants, landform, and structures supporting sustainable landscape design and management principles. (Cross-listed with ENVN 3670)

**Prerequisite(s)/Corequisite(s):** ENVN 3660 or BIOL 3660 (prior or concurrent).

**BIOL 3680 BIOLOGY OF AFRICA (3 credits)**

Biology of Africa (3) Introduction to the plants, animals, and habitats of Africa. Although other groups are included, this course will focus on the large mammals of east Africa and will pay particular attention to elephant reproduction and biology. Other topics include Serengeti migrations, hippos, lions and other large cats, reptiles, and human evolution. Usually offered alternate Spring semesters. (Cross-listed with BIOL 8685).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 or permission of the instructor

**BIOL 3730 FAUNA OF THE GREAT PLAINS (3 credits)**

A survey of the common animal groups found in the Great Plains, including their evolution, ecology, distribution and specific adaptations to the environment of the temperate North American grasslands. Must enroll in lab. Usually offered in alternate years. (Cross-listed with BIOL 8735).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750.

**BIOL 3800 ANATOMY ACADEMIC ASSISTANTSHIP PRACTICUM (1 credit)**

Assistantships for students participating in the Anatomy Academic Assistantship (AAA) program provide advanced Human Physiology and Anatomy students with the opportunity to apply their knowledge while gaining leadership and communication skills via the mentorship of current Human Physiology and Anatomy I and II students. Additionally, STEM service learning activities will be offered. This course is not intended to replace other biology courses required for degrees offered by the Department of Biology.

**Prerequisite(s)/Corequisite(s):** Students must have a cumulative GPA of 3.0 or above, a grade of B in BIOL 2740, and be accepted to the Anatomy Academic Assistantship (AAA) Practicum. Students must receive permission of instructor. Not open to non-degree graduate students.

**BIOL 3830 BIOLOGY OF PATHOGENIC MICROORGANISMS (3 credits)**

A study of the biology, epidemiology and pathogenicity of bacteria, viruses, fungi and protozoan, with emphasis on human pathogens. Usually offered in Spring semesters.

**Prerequisite(s)/Corequisite(s):** BIOL 2440 or 3240, or 2140 or the equivalent.

**BIOL 4030 SPECIAL TOPICS IN BIOLOGY (3 credits)**

A lecture and/or laboratory course for biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit. (Cross-listed with BIOL 8036).

**Prerequisite(s)/Corequisite(s):** Junior-senior, BIOL 1450 and BIOL 1750 with a grade of C- or higher.

**BIOL 4040 DIRECTED READINGS IN BIOLOGY (1-3 credits)**

A faculty directed study of a biological subject through selected readings, oral reports and a final written report. May be repeated up to a total of six hours for 4040 and 4050 combined.

**Prerequisite(s)/Corequisite(s):** Junior-senior and written permission of instructor.

**BIOL 4050 SUPERVISED RESEARCH IN BIOLOGY (1-3 credits)**

Completion of a faculty supervised research project involving experimental design, data collection and analysis, and a final written report. May be repeated up to a total of six hours of BIOL 4040 and BIOL 4050 combined.

**Prerequisite(s)/Corequisite(s):** Junior-senior and written permission of instructor.

**BIOL 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 8106, GEOG 4100, GEOG 8106, GEOL 4100, GEOL 8106)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**BIOL 4110 STATISTICS FOR BIOLOGICAL SCIENCES (4 credits)**

Introduction to statistical methods and software used to display, summarize, analyze, and interpret biological and medical data. (Cross-listed with BIOL 8116)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 and MATH 1220, MATH 1130, or MATH 1530

**BIOL 4120 CONSERVATION BIOLOGY (3 credits)**

Study of biological diversity at the genetic, species and ecosystem levels, its values, and the factors that threaten it. We will explore the scientific basis of conservation biology and how it can be applied to the maintenance of biological diversity. Usually offered every year. (Cross-listed with BIOL 8126).

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750, 2140 and Junior-Senior in biology. Not open to non-degree graduate students.

**BIOL 4130 MOLECULAR GENETICS (4 credits)**

A lecture and lab course that explores the frontiers of molecular genetics research. Topics addressed will include DNA replication, gene function, gene expression, genetic manipulation, cloning, mutational analysis, genome sequencing, and epigenetics. Research techniques will include DNA/RNA isolation, PCR, cloning, gel electrophoresis, transgene generation, data analysis, and quantitative rtPCR. Students will get a solid grounding in scientific writing and presentations, as well as reading and assessing primary scientific literature. Lecture, discussion, and laboratory. (Cross-listed with BIOL 8136)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2260; or their equivalents. Must enroll in one lab section.

**BIOL 4140 CELLULAR BIOLOGY (4 credits)**

This course is a modern study of mammalian cell function. Focus will be placed on developing skills in experimental cellular biology. Material covered will include tissue culture techniques, cell staining applications, fluorescent microscopy, determination of gene expression, and high-throughput assay design. (Cross-listed with BIOL 8146)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2250. Junior or senior undergraduate standing Must enroll in laboratory section and lecture for this course. Not open to non-degree graduate students.

**BIOL 4150 CANCER BIOLOGY (3 credits)**

The etiology of cancers, differences between types of malignancies, oncogenes and genetic modifiers, treatments, susceptibility, and tumor-induced immunosuppression are discussed. This is an active course focused on inquiry-based learning and the purpose of this course is to provide students a foundation in cancer biology while applying tools learned through cell biology, genetics, and immunology courses. (Cross-listed with BIOL 8156).

**Prerequisite(s)/Corequisite(s):** BIOL 3020 and BIOL 2140. Recommended: BIOL 3240.

**BIOL 4160 BIOINFORMATICS FOR BIOLOGISTS (3 credits)**

This course intends to introduce fundamental concepts in bioinformatics with an emphasis on how to use biological databases and computational tools to solve common bioinformatics problems in biology and biomedicine. The topics consist of sequence database access and searching, sequence alignment and phylogeny, functional prediction of DNA and protein sequences, and genome sequencing and annotation. Students are expected to learn fundamental concepts in bioinformatics and gain extensive experience with the use of bioinformatics analysis tools. (Cross-listed with BIOL 8166).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics; BIOL 3020 Molecular Biology of the Cell; Or Permission of instructor

**BIOL 4180 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 8186, ENVN 4180).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 4210 FIRE ECOLOGY (3 credits)**

Study of fire in ecosystems including characteristics of fire, effects on flora, fauna, and the abiotic environment, and use in maintaining native ecosystems. Includes an optional 4-day fieldtrip. Usually offered in alternate years. (Cross-listed with BIOL 8216)

**Prerequisite(s)/Corequisite(s):** BIOL 3340, junior-senior.

**BIOL 4220 POPULATION BIOLOGY (4 credits)**

Population biology takes a conceptual approach to study the dynamics, ecology, genetics, and evolution of populations. Topics include the growth and regulation of populations, population interactions, selection on individuals and groups, mating systems, and life history evolution. Implications of these topics for areas such as the ecology and evolution of disease, conservation, and resource management will be highlighted. Concepts are reinforced through labs emphasizing interpretation of results from population simulations and the relationship between theory and experimentation in population biology. Usually offered in alternate years. (Cross-listed with BIOL 8226).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and 3340, junior-senior, or permission of instructor

**BIOL 4230 EVOLUTION (3 credits)**

The course emphasizes the general principles of evolution, particularly focusing on evolutionary changes and the mechanisms of evolution (natural selection, gene flow, mutation and genetic drift) that apply to all or most organisms. The course covers micro- and macroevolution, speciation, and human evolution. Students will discover how scientists can learn about what has happened in the evolutionary past and the most common patterns of change (i.e., changes that have characterized various groups of organisms). (Cross-listed with BIOL 8236).

**Prerequisite(s)/Corequisite(s):** BIOL 2140, junior-senior. Not open to non-degree graduate students.

**BIOL 4240 MARINE BIOLOGY (3 credits)**

An introduction to the marine environment, this course explores physical conditions of the ocean including ocean chemistry, salinity, waves and currents, and tides as well as the ecology of planktonic, nektonic and benthic organisms— their communities and environments. Impacts of humans on the marine environment will also be covered. (Cross-listed with BIOL 8246)

**Prerequisite(s)/Corequisite(s):** BIOL 1750

**BIOL 4250 FIELD MARINE BIOLOGY (1 credit)**

This lab is a hands-on introduction to the marine environment using a field trip to the Gulf Coast. Students will observe first-hand examples of local marine habitats and organisms. Students will be required to take a trip to the Gulf Coast of Texas, Louisiana, Mississippi, and Alabama during Spring Break. Students will be required to provide their own basic camping and snorkeling gear. (Cross-listed with BIOL 8256)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, previous or concurrent enrollment in BIOL 4240 and permission of instructor.

**BIOL 4260 BEHAVIORAL ECOLOGY (3 credits)**

Behavioral ecology is the study of behavior from an evolutionary and ecological point of view. Through the integration of research at different organizational levels and the use of many different organisms, behavioral ecology is one of the most integrative fields in biological sciences. This course will provide an introduction to the basic concepts of behavioral ecology and the integrative approaches used in behavioral ecology. Further, the course will train students in critical reading and discussion of primary literature in writing and in an oral setting. (Cross-listed with BIOL 8266)

**Prerequisite(s)/Corequisite(s):** For BIOL 4260: BIOL 2140 Genetics and BIOL 3340 Ecology; or permission by the instructor. Not open to non-degree graduate students.

**BIOL 4270 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with BIOL 8276, PSYC 4270, PSYC 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**BIOL 4280 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with BIOL 8286, PSYC 4280, PSYC 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**BIOL 4290 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with NEUR 4290, BIOL 8296, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540 and BIOL 1750; or by permission of instructor. Not open to non-degree graduate students.

**BIOL 4320 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with BIOL 8326, PSYC 4320, PSYC 8326)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and either BIOL 1020 or 1750. Not open to non-degree graduate students.

**BIOL 4410 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with ENVN 4410 and BIOL 8416)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**BIOL 4420 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 8426, ENVN 4420)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing.

**BIOL 4440 PLANT PHYSIOLOGY (4 credits)**

A study of plant processes and functions with emphasis on photosynthesis, growth and development, metabolism and mineral nutrition. (Cross-listed with BIOL 8446)

**Prerequisite(s)/Corequisite(s):** BIOL1450, BIOL1750, and CHEM2210 or CHEM2250; or permission of instructor.

**BIOL 4450 VIROLOGY (3 credits)**

A comprehensive course about viruses. The course will address principles of viral infection, virus-host interaction, viral evolution and viral disease processes. Cellular and molecular aspects of viral infection will be the primary focus. This will include examination of viral particles, viral multiplication cycles, regulation of gene expression, viral assembly and viral escape. Viral immunology, viral defenses, viral vaccines and antiviral compounds will also be addressed. Emerging viruses and current viral topics will be a major part of the course. Usually offered in Fall semester. (Cross-listed with BIOL 8456)

**Prerequisite(s)/Corequisite(s):** Prerequisites are CHEM 2260 and 2274 or CHEM 2210 and 2214, BIOL 3020 and 2140. Recommended: Biochemistry.

**BIOL 4454 VIROLOGY LABORATORY (1 credit)**

A laboratory to accompany virology lecture. This course enables students to work with viruses in the laboratory and to conduct experiments using viral systems. Experimental design, data gathering, data analysis and manuscript writing will be integral parts of the course. The experiments include host cell characterization, viral infection, virus purification from infected cells, viral genome isolation and viral transfection. Sequence analysis and sequence comparison will also be introduced. Laboratory exercises will emphasize fundamental molecular biology techniques and instrumentation. Usually offered in Fall semester. (Cross-listed with BIOL 8454)

**Prerequisite(s)/Corequisite(s):** Biology 4450 - Virology is a prerequisite or co-requisite.

**BIOL 4460 COMPARATIVE IMMUNOLOGY (4 credits)**

This course is an exploration of comparative immunology across kingdoms. There will be a strong focus on human as well as mouse immunology. Laboratory sessions require dissections to determine lymphoid anatomy of representative organisms. Samples will be prepared and analyzed using immunological techniques such as flow cytometry. (Cross-listed with BIOL 8466).

**Prerequisite(s)/Corequisite(s):** BIOL 3240 or consent of the instructor. Two classroom sessions and one laboratory session per week. Permit code required to register. Not open to non-degree graduate students.

**BIOL 4490 MEDICINAL USES OF PLANTS (3 credits)**

A scientific study of the biochemical properties and physiological effects of medicinal plants, including their historical uses, current applications to varying systems of the human body, and pathways by which today's potent drugs have transitioned from wild flora. Usually offered Fall semesters of even-numbered years. (Cross-listed with BIOL 8496)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, 1750 and junior-senior.

**BIOL 4540 PRINCIPLES OF SYSTEMATICS (3 credits)**

A thorough study of phylogenetics, including tree inference techniques, proper interpretation of evolutionary relationships and character evolution, and applications to investigations in various fields of study. Usually offered in fall semesters of odd-numbered years.

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750, junior-senior.

**BIOL 4550 MOLECULAR AND BIOMEDICAL BIOLOGY INTERNSHIP (3 credits)**

Practical laboratory experience for students in the bachelor's of science program in Molecular and Biomedical Biology. In consultation with the MBB adviser and principal investigators, students will select a research laboratory where they will carry out an independent investigation for one semester. Most placements will be at UNMC or UNO. Recommended: Biochemistry. Usually offered Fall, Spring, Summer.

**Prerequisite(s)/Corequisite(s):** Prerequisite of at least one 4000 level BIOL laboratory course.

**BIOL 4560 BIOINFORMATICS INTERNSHIP (1-3 credits)**

This course is a practical experience for students in the Bachelor of Science program in Bioinformatics. In consultation with the bioinformatics adviser and principal investigators, students will select a research laboratory and conduct an independent research project in bioinformatics for one or two semesters. Students will write a report describing their research methods, project implementation, and results. The course is limited to Bioinformatics majors and does not satisfy any requirements for other programs in the Department of Biology.

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics, BIOL 3500 Advanced Bioinformatics Programming, and Permission of Instructor. The course is for students in the Bachelor of Science program in Bioinformatics. Not open to non-degree graduate students.

**BIOL 4600 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 8606, ENVN 4600)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**BIOL 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. Cross-listed with ENVN 4610, GEOG 4610, GEOG 8616, GEOL 4610, GEOL 8616.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**BIOL 4640 MICROBIAL PHYSIOLOGY (4 credits)**

This course will cover the diversity in structures, genetics, metabolism, and regulation observed in microorganisms with a focus on bacteria. Usually offered Fall semesters. (Cross-listed with BIOL 8646).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140 and BIOL 3020 or equivalents. Not open to non-degree graduate students.

**BIOL 4650 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 8656, CHEM 4650, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. BIOL 4654 must be taken concurrently.

**BIOL 4654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 8654, CHEM 4654, CHEM 8654).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. BIOL 4650 must be taken concurrently with BIOL 4654. CHEM 4650 must be taken concurrently with CHEM 4654.

**Distribution:** Writing in the Discipline Sequenced Course

**BIOL 4660 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipids, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 8666, CHEM 4660, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654. BIOL 4664 must be taken concurrently.

**BIOL 4664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 8664, CHEM 4664, CHEM 8664).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654 with a C- or better. BIOL 4660 must be taken concurrently with BIOL 4664. CHEM 4660 must be taken concurrently with CHEM 4664.

**Distribution:** Writing in the Discipline Sequenced Course

**BIOL 4710 TOXICOLOGY (3 credits)**

An overview of the fundamentals of toxicology. Concepts include the dose-response relationship, absorption, distribution and excretion of toxicants, and the biotransformation of xenobiotics. Emphasis will be given to metals, pesticides, pharmaceutical compounds, chemical carcinogenesis and endocrine disruption. Usually offered Fall. (Cross-listed with BIOL 8716)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or 2260 and BIOL 1750, BIOL 3020 or equivalent.

**BIOL 4730 VERTEBRATE ENDOCRINOLOGY (3 credits)**

An overview of the fundamentals of vertebrate endocrinology. Concepts include: the mammalian hypothalamus-pituitary system, the endocrinology of mammalian reproduction, the mammalian adrenal glands, endocrine disruption, endocrinology and metabolism. (Cross-listed with BIOL 8736)

**Prerequisite(s)/Corequisite(s):** CHEM 2250, BIOL 1750, BIOL 3020 or equivalent.

**BIOL 4740 ANIMAL PHYSIOLOGY (3 credits)**

An overview of the fundamentals of animal physiology. Concepts include: the physiology of nerve and muscle function, endocrine function, cardiovascular and respiratory function, oxygen and carbon dioxide delivery by the blood, and osmoregulation and excretion. The course is comparative in nature, including examples from humans, mammals, vertebrates and invertebrate animals. Usually offered Spring. (Cross-listed with BIOL 8746).

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, and BIOL 2140 or permission of the instructor.

**BIOL 4760 GENOME TECHNOLOGY AND ANALYSIS (3 credits)**

This course will introduce the latest genome sequencing technologies and their broad applications in biology and medicine. Students will learn how genome sequencing is conducted by different platforms and obtain practical experience of how to use bioinformatics tools for genome analysis. Students are expected to be able to perform sequence analysis efficiently and interpret the results properly. (Cross-listed with BIOL 8766)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; or Permission of instructor

**BIOL 4780 VERTEBRATE ZOOLOGY (4 credits)**

A study of the general biology of the subphylum vertebrata including the morphology, anatomy, physiology and ecology of vertebrate representatives. (Cross-listed with BIOL 8786)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750, and junior-senior.

**BIOL 4790 MAMMALOLOGY (4 credits)**

The biology of mammals, including their evolution, functional morphology, physiology, ecology, zoogeography, behavior, classification and identification, with emphasis on North American groups. Field trips. Usually offered in alternate years. (Cross-listed with BIOL 8796)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, junior or senior standing. Must enroll in lab.

**BIOL 4800 INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING (1-3 credits)**

Internship providing practical experience working with environmental organizations or government agencies for students interested in careers in environmental science and related fields. A proposed internship must be approved by the Environmental Studies Program prior to enrolling. Usually offered Fall, Spring, Summer. (Cross-listed with ENVN 4800)

**Prerequisite(s)/Corequisite(s):** Permission of the Environmental Studies Program.

**BIOL 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, GEOG 4820, GEOG 8826, PA 8826).

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

**BIOL 4830 DEVELOPMENTAL GENETICS (2 credits)**

This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics. (Cross-listed with BIOL 8836)

**Prerequisite(s)/Corequisite(s):** Completion of, or concurrent registration in, BIOL 4850.

**BIOL 4840 HERPETOLOGY (4 credits)**

The biology of amphibians and reptiles, including their evolution, classification, anatomy, physiology, ecology, distribution and identification, with emphasis on North American groups. Methods for studying herptiles are examined. Usually offered in Spring semesters of even years. (Cross-listed with BIOL 8846).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 4850 DEVELOPMENTAL BIOLOGY (3 credits)**

This course explores principles underlying the development of multicellular organisms, stressing the environmental, genetic, molecular, cellular, tissue, and evolutionary mechanisms of animal development. Usually offered once per year. (Cross-listed with BIOL 8856)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, 1750, 2140, 3020, and CHEM 3650 or BIOL 4650 or CHEM 4650 and junior-senior status.

**BIOL 4860 COMPARATIVE GENOMICS (3 credits)**

This course will introduce fundamental concepts in genomics and genome comparison. Students will learn how genomes are constructed, how they evolve, how individual genomes are unique, and what genomic knowledge means in terms of human health and medicine. (Cross-listed with BIOL 8866)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; BIOL3020 Molecular Biology of the Cell; Or Permission of instructor. Not open to nondegree students.

**BIOL 4870 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 8876, NEUR 4870, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

**BIOL 4890 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, NEUR 8896, BIOL 8896, PSYC 8896).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, and BIOL 2140. Or by permission of instructor. Not open to non-degree graduate students.

**BIOL 4940 ENTOMOLOGY (4 credits)**

The study of insects, their classification, morphology, physiology, behavior, life histories, ecology and evolution. (Cross-listed with BIOL 8946)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, junior-senior.

**BIOL 4960 ADVANCED GENETICS (3 credits)**

An in-depth consideration of topics in genetic analysis. Through reading and discussion of primary and secondary literature in genetics, students will develop a deeper understanding of genetic principles, including mutation, recombination, complementation, gene regulation, the genetic structure of populations and the genetic contributions to complex traits, and how these principles and associated methodologies, including next-generation sequencing and high throughput "omics" approaches, can be used to gain insight into fundamental biological questions. (Cross-listed with BIOL 8966).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and BIOL 3020 and concurrent enrollment or completion of either CHEM 3650 or CHEM 4610 or CHEM 4650 or BIOL 4650, or permission of the instructor.

**BIOL 4970 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 8976, ENVN 4970).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and junior or senior student status or above or instructor permission.

**BIOL 4980 ORNITHOLOGY (4 credits)**

An introduction to the general biology of birds, including their anatomy, physiology, behavior, ecology, classification and identification, with emphasis on North American groups. Usually offered in alternate years. (Cross-listed with BIOL 8986)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**Distribution:** OBIOWRT3 - Tier III Biology Writing Course

## Biomechanics (BMCH)

**BMCH 1000 INTRODUCTION TO BIOMECHANICS (3 credits)**

This is an introductory course in biomechanics that provides a brief history, an orientation to the profession, and explores the current trends and problems and their implications for the discipline.

**Distribution:** Social Science General Education course

**BMCH 1100 ETHICS OF SCIENTIFIC RESEARCH (3 credits)**

This course is a survey of the main ethical issues in scientific research.

**Distribution:** Humanities and Fine Arts General Education course

**BMCH 2200 ANALYTICAL METHODS IN BIOMECHANICS (3 credits)**

Through this course, students will learn the fundamentals of programming and problem solving for biomechanics with Matlab and Excel. Students will also learn the attributes and uses of other programming languages.

**BMCH 2400 HUMAN PHYSIOLOGY & ANATOMY I (4 credits)**

The study of the structure and function of the systems of the body with an emphasis on the skeletal, muscular, cardiovascular and respiratory systems.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**BMCH 2500 HUMAN PHYSIOLOGY AND ANATOMY II (4 credits)**

The study of the structure and function of the systems of the body with an emphasis on the nervous system, special senses, digestive system, endocrine system, metabolism and body temperature regulation, lymphatic system, and urinary system.

**Prerequisite(s)/Corequisite(s):** PE 2400 or BMCH 2400 with a grade of C- or better.

**BMCH 3000 BIOMECHANICAL STATICS & DYNAMICS (3 credits)**

This course is the study and exploration of the effect of forces on biological systems, mainly the human body, during static and dynamic situations.

**Prerequisite(s)/Corequisite(s):** PHYS 2110, PHYS 1154

**BMCH 4000 BIOMATERIALS (3 credits)**

Students will learn the classification, properties, characterization methods, body interactions, applications, and design principles of biomaterials. (Cross-listed with BMCH 8006).

**BMCH 4100 BIOINSPIRED ROBOTICS (3 credits)**

The goal of the course is to involve students in an interdisciplinary vision of biomechanics, biology, engineering and architecture by learning how humans and other animals function in their environment. These design principles from nature can be translated into novel devices, structures, and robots. (Cross-listed with BMCH 8106).

**BMCH 4200 METHODS IN BIOMECHANICS I (3 credits)**

In this course students learn about the methods and equipment used in biomechanics as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. (Cross-listed with BMCH 8206).

**Prerequisite(s)/Corequisite(s):** BMCH 3000, BMCH 2200 with a grade of C- or better or department permission.

**BMCH 4210 METHODS IN BIOMECHANICS II (3 credits)**

In this course students learn about advanced methods and equipment used in biomechanics, as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. This course builds on the experience gained in BMCH 4200/8206, Methods in Biomechanics I. (Cross-listed with BMCH 8216).

**Prerequisite(s)/Corequisite(s):** BMCH 4200 with a grade of C- or better or department permission.

**BMCH 4630 BIOMECHANICS (3 credits)**

A study of the forces that act on a human body and the effects that they produce.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 [previously PE 2400] or PE 2880 or BIOL 2740 or equivalent, AND PHYS 1110 and PHYS 1154 OR MATH 1950 to be taken concurrently or completed previously with a grade of C- or better.

**BMCH 4640 ORTHOPEDIC BIOMECHANICS (3 credits)**

Orthopedic Biomechanics focuses on the use of biomechanical principles and scientific methods to address clinical questions that are of particular interest to professionals such as orthopedic surgeons, physical therapists, rehabilitation specialists, and others. (Cross-listed with BMCH 8646).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 or department permission.

**BMCH 4650 NEUROMECHANICS OF HUMAN MOVEMENT (3 credits)**

A study of basic principles of neural process as they relate to human voluntary movement. Applications of neural and mechanical principles through observations and assessment of movement, from learning to performance, as well as development. (Cross-listed with NEUR 4650).

**Prerequisite(s)/Corequisite(s):** BMCH 1000 or PE 2430.

**BMCH 4660 CLINICAL IMMERSION FOR RESEARCH AND DESIGN (3 credits)**

This course will involve exposure to current clinical practices, identification of unmet clinical needs, and information regarding future career options. In this course, students will be matched with local clinical sites to provide a unique opportunity for innovative and interdisciplinary approaches to problem solving subject to practical constraints. Concepts in clinical rehabilitation, integrated assessments, regulation of medical devices in health care will be covered. This course will review the latest research efforts for rehabilitation in the context of device design and implementation. (Cross-listed with BMCH 8666).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 or equivalent and Instructor Permission. Not open to non-degree graduate students.

**BMCH 4670 INTRODUCTION TO MECHANICS OF BIOMATERIALS (3 credits)**

In this course students will learn how to analyze the stresses and strains in different structures under complex loading conditions with extensive examples from biomaterials and materials generally used in the medical device field. (Cross-listed with BMCH 8676).

**Prerequisite(s)/Corequisite(s):** BMCH 3000 or Department Permission

**BMCH 4680 SPORTS BIOMECHANICS (3 credits)**

This course is intended to provide students with a foundational knowledge on how to analyze sport movements through biomechanical analytical methods. Students will utilize foundational biomechanical principles and apply them to a variety of sports and associated movements. (Cross-listed with BMCH 8686).

**Prerequisite(s)/Corequisite(s):** BMCH 4630

**BMCH 4980 CAPSTONE DESIGN IN BIOMECHANICS I (4 credits)**

Teams of senior-level students work with sponsors and faculty advisers to develop solutions to real problems in the biomechanics and health-care related fields.

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 4990 CAPSTONE DESIGN IN BIOMECHANICS II (4 credits)**

Teams of senior-level students work with sponsors and faculty advisers to develop solutions to real problems in the biomechanics and health-care related fields. The Capstone Design II course is intended to further develop and validate the concept direction chosen during Capstone Design I by designing the specific details necessary to build and test a proof-of-concept prototype.

**Prerequisite(s)/Corequisite(s):** BMCH 4980, or department permission.

## Black Studies (BLST)

**BLST 1000 INTRODUCTION TO BLACK STUDIES (3 credits)**

BLST 1000 provides students with an overview of African culture and history and the black Diaspora. A key component of this course is to interrogate the meanings and dimensions of slavery and colonialism, and their continuing political, social and cultural implications. Approaches essentially include historical examination of African and African American societies and cultures from pre-colonial and slavery periods to the present.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**BLST 1050 CLASSICAL AFRICAN CIVILIZATIONS (3 credits)**

Classical African Civilization is an introductory survey of the civilizations of Africa and African people prior to 1500 C.E., with emphasis on the evolution of the peoples and nations, their civilizations, and the rise and fall of indigenous states. In particular, this course will cover the classical civilizations of Kemet (Ancient Egypt), Nubia, Axum, Carthage, Ghana, Mali, and Songhay. (Cross-listed with HIST 1050)

**Distribution:** Global Diversity General Education course

**BLST 1260 SURVEY OF BLACK LITERATURE (3 credits)**

This course will give students a general background in black literature and will encourage them to take advanced courses in this field. It consists of black literature not only in the U.S. but also in the West Indies and Africa. The main themes common to the black experience will be analyzed through an interesting study of some of the major works of some important black writers.

**BLST 1340 INTRODUCTION TO CONTEMPORARY AFRICA (3 credits)**

A survey of the geography, population and cultural traditions of contemporary Africa. Economic, political, cultural and social changes in the second half of the 20th century, including the problems and the struggle for national integration and economic adjustments will also be examined.

**BLST 1950 BLACK WOMEN IN AMERICA (3 credits)**

This course will examine how Black women in America have evolved politically, economically, and socially under oppressive conditions of slavery, the Reconstruction Era, Jim Crow, and through the Civil Rights, Black Lives Matter, and "Me Too" Movements. The underlying themes of this course are the impact of gender and race on Black women, with an emphasis of how gender and race are fueled by white supremacy, patriarchy, colonialism, capitalism, and imperialism. (Cross-listed with WGST 1950)

**Distribution:** U.S. Diversity General Education course

**BLST 2100 BLACK AMERICAN CULTURE (3 credits)**

The course surveys the cultural forms, expressions, and patterns developed by African Americans, as well as the social contexts of their development. The course will introduce students to the cultural life of African Americans, and how that life has influenced the nature of the community, and its triumphs and tragedies in the larger socio-political context of U.S. American culture.

**Distribution:** U.S. Diversity General Education course

**BLST 2110 CRITICAL ISSUES IN BLACK EDUCATION (3 credits)**

Critical Issues in Black Education is an undergraduate course which provides students with foundational knowledge of the historical, legal, social, political, and economic conditions influencing pedagogical and epistemological experiences that impact educational opportunities of Black students.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or Sophomore standing or permission of the instructor

**Distribution:** U.S. Diversity General Education course

**BLST 2120 HISTORY OF MODERN AFRICA (3 credits)**

This course covers the era of the beginning, development and decline of European colonialism in Africa. The movement for decolonization, the emergence of independent sovereign nations and the strategic role that Africa plays in the forum of industrialized and developed nations is investigated. It examines the impact of alien cultures on traditional Africa, and the struggle for a resolution of the conflict between the three major traditions on the continent - the Islamic, Western and Indigenous. (Cross-listed with HIST 2920).

**BLST 2130 AFRICAN POLITICS (3 credits)**

African Politics examines the socio-cultural and economic environments which characterize political life in contemporary Africa. This course examines contemporary African politics and government in post-independence Africa, and the pre-colonial political and economic systems which influence contemporary African politics. The course assesses the various approaches used to study the political development of the African continent; examines the processes, features, and institutions of the African states; addresses key and persistent issues about African politics; and examines dimensions of social change and political reform. (Cross-listed with PSCI 2130).

**Distribution:** Global Diversity General Education course

**BLST 2210 THE BLACK FAMILY IN THE UNITED STATES (3 credits)**

Analysis of historical, social, and institutional and comparative elements of family life in the United States with particular emphasis on social science theory.

**Prerequisite(s)/Corequisite(s):** BLST 1000.

**BLST 2260 BLACK SHORT STORY (3 credits)**

A study of short stories written by black American authors as literature and as experience. The course explains and defines cultural terms and practices, and attempts to prepare students for multicultural living. (Cross-listed with ENGL 2260.)

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2350 AFRICAN AMERICAN LITERATURE 1746-1939 (3 credits)**

This course traces the development of black literature from 1746 to 1939. Included will be a study of multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied will include early black writers, neoclassic and romantic traditions, and the Harlem Renaissance and Depression era schools of thought. (Cross-listed with ENGL 2350).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**BLST 2360 AFRICAN AMERICAN LITERATURE 1940-PRESENT (3 credits)**

This course traces the development of the literary contribution that black Americans have made from 1940 to the present. The course will study multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied include an evolution in resistance in writing, a movement toward literary assimilation in the 1940s-1950s, and the subsequent movement toward "Black Arts" from the 1960s to the present. (Cross-listed with ENGL 2360).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or instructor permission

**BLST 2410 AFRICAN AMERICAN HISTORY I: TO 1865 (3 credits)**

The course examines the history of the earliest Africans in the Americas and briefly examines traditional African societies. It covers the transatlantic slave trade and its effects on Europe, Africa and the Americas, and analyzes the development of Afro-American culture and the struggle for freedom. (Cross-listed with HIST 2040)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**BLST 2420 AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN (3 credits)**

A survey of Afro-American history from the Civil War to the present. Covers Reconstruction and its overthrow, including the new methods of control which replaced slavery. Discusses the development of black ideologies and institutions. Traces urban migration and its impact on black society and culture. Follows black progress through World War II, the 1954 Supreme Court Decision, and rising militancy. (Cross-listed with HIST 2050)

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2430 AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY (3 credits)**

This course is divided into three main parts: the Civil Rights Phase (1954-1963), during which the dominant mood was optimism over the possibilities of integration; the Black Power Phase (1963-1974), and the Pragmatist Phase (1972-present), characterized by attempts to preserve and maintain gains already won. (Cross-listed with HIST 2060)

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**BLST 2510 MUSIC AND THE BLACK EXPERIENCE (3 credits)**

The course will examine the origin and deeper meanings of black music as cultural history of Africans and people of African descent.

**BLST 2550 BUSINESS AND ECONOMICS IN AFRICAN AMERICAN COMMUNITIES (3 credits)**

This course traces the evolution of African American business and economic development systems in the U.S. and will examine historical economic and political influences which impact African American business communities. Students will be exposed to various aspects of African American business and economics, including Black entrepreneurship and Black owned businesses before, during, and after slavery; an analysis of the role of Black churches in African-American communities; and the impact of modern economic and political systems on African American business communities. (Cross-listed with ENTR 2550).

**Distribution:** U.S. Diversity General Education course

**BLST 2700 AFRICAN PHILOSOPHY (3 credits)**

This course explores ancient, traditional and contemporary philosophical/theological concepts and doctrines of Africans through an investigation of their cosmological, metaphysical, ontological and ethical world views.

**BLST 2710 AFRICANA WORLDVIEWS (3 credits)**

This course presents the basic elements of the Africana worldview, which focuses on African centered theories of knowledge and ways of being. Africana theories are contrasted with classical Eurocentric theories of knowledge and being, with the focus on explaining why these differences are significant to the discipline of Black Studies.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or permission of the instructor.

**BLST 2730 RELIGION AND THEOLOGY IN AFRO-AMERICA (3 credits)**

Examines the development of the black church in America from the period of the First Great Awakening and investigates and analyses the theological foundation, the nature and source of Afro-American religious expression.

**Distribution:** Humanities and Fine Arts General Education course

**BLST 2830 CONTEMPORARY NOVEL (EMPHASIS ON BLACK WRITERS) (3 credits)**

A study of some of the most important ideas and techniques of the novel as genre, using primarily the black-authored novel.

**BLST 2900 AFRICAN CIVILIZATION - THE MIDDLE PERIOD (3 credits)**

This course traces the development of African History from the beginning of the Civilization of Ghana (800 B.C.) to the period of European exploration of Africa (mid 15th century). It examines the main achievements, events and individuals in the Empires of Ghana, Mali, Songhay, Zimbabwe, etc. (Cross-listed with HIST 2900)

**BLST 3000 SURVEY OF BLACK EDUCATION (3 credits)**

History of black education starting from its early origins in Timbuktu, Egypt and Ethiopia through the American black experience. Impact on western civilization. Black colleges and universities: the black scholar and the community. Contributions of black scholars to general knowledge. Myth of black intellectual inferiority. From interest to disenchantment. Role of educational institutions in American society. Proposed models for coping with urban education.

**Prerequisite(s)/Corequisite(s):** BLST 1000 or permission of instructor.

**BLST 3030 GEOGRAPHY OF AFRICA (3 credits)**

The political, physical, economic and demographic features of Africa with emphasis on the effect of these factors in development. The major features of the broad geographical regions of Africa.

**Prerequisite(s)/Corequisite(s):** Junior.

**BLST 3120 THE AFRICAN AMERICAN EXPERIENCE IN POLITICS (3 credits)**

This course will provide a historical and contemporary survey of the African American political experience in the United States, from the passage of the 15th Amendment in the late 1800s, to the 1965 Voting Rights Act, and continuing into the 21st century. Students will examine the evolution of the Black political experience, with emphasis on the fight against enslavement, segregation, lynchings and mass incarceration, and the long struggle of African Americans against institutional and structural racism in the American political system. (Cross-listed with PSCI 3120).

**Prerequisite(s)/Corequisite(s):** BLST 1000

**Distribution:** U.S. Diversity General Education course

**BLST 3200 BLACK NATIONALISM AND PAN AFRICANISM (3 credits)**

A study of the development of movements for self-determination in Afro-America and an analysis of various nationalistic conceptual frameworks in the Diaspora and on the Continent. (Cross-listed with BLST 8205)

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2410, or permission of instructor.

**BLST 3400 ISSUES IN BLACK COMMUNITIES (3 credits)**

Focusing primarily on urban areas, this course will analyze the roles of municipal, state, and federal governments in African American communities. Various political, educational, economic, cultural and social aspects of those communities will be analyzed. Data from specific examples of such communities throughout the U.S. will be examined, and their strategies for engaging the larger social-environmental contexts will be explored.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing or permission of the instructor.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**BLST 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with CRCJ 3410, PSCI 3410).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR CRCJ 1010 OR Junior standing OR instructor permission.

**Distribution:** U.S. Diversity General Education course

**BLST 3500 ECONOMIC DEVELOPMENT IN AFRICA (3 credits)**

This course traces the evolution of modern African economic systems. Methods of production, distribution, and exchange are examined. There will also be a survey of the processes and problems of colonial economic exploitation to post-independence underdevelopment. The nature of economic development, planning, regional cooperation, international trade and foreign aid will be critically analyzed.

**Prerequisite(s)/Corequisite(s):** BLST 2130 and BLST 3030 or GEOG 3030 or junior.

**BLST 3510 CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA (3 credits)**

This course examines ways in which cultural identity is communicated through African-American cinema, defined as movies with predominantly African American filmmakers, producers, and/or actors. Cultural communication is integrated with historical, political, and social motivation for African-American cinema. (Cross-listed with CMST 3510)

**Prerequisite(s)/Corequisite(s):** Sophomore standing and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**BLST 3700 CRITICAL WRITING FOR CULTURAL STUDIES (3 credits)**

Critical Writing for Cultural Studies (BLST 3700) is a Writing in the Disciplines (WID) course that prepares undergraduate students, whose fields of interest include any area of humanities and/or social sciences, for the specific writing styles and research methodologies expected in cultural studies disciplines. This preparation includes instruction in resource evaluation, organization strategies, sentence style and vocabulary, documentation styles, and revision strategies.

**Prerequisite(s)/Corequisite(s):** ENGL 1164 or by permission of the instructor.

**Distribution:** Writing in the Discipline Single Course

**BLST 3750 ISSUES IN BLACK LITERATURE (3 credits)**

This course is designed to provide a forum for consideration of critical issues in black literature. An examination of some of the theoretical issues in black aesthetics will be undertaken, including: the role of the black artist as purposeful agent and guardian of image; the role of literature in the black community; and the audience. Recent trends in the black novel will be studied, especially the emergence of contemporary African writers as modern technicians of language and literary form through the development of new forms from old narrative ones.

**Prerequisite(s)/Corequisite(s):** BLST 1260 and BLST 2360 or permission.

**BLST 3920 BLACK AESTHETICS (3 credits)**

This is a critical study of the theories of artistic beauty and their application in the poetic, fictional and dramatic works of Afro-Americans from the 18th century to the present. Special attention will be paid to the role of the black artist in American society.

**Prerequisite(s)/Corequisite(s):** BLST 1260 or permission of instructor.

**BLST 3970 INTERNSHIP IN BLACK STUDIES (1-3 credits)**

A department-supervised project involving part-time employment or service with a community agency, business, non-profit organization, university or other educational unit, or another appropriate organization or setting. Students will gain relevant practical experience and will integrate theory, concepts, and empirical knowledge from their classrooms with their work in the internship setting. Permission of department head and/or Internship Coordinator and completion of an internship project form required.

**Prerequisite(s)/Corequisite(s):** Completion of BLST 1000, enrollment either as a BLST major or minor or as a BGS concentration in BLST, permission of Department Head and/or Internship Coordinator and completion of an internship project form.

**BLST 3980 SPECIAL TOPICS IN BLACK STUDIES (3 credits)**

Intensive research into specific but unrelated topics germane to the black experience. Since the topics are of a variable nature, this course may be repeated for credit as long as the topics are different.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**BLST 3990 COMMUNITY STUDY PROJECT (3 credits)**

Designed for the student to do field work in a community-based project in the areas of housing, education or social services.

**Prerequisite(s)/Corequisite(s):** Junior or above, or permission of instructor.

**BLST 4030 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 8036, RELI 4030, BLST 8036).

**BLST 4090 BLACK STUDIES ORAL HISTORY (3 credits)**

The focus of this course is to examine the methods, procedure, transcription and use of oral history in black studies research. Emphasis will be directed toward describing and evaluating the variables of memory, history and cultural authority to produce written source materials collected from oral interviews. (Cross-listed with BLST 8096).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2100, BLST 2430 or permission of the instructor.

**BLST 4120 BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS (3 credits)**

This course studies scholarship on race, gender, and leadership with a specific focus on African and African descended women's roles in liberation movements in the U.S. and worldwide. Especial focus will be on the use of their personal narratives to analyze the wide range of ideas in the conception and execution of leadership. (Cross-listed with WGST 4120)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**BLST 4150 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with BLST 8156, PSYC 4150, PSYC 8156).

**Prerequisite(s)/Corequisite(s):** BLST 1000 and Junior standing or Instructor permission

**BLST 4260 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms used to portray woman. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on male literary experiences. (Cross-listed with BLST 8266)

**Prerequisite(s)/Corequisite(s):** Black studies major or permission of instructor.

**BLST 4580 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with BLST 8586, CMST 4580, CMST 8586)

**Prerequisite(s)/Corequisite(s):** CMST 4530 or Junior standing or instructor permission; minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**BLST 4590 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 8596, MUS 4590, BLST 8596).

**Prerequisite(s)/Corequisite(s):** Music major standing or permission of instructor.

**BLST 4650 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 8656, HIST 4070, HIST 8076, LLS 8656).

**Prerequisite(s)/Corequisite(s):** BLST 1000 and junior standing or permission of instructor

**Distribution:** U.S. Diversity General Education course

**BLST 4710 BROWN V. BOARD OF EDUCATION (3 credits)**

Brown v. Board of Education traces the educational history of African Americans from segregation to desegregation to re-segregation. This course will review the legal cases before and after the Supreme Court's Brown decision, their aftermath, and the effects on educational policies and practices. (Cross-listed with BLST 8716).

**Prerequisite(s)/Corequisite(s):** For undergrad/grad, ONE or ALL of the following courses must be taken as prerequisite: BLST 1000, CRCJ 1010, BLST/CRCJ 3410. Must have Junior standing OR permission of instructor.

**Distribution:** U.S. Diversity General Education course

**BLST 4750 CRITICAL QUANTITATIVE RESEARCH METHODS (3 credits)**

This online undergraduate/graduate course is a comprehensive source for foundational concepts in quantitative behavioral research. The course is designed to expose students to the role and importance of critical quantitative research of marginalized and underrepresented groups. Students will examine and gain definitional and empirical knowledge about conducting culturally relevant quantitative research and will learn both the logic behind and procedures for critical quantitative research, including research ethics, correlational and experimental designs, data collection, sampling, analysis, and reporting. (Cross-listed with BLST 8756).

**Prerequisite(s)/Corequisite(s):** PSYC 3140 or Junior standing or instructor permission.

**BLST 4880 SEMINAR ON BLACK LEADERSHIP IN AMERICA (3 credits)**

Designed as a senior and graduate seminar, this course will examine the meaning and attributes of effective leadership. The role of black leadership in the African American experience will be examined. Profiles of selected African American leaders and their political strategies also will be analyzed in the seminar. (Cross-listed with BLST 8886).

**Prerequisite(s)/Corequisite(s):** Senior or graduate student or instructor permission.

**BLST 4900 INDEPENDENT STUDY (1-3 credits)**

This course is designed for those students who are capable of pursuing, independently, an area of Black Studies that is not covered under the existing curriculum. The student will be supervised by a member of the BLS department. All course assignments, requirements, and expectations will be clearly indicated in advance. May be repeated for credit, up to six hours, under a different topic.

## Business Administration (BSAD)

### **BSAD 1010 CBA SCHOLARS ACADEMY SEMINAR (0 credits)**

This course will provide CBA Scholars Academy students the opportunity to learn about their Gallup Strengths, network with other CBA Scholars and staff, and create strategies for connecting with business professionals.

**Prerequisite(s)/Corequisite(s):** Limited to students who are first-year freshman members of the College of Business Administration Scholars Academy. Not open to non-degree graduate students.

### **BSAD 1020 CBA INTERNATIONAL STUDENT SEMINAR (0 credits)**

This course will provide CBA International students the opportunity to learn more about U.S. & UNO culture. It will provide academic success skills, networking with other International students & staff & faculty.

**Prerequisite(s)/Corequisite(s):** Limited to International students in the College of Business Administration.

### **BSAD 1100 CBA PROFESSIONAL DEVELOPMENT SEMINAR 1 (1 credit)**

This course will provide Bachelor of Science in Business Administration (BSBA) students with academic success tools and techniques as well as initial career interest assessments and exploration opportunities.

**Prerequisite(s)/Corequisite(s):** Bachelor of Science in Business Administration (BSBA) majors at UNO. Not open to non-degree graduate students.

### **BSAD 1200 CBA PROFESSIONAL DEVELOPMENT SEMINAR 2 (1 credit)**

This course will provide knowledge tha Bachelor or Science in Business Administration (BSBA) students can use to identify employers that best fit their academic and career goals, to determine their own personal brand, to develop effective resumes and cover letters, and to effectively build and utilize professional networks.

**Prerequisite(s)/Corequisite(s):** BSBA majors at UNO.

### **BSAD 2100 PRINCIPLES OF SUSTAINABILITY: IMPACT OF INDIVIDUALS & ORGANIZATIONS ON ECOLOGY, EQUITY & ECONOMICS (3 credits)**

This course introduces participants to the principles and practical applications of sustainability from science, engineering, policy, and business perspectives. The course will focus on systems thinking, analyzing the impact of human activities on the triple-bottom-line of People, Planet and Profits. We will examine and debate major environmental issues and trends in modern society from a scientific and practical perspective, including energy and resource use, pollution, climate change, water, and population. Current examples/case studies will be examined and critiqued. The course presents practical skills for participants in the area of integrating sustainability into business practices, consumer decisions, policies, and development.

**Prerequisite(s)/Corequisite(s):** Admission to the University Honors Program.

**Distribution:** Social Science General Education course

### **BSAD 2130 PRINCIPLES OF BUSINESS STATISTICS (3 credits)**

An accelerated course covering statistical methods used in business analysis. Topics include descriptive statistics, graphical and tabular methods of data presentation, probability, discrete and continuous distributions, hypothesis testing of means and proportions for single and multiple populations, and regression analysis.

**Prerequisite(s)/Corequisite(s):** Math 1320 (for students who matriculated at or prior to Summer 2015) or Math 1360 or MATH 1370 or Math 1930 with a 'C'(2.0) or better and at least a 2.3 GPA.

### **BSAD 2600 ETHICS IN ORGANIZATIONS (3 credits)**

This course will cover general ethics challenges, processes, and decision-making in organizations. Participants will learn the value of abiding by high ethical standards and will gain the knowledge necessary to make sound ethical decisions.. This course is intended for all majors, and students who are permitted to enroll will receive a scholarship.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160, MATH 1310 or MATH 1220, CMST 1110, and a min GPA of 2.0. Students should contact instructor to apply for the Schumacher Scholarship that accompanies this course. Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

### **BSAD 2700 GLOBALIZATION OF BUSINESS ENTERPRISE (3 credits)**

This course is for students who are interested in gaining a framework for thinking broadly but systematically about international business and differences across countries.

**Distribution:** Social Science General Education course and Global Diversity General Education course

### **BSAD 3140 BUSINESS STATISTICAL APPLICATIONS (3 credits)**

Applies inferential statistics analysis of variance, multiple regression and correlation, time series, non-parametric statistics such as chi-square analysis, and decision analysis to business problems.

**Prerequisite(s)/Corequisite(s):** BSAD 2130 with 'C' (2.0) or better.

### **BSAD 3160 MANAGERIAL STATISTICS FOR BUSINESS (4 credits)**

An accelerated course covering statistical methods used in business analysis. Topics include descriptive statistics, graphical and tabular presentation of data, probability, analysis of discrete and continuous data, regression analysis, forecasting methods.

**Prerequisite(s)/Corequisite(s):** MATH 1320 or MATH 1370 with a 'C'(2.0) or better, 2.5 GPA.

### **BSAD 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with MGMT 3600, MKT 3600)

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of "C" (2.0).

### **BSAD 4000 INTERNATIONAL BUSINESS STUDY ABROAD (3 credits)**

The purpose of this course is to provide students with an international business and cultural experience through a study tour in a selected international location. Students will develop an understanding of the factors that affect international business decisions by visiting American companies operating abroad and foreign companies that export goods and services to the U.S. Typically, travel is conducted during Spring Break.

**Prerequisite(s)/Corequisite(s):** Junior standing

## Chemical Engineering (CHME)

### **CHME 1130 INTRODUCTION TO CHEMICAL ENGINEERING I (2 credits)**

The profession of chemical engineering. Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets. (Has guest lectures and requires field trips.)

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

### **CHME 1140 INTRODUCTION TO CHEMICAL ENGINEERING II (2 credits)**

Analytical and computational methods for solving problems related to chemical process measurements, properties of single compounds, properties of mixtures, stoichiometry.

**Prerequisite(s)/Corequisite(s):** MATH 1950, CHEM 1180, CHEM 1184 (prereq or coreq). Not open to nondegree students.

**CHME 2020 MASS & ENERGY BALANCES (3 credits)**

Application of the principle of conservation of mass and energy in the analysis of steady-state chemical processes. Selected topics in physical, chemical and thermal property estimation.

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHME 1140 and coreq MATH 1960, not open to nondegree students

**CHME 2030 EQUILIBRIUM STAGE OPERATIONS (3 credits)**

Phase equilibria and mass and energy balances applied to staged mass transfer operations.

**Prerequisite(s)/Corequisite(s):** MATH 1960 and CHME 2020 and coreq CIST 1400, not open to nondegree students

**CHME 3120 CHEMICAL ENGINEERING COMPUTATION (3 credits)**

Computational methods in orthogonal polynomials, numerical integration, matrix operations and ordinary differential equations as they apply to chemical engineering problems such as separations, reactor design, transport operations and control.

**Prerequisite(s)/Corequisite(s):** Junior standing and CIST 1400 and MATH 2350, not open to nondegree students

**CHME 3220 CHEMICAL ENGINEERING THERMODYNAMICS I (3 credits)**

Application of three fundamental laws to chemical engineering problems.

**Prerequisite(s)/Corequisite(s):** CHME 2020 and CSCI 1840.

**CHME 3230 CHEMICAL ENGINEERING THERMODYNAMICS II (3 credits)**

Application to multicomponent systems: thermodynamics, phase equilibria, chemical reaction equilibria, and process analysis.

**Prerequisite(s)/Corequisite(s):** CHME 3220, not open to nondegree students

**CHME 3320 TRANSPORT OPERATIONS I (3 credits)**

Mass, momentum, and energy transport phenomena and their applications in chemical engineering.

**Prerequisite(s)/Corequisite(s):** MATH 1970 and (CHME 2020, MENG 2000 or MECH 2000), not open to nondegree students

**CHME 3330 TRANSPORT OPERATIONS II (3 credits)**

Continuation of CHME 3320.

**Prerequisite(s)/Corequisite(s):** CHME 3320, not open to nondegree students

**CHME 4300 CHEMICAL ENGINEERING LAB (4 credits)**

Selected experiments in chemical engineering. Emphasis on experimental design, interpretation of results, and formal oral and written reports. (Cross-listed with CHME 8306).

**Prerequisite(s)/Corequisite(s):** CHME 2030 and CHME 3330 and coreq CHME 4420

**CHME 4340 DIFFUSIONAL OPERATIONS (3 credits)**

Application of diffusional theory to the design of processing equipment required for absorption, adsorption, leaching, drying, and chemical reactions. (Cross-listed with CHME 8346).

**Prerequisite(s)/Corequisite(s):** CHME 3330 and CHME 4420 and MATH 3350

**CHME 4420 CHEMICAL REACTOR ENGINEERING AND DESIGN (3 credits)**

Basic principles of chemical kinetics are coupled with models descriptive of rates of energy and mass transfer for the analysis and design of reactor systems. (Cross-listed with CHME 8426).

**Prerequisite(s)/Corequisite(s):** CHME 3230

**CHME 4890 AIR POLLUTION, ASSESSMENT AND CONTROL (3 credits)**

Survey of the present status of the air pollution problem and the application of engineering and scientific principles to its practical and effective coordinated control. (Cross-listed with CHME 8896).

**Prerequisite(s)/Corequisite(s):** Senior standing

## Chemistry (CHEM)

**CHEM 1010 CHEMISTRY IN THE ENVIRONMENT AND SOCIETY (3 credits)**

A study of modern society's impact on our environment and the chemistry needed to understand it. The primary focus is the underlying chemistry of the effects of energy production and properties of fuels while including social, political and economic connections. Impacts on air and water quality, climate change, and fossil fuels are discussed. Additional course topics may also include the ozone layer, plastics, medicine and nutrition. (Fall, spring) Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 with a grade of C- or better or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**CHEM 1014 CHEMISTRY IN THE ENVIRONMENT AND SOCIETY LABORATORY (1 credit)**

Laboratory for CHEM 1010, a survey of the relationship of chemistry to current problems in environmental control, medicine, technology and energy production. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 1010 to be taken concurrently or completed previously with grade of C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1120 STRATEGIES IN CHEMICAL PROBLEM SOLVING (2 credits)**

This course focuses on the development of problem solving skills and learning strategy tools in the context of first semester college chemistry topics. It is primarily intended for students seeking a stronger background before enrolling in CHEM 1140 or CHEM 1180. However, the content should be valuable for a variety of courses. Not available for natural science credit, nor intended to meet chemistry requirements for other programs. (Fall)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 with C- or better or equivalent. MATH 1310 or MATH 1220 may also be taken concurrently. Not open to non-degree graduate students.

**CHEM 1140 FUNDAMENTALS OF COLLEGE CHEMISTRY (4 credits)**

A comprehensive introduction to the basic principles of chemistry. This course is intended for all students needing a one-semester introductory course with laboratory including allied health students continuing to CHEM 2210, or those seeking a stronger background before enrollment in CHEM 1180. (Fall, spring, possibly summer). Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1220 or equivalent within last two years (C- or better); or ACT Math subscore of at least 23 within last two years; or ALEKS/Accuplacer score of at least 4 within last two years. CHEM 1144 concurrent or prior with C- or better.

**Distribution:** Natural/Physical Sci General Education lecture

**CHEM 1144 FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (1 credit)**

Laboratory explorations of chemical measurements, modeling, reactions and analyses. To be taken with CHEM 1140. (Fall, spring, possibly summer).

**Prerequisite(s)/Corequisite(s):** CHEM 1140 concurrent or prior with C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1170 GENERAL CHEMISTRY I-II (5 credits)**

Intended for students with significant backgrounds in chemistry, the course is a combination of CHEM 1180 and CHEM 1190 completed in one semester. This course also includes a lab section. During lecture, the following topics will be covered: introductory quantum theory, electronic structures, bonding theory, gas laws, solution properties and reactions, acid-base theory, ionic equilibria, complexation, oxidation-reduction, thermodynamics and kinetics. The laboratory will include the introduction of basic laboratory skills and scientific experimental design.

**Prerequisite(s)/Corequisite(s):** MATH 1330 or equivalent in the last two years (C- or better); OR ACT Math subscore of 26 in the last two years; OR ALEKS/Accuplacer score of at least 6 in the last two years; AND AP chemistry exam score 3 or greater; OR instructor permission.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**CHEM 1180 GENERAL CHEMISTRY I (3 credits)**

A comprehensive survey of chemical principles; the first course in a two-semester sequence primarily for majors and those in the sciences. It is assumed that students will have a good background in elementary chemical principles. CHEM 1184 normally to be taken concurrently. (Fall, Spring, Summer) Fulfills a University General Education Natural/Physical Science Requirement.

**Prerequisite(s)/Corequisite(s):** MATH 1320 or equivalent in last two years (C- or better); OR CHEM 1140 in last two years (C- or better); OR ACT Math subscore of 25 in last two years; OR ALEKS/Accuplacer score of at least 5 in last two years. CHEM 1184 concurrent/prior (C- or better).

**Distribution:** Natural/Physical Sci General Education lecture

**CHEM 1184 GENERAL CHEMISTRY I LABORATORY (1 credit)**

A laboratory program designed to enhance laboratory skills and illustrate chemical principles. (Fall, Spring, Summer) Fulfills a University General Education Natural/Physical Science requirement.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 concurrent or prior with a grade of C- or better.

**Distribution:** Natural/Physical Sci General Education lab course

**CHEM 1190 GENERAL CHEMISTRY II (3 credits)**

A study of acid-base theory, ionic equilibria, complexation, oxidation-reduction, thermodynamics and kinetics. CHEM 1194 to be taken concurrently. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and 1184 with a grade of C- or better AND Math 1320. Concurrent enrollment in CHEM 1194.

**CHEM 1194 GENERAL CHEMISTRY II LABORATORY (1 credit)**

Quantitative analysis and study of solution equilibria. Includes statistics applied to quantitative analysis. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and 1184 with a grade of C or better or department recommendation of advanced placement. Prereq or coreq: CHEM 1190 (if prereq must be with a grade of C or better).

**CHEM 2210 FUNDAMENTALS OF ORGANIC CHEMISTRY (4 credits)**

Chemistry 2210 is a course on basic organic chemistry, a one-semester course designed primarily for students in biology, elementary science education, and allied health fields.

**Prerequisite(s)/Corequisite(s):** CHEM 1140 and CHEM 1144, or CHEM 1190 and CHEM 1194 with a grade of C- or better in each. CHEM 2214 to be taken concurrently.

**CHEM 2214 FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (1 credit)**

Elementary organic chemistry laboratory to be taken concurrently with CHEM 2210. This course is for students in biology (non-premed, non-pre-dental tracks), elementary education and allied health majors.

**Prerequisite(s)/Corequisite(s):** CHEM 1140 and CHEM 1144, or CHEM 1190 and CHEM 1194 with a grade of C- or better in each. CHEM 2210 to be taken concurrently.

**CHEM 2250 ORGANIC CHEMISTRY I (3 credits)**

The fundamental chemistry of carbon compounds. (Fall, Spring, Summer)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C- or better.

**CHEM 2260 ORGANIC CHEMISTRY II (3 credits)**

A continuation of the foundational study of the compounds of carbon. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2250 with a grade of C- or better, obtained within the prior twelve months. CHEM 2274 concurrent or prior with a grade of C- or better.

**CHEM 2274 ORGANIC CHEMISTRY LABORATORY (2 credits)**

A laboratory course in the skills and techniques of experimentation in organic chemistry. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 1194 with a grade of C- or better and CHEM 2260 concurrent or prior with C- or better.

**CHEM 2400 QUANTITATIVE ANALYSIS (3 credits)**

Theory of quantitative analysis applied to gravimetric and volumetric analysis; theory of error and evaluation of analytical data; introduction to instrumental analysis and separation methods. (Fall)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C or better or equivalent. CHEM 2404 to be taken concurrently.

**CHEM 2404 QUANTITATIVE ANALYSIS LAB (1 credit)**

Laboratory application of principles of quantitative analysis and experience with sample preparations, titrations, and instrumental methods of analysis. Use of reaction chemistry, separations, and spectrophotometry in determinations. Introduction to quality control. (Fall)

**Prerequisite(s)/Corequisite(s):** CHEM 1190 and CHEM 1194 with a grade of C- or better or equivalent. CHEM 2400 to be taken concurrently.

**CHEM 2500 INTRODUCTION TO INORGANIC CHEMISTRY (3 credits)**

A survey of the inorganic chemistry of metallic and nonmetallic species, including atomic, molecular and crystal structures, composition, properties and reactivities. (Spring).

**Prerequisite(s)/Corequisite(s):** CHEM 1190 with a grade of C- or better.

**CHEM 2930 APPLIED TOPICS IN CHEMISTRY (1-3 credits)**

More thorough examination of a chemistry topic than in the regular curriculum. Content (e.g. polymers, forensics, brewing and cooking, chemical industry, historical chemistry, art and chemistry, glassblowing) will vary with offering.

**Prerequisite(s)/Corequisite(s):** Completion 4 credit hours of university chemistry with grade(s) of C+ or better, or 8 CH of chemistry with grades of C or better.

**CHEM 2950 INTRODUCTION TO RESEARCH IN CHEMISTRY (1 credit)**

This course is intended to give students, possessing at least a high school background in chemistry, the opportunity to work with faculty and/or advanced students on an established research project. The creativity and communication expectations of these students will be less than for students enrolled in the 4000 level research courses. Guided laboratory/library work on an established research project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**CHEM 3030 ENVIRONMENTAL CHEMISTRY (3 credits)**

This course connects fundamental chemical principles to processes observed in the environment. The environmental processes studied may or may not be anthropogenic in nature and will include every environmental domain (air, water, soil/minerals/rocks) and interactions between domains.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and CHEM 1184, CHEM 1190 and CHEM 1194, CHEM 2400 and CHEM 2404, or consent of the instructor

**CHEM 3210 INTRODUCTION TO MOLECULAR MODELING (3 credits)**

The course covers the advantages and limitations of current modeling systems, the criteria for choosing the appropriate modeling system to best solve a given problem and the computer resources needed to conduct the modeling experiments. Following an introduction to the theory behind a variety of modeling systems, students model organic and bioorganic compounds in projects designed to mimic real world applications. (Alternate Spring semesters). (Cross-listed with CHEM 8215).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a grade of C- or better.

**CHEM 3350 PHYSICAL CHEMISTRY I (3 credits)**

A presentation of selected topics from the areas of classical thermodynamics and electrochemistry. (Fall) (Cross-listed with CHEM 8355).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2274, CHEM 2400, CHEM 2404, PHYS 2120; MATH 1960. (Chemistry courses must be with a grade of C or better). Concurrent enrollment in CHEM 3354.

**CHEM 3354 PHYSICAL CHEMISTRY I LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in thermodynamics, kinetics and electrochemistry, to be taken concurrently with CHEM 3350/8355. Instruction and practice in scientific writing is also an emphasis of the course. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Fall. (Cross-listed with CHEM 8359)

**Prerequisite(s)/Corequisite(s):** CHEM 2404, CHEM 2274; Coreq: CHEM 3350.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 3360 PHYSICAL CHEMISTRY II (3 credits)**

A presentation of selected topics from the areas of quantum mechanics, spectroscopy, kinetics and statistical mechanics. (Spring) (Cross-listed with CHEM 8365).

**Prerequisite(s)/Corequisite(s):** CHEM 3350 and CHEM 3354 with a grade of C- or better.

**CHEM 3364 PHYSICAL CHEMISTRY II LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in quantum mechanics, computational chemistry, spectroscopy, and kinetics, to be taken concurrently with CHEM 3360. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Spring. (Cross-listed with CHEM 8369).

**Prerequisite(s)/Corequisite(s):** CHEM 3350 and 3354 with a grade of C- or better, to be taken concurrently with CHEM 3360.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 3424 SPECTROMETRIC CHARACTERIZATIONS (1 credit)**

Laboratory course involving the use of spectrometric instrumentation for the identification of compounds containing organic functional groups. (Fall, alternate years) (Cross-listed with CHEM 8429).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2274, CHEM 2400 and CHEM 2404 with a grade of C or better.

**CHEM 3514 INORGANIC PREPARATIONS (1 credit)**

Laboratory preparation and characterization of representative types of inorganic compounds by various standard and special techniques. (Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2274, CHEM 2400, CHEM 2404, CHEM 2500 with a grade of C- or better.

**CHEM 3610 PRINCIPLES OF BIOCHEMISTRY FOR THE HEALTH SCIENCES (3 credits)**

This course covers the introduction of biochemistry, biomolecules, and metabolism. It is primarily intended for students entering allied health fields.

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or CHEM 2260 with a C- or better. Not open to non-degree graduate students.

**CHEM 3650 FUNDAMENTALS OF BIOCHEMISTRY (3 credits)**

A survey of biochemistry emphasizing: cell structure, energy, and water; amino acid and protein structure/function, enzymes, and protein isolation; carbohydrates and carbohydrate metabolism (glycolysis, glycogen metabolism); aerobic metabolism (citric acid cycle and oxidative phosphorylation); lipids, membranes, transport, cholesterol, and lipid metabolism; and nucleic acids. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 and CHEM 2214 or CHEM 2260 and CHEM 2274 with a grade of C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 3654 must be taken concurrently.

**CHEM 3654 FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in the fundamentals of biochemistry lecture with the development of biochemical laboratory skills including data analysis. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 and CHEM 2214 or CHEM 2260 and CHEM 2274 with a grade of C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 3650 must be taken concurrently.

**CHEM 3710 ESSENTIALS OF MEDICINAL CHEMISTRY (3 credits)**

This course is an introduction to human drug discovery, mechanism of action, metabolism, and drug-drug interaction, while demonstrating the interdisciplinary nature of medicinal chemistry. An emphasis is placed on drug design, drug structure, and the relationship of structure to drug action and metabolism. (Spring)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CHEM 2260/ CHEM 2274 with a grade of C- or better.

**CHEM 4230 ADVANCED ORGANIC CHEMISTRY - SYNTHESIS (3 credits)**

An advanced lecture course in modern theories and organic reactions with application to synthesis. (Alternate Fall semesters) (Cross-listed with CHEM 8236).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 with a grade of C- or better.

**CHEM 4240 ADVANCED ORGANIC CHEMISTRY - MECHANISM (3 credits)**

An advanced lecture course in organic chemical reactions. (Cross-listed with CHEM 8246).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2400 with a C- or better

**CHEM 4250 ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING (4 credits)**

Presentation of advanced topics in organic chemistry focused on structure, bonding and reaction mechanisms. The use of molecular modeling software as means to predict structure, relative stabilities and reaction thermodynamics are covered in a hands-on environment. The course will survey various modeling methods and show its relevance to molecular orbital theory. The basic methodologies used to explore organic mechanisms are presented and then used to study mechanistic details of various reaction types. Students cannot count both Chem 4250 and Chem 4240 toward their degree. (Cross-listed with CHEM 8256).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a C- or better

**CHEM 4310 POLYMER CHEMISTRY (3 credits)**

An introduction to the chemical and physical properties of polymers. Emphasis will be on physical properties and structure/property relationships. Topics will include kinetics and synthesis. Students will gain an understanding of the characteristics of polymers and their applications.

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 3350, each with a grade of C- or better, or instructor permission. Not open to non-degree graduate students.

**CHEM 4400 INSTRUMENTAL ANALYSIS (3 credits)**

Study of instrumentation for use in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 8406).

**Prerequisite(s)/Corequisite(s):** CHEM 3360, CHEM 3364 and CHEM 3414 with a grade of C or better. Concurrent enrollment in CHEM 4404.

**CHEM 4404 INSTRUMENTAL ANALYSIS LABORATORY (1 credit)**

Use of instrumentation in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 8409).

**Prerequisite(s)/Corequisite(s):** CHEM 3360, CHEM 3364, CHEM 3414 with a grade of C or better. Concurrent enrollment in CHEM 4400.

**CHEM 4500 ADVANCED INORGANIC CHEMISTRY (3 credits)**

The application of bonding models for understanding of the composition, structure, and reactions of inorganic molecules, including organometallic and bioinorganic complexes. (Cross-listed with CHEM 8506).

**Prerequisite(s)/Corequisite(s):** CHEM 2500 and CHEM 3350 with a grade of C- or better. CHEM 3350 may be taken concurrently.

**CHEM 4510 SOLID STATE INORGANIC CHEMISTRY (3 credits)**

A study of the structural and electronic basis of materials properties in the solid state. Properties examined include electrical conductivity, ferromagnetism, ferroelectricity, and superconductivity. Some experimental work will be conducted.

**Prerequisite(s)/Corequisite(s):** CHEM 2500 and CHEM 3350 with a grade of C- or better; or permission of instructor.

**CHEM 4540 GEOCHEMISTRY (3 credits)**

This course will cover the application of chemical principles to geologic systems. Specific topics covered will include the origin of elements and their distribution in the earth, geochronology, stable isotope systems, aqueous geochemistry and crystal chemistry. These topics will be integrated to the study of igneous, metamorphic and sedimentary rocks and ore deposits.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, MATH 1950, CHEM 1190 and GEOL 2750 or CHEM 2500 (chemistry courses must have a grade of C or better)

**CHEM 4610 BIOCHEMISTRY OF METABOLISM (4 credits)**

The course covers the structure-function relationships of proteins, carbohydrates, lipids and nucleotides, with an emphasis on the biochemistry of metabolism and molecules of metabolism. It is primarily intended to prepare students for health-related professional schools. (Spring)

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a grade of C- or better.

**CHEM 4650 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 4650, BIOL 8656, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 4654 must be taken concurrently.

**CHEM 4654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 4654, BIOL 8654, CHEM 8654).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. BIOL 4650 must be taken concurrently with BIOL 4654. CHEM 4650 must be taken concurrently with CHEM 4654.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 4660 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipids, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 4660, BIOL 8666, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654. CHEM 4664 must be taken concurrently (Chemistry courses must have a grade of C- or better)

**CHEM 4664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 4664, BIOL 8664, CHEM 8664).

**Prerequisite(s)/Corequisite(s):** CHEM 4650 and CHEM 4654 or BIOL 4650 and BIOL 4654 with a C- or better. BIOL 4660 must be taken concurrently with BIOL 4664. CHEM 4660 must be taken concurrently with CHEM 4664.

**Distribution:** Writing in the Discipline Sequenced Course

**CHEM 4670 PROTEIN PURIFICATION AND CHARACTERIZATION (2 credits)**

This course is a study of protein biochemistry, protein purification techniques, and characterization strategies with an emphasis on chromatography and crystallography. The course has a significant laboratory component. (Cross-listed with CHEM 8676).

**CHEM 4810 CHEMISTRY INTERNSHIP (1-6 credits)**

Application of chemical skills in a non-academic laboratory or workplace through part-time employment or contracted work; written report required. Grading will be 'S' or 'U' only.

**Prerequisite(s)/Corequisite(s):** Major in Chemistry, CHEM 2260, CHEM 2274, CHEM 2400, CHEM 2404 with a grade of C or better and permission of department chair.

**CHEM 4930 SPECIAL TOPICS IN CHEMISTRY (1-3 credits)**

Selected special topics in chemistry. (Cross-listed with CHEM 8936).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2400 with a grade of C or better. Some topics will require more advanced prerequisites and will be accepted for advanced course work in chemistry.

**CHEM 4950 CHEMISTRY PROJECTS (1 credit)**

Initiation of an independent student research project, and communication of the results.

**Prerequisite(s)/Corequisite(s):** Depends on the project. Generally, junior standing.

**CHEM 4960 CHEMISTRY PROBLEMS (1-3 credits)**

Independent student research and communication of the results in a written report. If NSCI 4960 is taken concurrently, the CHEM 4960 report is replaced by an oral presentation. (Cross-listed with CHEM 8966).

**Prerequisite(s)/Corequisite(s):** CHEM 4950 with a grade of C or better and permission of instructor.

## Chinese (CHIN)

**CHIN 1110 ELEMENTARY MANDARIN CHINESE I (5 credits)**

Elementary Mandarin Chinese I emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, as well as introduces cultural issues from the Chinese speaking world.

**CHIN 1120 ELEMENTARY MANDARIN CHINESE II (5 credits)**

Elementary Mandarin Chinese II emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, and also introduces cultural issues from the Chinese speaking world.

**Prerequisite(s)/Corequisite(s):** CHIN 1110 or CHIN 1000.

## Civil Engineering (CIVE)

**CIVE 112 INTRODUCTION TO CIVIL ENGINEERING (1 credit)**

Introduction to civil engineering as a career by use of case studies; alternate approaches to engineering designs illustrated by use of engineering principles.

**CIVE 130 COMPUTER-AIDED DESIGN (2 credits)**

Use of computer-aided design software to communicate engineering ideas. Specifications, dimensioning, tolerancing, 2- and 3-D model development, topographic mapping, and process layout with environmental, bioprocess, and biomedical emphases.

**Prerequisite(s)/Corequisite(s):** CIVE112, not open to nondegree students

**CIVE 221 GEOMETRIC CONTROL SYSTEMS (3 credits)**

Introduction to the theory and application of mensuration and geometric information processing in civil engineering. Measurement of distance, direction, elevation and location using mechanical, electronic and satellite systems. Collection of field data and error propagation. Elementary geometric data bases for design, construction, operation and control of civil works.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CIVE 252 CONSTRUCTION MATERIALS LAB (1 credit)**

Introduction to ASTM and AASHTO standard procedures used to measure soil and concrete properties; common modifications to soil and concrete mixes are discussed and analyzed.

**Prerequisite(s)/Corequisite(s):** MATH1950 and CNST2510 coreq

**CIVE 310 FLUID MECHANICS (3 credits)**

Fluid statics, equations of continuity, momentum, and energy; dimensional analysis and dynamic similitude. Applications to: flow meters; fluid pumps and turbines; viscous flow and lubrication; flow in closed conduits and open channels. Two-dimensional potential flow.

**Prerequisite(s)/Corequisite(s):** MATH 2350; and MENG 3730 or EMEC 3730.

**CIVE 319 HYDRAULICS LAB (1 credit)**

Hydraulic experiments and demonstrations. Velocity, pressure and flow measurements; pipe flow, open channel flow; hydraulic structures and machinery, hydrologic and sediment measurement and student projects.

**Prerequisite(s)/Corequisite(s):** CIVE310 pre/coreq

**CIVE 326 INTRODUCTION TO ENVIRONMENTAL ENGINEERING (3 credits)**

Introduction to the principles of environmental engineering, including water quality, atmospheric quality, pollution prevention, and solid and hazardous wastes engineering. Design of water, air, and waste management systems.

**Prerequisite(s)/Corequisite(s):** MATH 2350, and CHEM 1180 and CHEM 1184, or CHEM 1190 and CHEM 1194

**CIVE 327 ENVIRONMENTAL ENGINEERING LABORATORY (1 credit)**

Environmental engineering experiments, demonstrations, field trips, and projects. Experiments include the measurement and determination of environmental quality parameters such as solids, dissolved oxygen, biochemical and chemical oxygen demand, and alkalinity.

**Prerequisite(s)/Corequisite(s):** Pre or Coreq: CIVE 326.

**CIVE 328 CONCRETE MATERIALS (2 credits)**

Physical properties of cement and concrete. Sampling, testing, inspection. Design of mixtures. Factors affecting strength. Specifications. Building forms and placing concrete.

**Prerequisite(s)/Corequisite(s):** MENG 2230 and CHEM 1180. Not open to non-degree graduate students.

**CIVE 334 INTRODUCTION TO GEOTECHNICAL ENGINEERING (4 credits)**

Soil composition, structure and phase relationships; soil classification. Principles of effective stress; loading induced subsurface stresses; load history; deformation and failure of soils. Elastic and limit analysis with applications to design for bearing capacity, settlement, retaining walls and slope stability. Steady state seepage.

**Prerequisite(s)/Corequisite(s):** EMEC 3250 or MENG 3250; Coreq: CIVE 310.

**CIVE 341 INTRODUCTION TO STRUCTURAL ENGINEERING (4 credits)**

Introduction to the analysis and design of structural systems. Introduction to the analysis and design of structural systems. Analyses of determinate and indeterminate trusses, beams, and frames, and design philosophies for structural engineering. Laboratory experiments deal with the analysis of determinate and indeterminate structures.

**Prerequisite(s)/Corequisite(s):** MENG 3250

**CIVE 352 INTRODUCTION TO WATER RESOURCES ENGINEERING (3 credits)**

Introduction to water resources engineering design and planning, surface hydrology, groundwater hydraulics, reservoirs and other control structures. Introduction to field measurement and computational methods in water resources.

**Prerequisite(s)/Corequisite(s):** CIVE310 or MENG3100

**CIVE 361 HIGHWAY ENGINEERING (3 credits)**

Introduction to the principles of highway engineering and traffic operations and control.

**Prerequisite(s)/Corequisite(s):** MENG 2230; and CIVE 221 or CONE 2210.

**CIVE 378 MATERIALS OF CONSTRUCTION (3 credits)**

Introduction to the behavior, testing and design of soil, portland cement concrete, steel, wood and composites. Experiments covering the concepts of stress and strain under axial, torsional, shear and flexural loading conditions. Common ASTM laboratory test procedures and specifications, field quality control tests and statistical applications.

**Prerequisite(s)/Corequisite(s):** MENG 3250

**CIVE 385 PROFESSIONAL PRACTICE AND MANAGEMENT IN CIVIL ENGINEERING (3 credits)**

Basic elements of civil engineering practice. Roles of all participants in the process-owners, designers, architects, contractors, and suppliers.

Basic concepts in business management, public policy, leadership, and professional licensure. Professional relations, civic responsibilities, and ethical obligations for engineering practice. Project management, contracts, allocation of resources, project estimating, planning, and controls.

**Prerequisite(s)/Corequisite(s):** Junior standing and CIVE major. Not open to non-degree graduate students.

**CIVE 419 FLOW SYSTEMS DESIGN (3 credits)**

Application of hydraulic principles to the design of water distribution systems, wastewater and stormwater collection systems, channelized flow systems and treatment facilities. (Cross-listed with CIVE 819)

**Prerequisite(s)/Corequisite(s):** CIVE 326 or CIVE 327; CIVE 352 coreq.

**CIVE 421 HAZARDOUS WASTE MANAGEMENT AND TREATMENT (3 credits)**

Survey of the hazardous waste management system in the USA. State and federal hazardous waste regulations. Chemical characteristics of hazardous waste and unit operations and processes used for treatment of soil, water, and air. (Cross-listed with CIVE 821).

**Prerequisite(s)/Corequisite(s):** CIVE 326.

**CIVE 422 POLLUTION PREVENTION: PRINCIPLES AND PRACTICES (3 credits)**

Introduction to pollution prevention (P2) and waste minimization methods. Practical applications to small businesses and industries. Legislative and historical development of P2 systems analysis, waste estimation, P2 methods, P2 economics, and sources of P2 information. (Cross-listed with CIVE 822).

**Prerequisite(s)/Corequisite(s):** Permission

**CIVE 424 SOLID WASTE MANAGEMENT ENGINEERING (3 credits)**

Planning design and operation of solid and waste collection processing, treatment, and disposal systems including materials, resources and energy recovery systems. (Cross-listed with CIVE 824).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 334

**CIVE 425 PROCESS DESIGN IN WATER SUPPLY AND WASTEWATER TREATMENT (3 credits)**

Design of unit operations and processes associated with drinking water and wastewater treatment facilities.

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 310

**CIVE 426 DESIGN OF WATER TREATMENT FACILITIES (3 credits)**

Analyses of water supplies and design of water treatment and distribution systems. (Cross-listed with CIVE 826).

**Prerequisite(s)/Corequisite(s):** CIVE425

**CIVE 427 DESIGN OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES (3 credits)**

Analysis of systems for wastewater treatment and disposal. (Cross-listed with CIVE 827).

**Prerequisite(s)/Corequisite(s):** CIVE 425

**CIVE 430 FUNDAMENTALS OF WATER QUALITY MODELING (3 credits)**

Comprehensive study of water quality and the effects of various water pollutants on the aquatic environment; modeling of water quality variables. (Cross-listed with CIVE 830).

**Prerequisite(s)/Corequisite(s):** CIVE 326

**CIVE 431 SMALL TREATMENT SYSTEMS (3 credits)**

Design of small and decentralized waste water management systems. (Cross-listed with CIVE 831.)

**Prerequisite(s)/Corequisite(s):** CIVE 326 or permission. Not open to non-degree graduate students.

**CIVE 432 BIOREMEDIATION OF HAZARDOUS WASTES (3 credits)**

Principles, applications, and limitations of bioremediation of hazardous wastes and design of some bioremediation systems.

**Prerequisite(s)/Corequisite(s):** CIVE 326 and (CIVE 310 or MENG 3100)

**CIVE 434 SOIL MECHANICS II (3 credits)**

Application of the effective stress principle to shear strength of cohesive soils; analysis of stability of slopes. Development of continuum relationships for soils; solutions for stresses and displacements for an elastic continuum. Solution of the consolidation equation for various initial and boundary conditions.

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 436 FOUNDATION ENGINEER (3 credits)**

Subsoil exploration and interpretation; selection of foundation systems; determination of allowable bearing capacity and settlement; design of deep foundations; pile driving analysis; control of groundwater.

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 439 INTRODUCTION TO BRIDGE ENGINEERING (3 credits)**

Structural types, bridge loads, design of bridge slabs, steel girder bridges, and prestressed concrete girder bridges. Evaluation of existing bridges. Problems related to fatigue and corrosion. Field testing of bridges. (Cross-listed with CIVE839)

**Prerequisite(s)/Corequisite(s):** CIVE440 or CIVE441 or CIVE840

**CIVE 440 REINFORCED CONCRETE DESIGN I (3 credits)**

Introduction to the design concepts of reinforced concrete building components. The design of flexural and compression members, simple walls, foundations, and floor systems using the latest American Concrete Institute (ACI) design requirements.

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CIVE 441 STEEL DESIGN I (3 credits)**

Introduction to the design concepts for structural steel building components. Design of tension members, bolted and welded connections, column members, and beam members. Limit states design concepts used throughout, and emphasis on behavior of members and code design procedures.

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CIVE 443 ADVANCED STRUCTURAL ANALYSIS (3 credits)**

Matrix analysis methods and computer solutions for indeterminate structures. Additional topics: static condensation, shear deformations, and non-prismatic members in matrix-based analyses, moment distribution method, load cases and load combinations for buildings and bridges, and influence lines and analysis for moving loads. (Cross-listed with CIVE 843)

**Prerequisite(s)/Corequisite(s):** CIVE 341. Not open to non-degree graduate students.

**CIVE 444 STRUCTURAL DESIGN AND PLANNING (3 credits)**

Principles of design of steel and reinforced concrete structural building systems, planning of building vertical and horizontal load resisting systems, and bridge systems. Several design projects involve indeterminate analysis and design concepts for both steel and reinforced concrete. (Cross-listed with CIVE 844).

**Prerequisite(s)/Corequisite(s):** CIVE 440 and CIVE 441

**CIVE 446 STEEL DESIGN II (3 credits)**

A continuation of the topics covered in CIVE 441. The principles and procedures used in design of steel buildings, design of plate girders, design and analysis of building systems, design and analysis of composite steel-concrete building systems, innovative building systems, and introduction to seismic design of steel buildings. Plate buckling, beam, column, and beam-column design, and frame stability. Introduction to connection design.

**Prerequisite(s)/Corequisite(s):** CIVE 441

**CIVE 447 REINFORCED CONCRETE II (3 credits)**

Shear friction theory, strut-and-tie modeling, anchorage, deflection, slender and bi-axially loaded members, torsion, two-way action and punching shear, and footing design. Excel spreadsheets are developed and used for various design tasks. (Continuation of topics covered in CIVE 440/CIVE 840.) (Cross-listed with CIVE 847).

**Prerequisite(s)/Corequisite(s):** CIVE 440 or CIVE 840

**CIVE 451 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. The finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow. (Cross-listed with CIVE 851)

**CIVE 452 WATER RESOURCES DEVELOPMENT (3 credits)**

Theory and application of systems engineering with emphasis on optimization and simulation techniques for evaluating alternatives in water resources developments related to water supply, flood control, hydroelectric power, drainage, water quality, water distribution, irrigation and water measurement. (Cross-listed with CIVE 852).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 454 HYDRAULIC ENGINEERING (3 credits)**

Fundamentals of hydraulics with applications of mechanics of solids, mechanics of fluids, and engineering economics to the design of hydraulic structures. Continuity, momentum, and energy principles are applied to special problems from various branches of hydraulic engineering. (Cross-listed with CIVE 854).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 455 NONPOINT SOURCE POLLUTION CONTROL ENGINEERING (3 credits)**

Identification, characterization, and assessment of nonpoint source pollutants; transport mechanisms and remediation technologies; design methodologies and case studies. (Cross-listed with CIVE 855).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 352

**CIVE 456 SURFACE WATER HYDROLOGY (3 credits)**

Stochastic analysis of hydrological data and processes including rainfall, runoff, infiltration, temperature, solar radiation, wind, and non-point pollution. Space-time hydrologic modeling with emphasis on the application of techniques in the design of engineering projects. (Cross-listed with CIVE 856).

**Prerequisite(s)/Corequisite(s):** CIVE 352 or permission

**CIVE 458 GROUNDWATER ENGINEERING (3 credits)**

Application of engineering principles to the movement of groundwater. Analysis and design of wells, well fields, and artificial recharge. Analysis of pollutant movement. (Cross-listed with CIVE 858).

**Prerequisite(s)/Corequisite(s):** CIVE 352.

**CIVE 459 RELIABILITY OF STRUCTURES (3 credits)**

Fundamental concepts related to structural reliability, safety measures, load models, resistance models, system reliability, optimum safety levels, and optimization of design codes.

**Prerequisite(s)/Corequisite(s):** CIVE 341.

**CIVE 461 URBAN TRANSPORTATION PLANNING (3 credits)**

Development of urban transportation planning objectives and goals. Data collection procedures, land use and travel forecasting techniques, trip generation, trip distribution, modal choice analysis, and traffic assignment. Site development and traffic impact analysis. (Cross-listed with CIVE 861).

**Prerequisite(s)/Corequisite(s):** CIVE 361

**CIVE 462 HIGHWAY DESIGN (3 credits)**

Design of roadways, intersections, interchanges, parking facilities, and land development site access and circulation. Emphasis on design projects. (Cross-listed with CIVE862)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 463 TRAFFIC ENGINEERING (3 credits)**

Design of signalized intersections, arterial street and network signal systems, and freeway control systems. Emphasis on design projects. (Cross-listed with CIVE863)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 468 AIRPORT PLANNING AND DESIGN (3 credits)**

Planning and design of general aviation and air-carrier airports. Land-side components include vehicle ground access systems, vehicle circulation parking and terminal buildings. Air-side components include aircraft apron-gate area, taxi-way system, runway system and air traffic control facilities and airspace. Emphasis on design projects. (Cross-listed with CIVE868)

**Prerequisite(s)/Corequisite(s):** CIVE 361

**CIVE 471 BITUMINOUS MATERIALS AND MIXTURES (3 credits)**

Understanding of the physical, chemical, geometrical, and mechanical characteristics and practical applications of bituminous materials and mixtures. Fundamental mechanics for elastic and inelastic materials and basic theories associated with mechanical data analyses and designs. Recent advances and significant research outcomes for further discussions. Applications of theories to laboratory and field testing. (Cross-listed with CIVE 871)

**Prerequisite(s)/Corequisite(s):** CIVE 378. Not open to non-degree graduate students.

**CIVE 472 PAVEMENT DESIGN AND EVALUATION (3 credits)**

Thickness design of flexible and rigid pavement systems for highways and airports; design of paving materials; evaluation and strengthening of existing pavements. (Cross-listed with CIVE 872).

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 475 WATER QUALITY STRATEGY (3 credits)**

Holistic approach to the selection and analysis of planning strategies for protecting water quality from nonpoint sources of contamination. Introduction to the use of methods of analyzing the impact of strategies on whole systems and subsystems for selecting strategies; and for evaluating present strategies.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CIVE 476 CONSTRUCTION COST CONTROLS (3 credits)**

Development of cost accounting principles and financial controls appropriate for construction contractors. Includes purchasing policies and procedure, labor and equipment cost reporting techniques, accounting procedures for control of materials and supplies, billing methods, principles of financial reporting and analysis.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and ACCT 2020.

**CIVE 481 COMPUTATIONAL PROBLEM SOLVING IN CIVIL ENGINEERING (3 credits)**

Introduction of numerical methods to solve problems in civil engineering, including finding roots of equations, solving linear algebra equations, optimization, curve fitting, numerical differentiation and integration, and finite difference method. Computational methods in numerical integration, matrix operations and ordinary differential equations as they apply to civil engineering problems. (Cross-listed with CIVE 881)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CIVE 489 SENIOR DESIGN PROJECT (3 credits)**

Requires the formulation and completion of a civil engineering design project. Course provides senior civil engineering students with the opportunity to apply engineering concepts and principles to a comprehensive design project of multiple sub-disciplinary nature. The principal objectives are for students to develop an understanding of the entire life-cycle of civil engineering projects with emphasis on the development of a unified and sustainable design that addresses the client's needs; project team work; strong engineer-client relationships; and effective project communications.

**Prerequisite(s)/Corequisite(s):** Senior standing and CIVE 385

**CIVE 498 SPECIAL TOPICS IN CIVIL ENGINEERING (1-6 credits)**

Special problems, topics, or research in civil engineering. (Cross-listed with CIVE 898).

**Prerequisite(s)/Corequisite(s):** Permission.

## College of Information Science & Technology (CIST)

**CIST 1300 INTRODUCTION TO WEB DEVELOPMENT (3 credits)**

This course will provide students with a practical introduction to web development. By learning the basic skills needed to develop an interactive website, students will develop an understanding of the web development task and an appreciation of the importance of the Internet in both business and academic environments. Specific technical topics to be covered include XHTML, CSS, the Unix/Linux operating system, web server software, and a programming language. As part of the class, each student will develop a working website.

**Prerequisite(s)/Corequisite(s):** MATH 1120 or MATH 1130 or MATH 1220 (or equivalent) with C- or better, or permission of the instructor

**CIST 1400 INTRODUCTION TO COMPUTER SCIENCE I (3 credits)**

An introduction to programming within the context of a high level modern programming language. Coverage of fundamental programming concepts and program design; including arrays, user defined types, and objects. This course has a required laboratory component; students must register for a laboratory section when enrolling in lecture.

**Prerequisite(s)/Corequisite(s):** MATH 1320, and either CSCI 1200 or CSCI 1280 or CIST 1300 with C- or better, or permission of the instructor

**CIST 1510 CULTURE AND HISTORY OF VIDEO GAMES (3 credits)**

This course is an overview of the history of video gaming; its evolution, genres, and how games and gaming relate to their audience and the world in which we live. Topics include Project Management, HCI, GUI Design, Pattern Language(s), game design, console evolution, gaming/industry milestones, gaming cultures and subcultures, and the profound impact gaming has had on life in the modern world.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CIST 1600 INTRODUCTION TO PROGRAMMING USING PRACTICAL SCRIPTING (3 credits)**

Practical scripting is an introductory course using a script programming language. The course covers fundamental programming concepts and program design such as data types, condition and control statements, and managing program complexity. The focus of the course is on practical applications of programming in other academic areas, such as automation of tasks, and data visualization.

**Prerequisite(s)/Corequisite(s):** Not intended for students who have completed CIST 1400 and CSCI 1620

**CIST 1940 INTRODUCTION TO FUNCTIONAL PROGRAMMING (3 credits)**

This course provides an introduction to the functional programming language SML. Topics covered are beneficial for a number of courses in the CSCI curriculum including CSCI 2030, CSCI 3660, and CSCI 4220.

**CIST 2100 ORGANIZATIONS, APPLICATIONS AND TECHNOLOGY (3 credits)**

This survey course provides an introduction to organizations and the role information and information systems play in supporting operations, decision-making, processes, quality management, and strategic activities of an organization. In addition, the course covers management of the IS function, strategic and regulatory issues of telecommunications, and ethical and legal issues.

**Prerequisite(s)/Corequisite(s):** Sophomore standing, or permission of the instructor.

**Distribution:** Social Science General Education course

**CIST 2500 INTRODUCTION TO APPLIED STATISTICS FOR IS&T (3 credits)**

The course emphasizes the function of statistics in information science and technology including topics such as descriptive statistical measures, probability discrete probability, sampling, estimation analysis, hypothesis testing, regression, and analysis of variance. A well-known computer package will be used to support the problem-solving process.

**Prerequisite(s)/Corequisite(s):** MATH 1220 or permission of an instructor

**CIST 3000 ADVANCED COMPOSITION FOR IS&T (3 credits)**

Advanced Composition for IS&T provides students with instruction and practice in academic writing for the technical sciences. The course focuses on principles of rhetoric and composition, advanced library-based research techniques, academic modes of writing suited to the technical sciences, style, grammar, and punctuation, all with attention to adapting writing to suit the needs of various academic and professional audiences.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 (or placement in a 3rd year writing course) and junior standing, or permission of the instructor. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**CIST 3110 INFORMATION TECHNOLOGY ETHICS (3 credits)**

The course will cover the development and need for issues regarding privacy and the application of computer ethics to information technology.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 or placement in a second or third-year writing class, and sophomore standing

**Distribution:** Humanities and Fine Arts General Education course

**CIST 3600 INFORMATION SECURITY, POLICY AND AWARENESS (3 credits)**

This course will cover the planning and development for information governance, security policies and procedures, and security awareness. (Cross-listed with CYBR 3600)

**Prerequisite(s)/Corequisite(s):** CIST 2100; CIST 3110, which may be taken concurrently.

**CIST 4540 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CYBR 4540, CYBR 8546, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CIST 4910 SYSTEMS DEVELOPMENT IN OPEN SOURCE COMMUNITIES (3 credits)**

This course will expose students to systems development in open source communities. The course will engage existing open source communities in the advancement of open source code, tooling, processes, and methodologies.

**Prerequisite(s)/Corequisite(s):** CIST 1400, CIST 2100, and CSCI 1620

## Communication Disorders (CDIS)

**CDIS 1400 INTRODUCTION TO COMMUNICATION DISORDERS (3 credits)**

This course is designed to introduce the candidate to the fields of speech-language pathology, audiology, and education of the deaf/hard of hearing. The course is an overview of normal development of speech, language, and hearing, and the disorders of human communication in children and adults.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**CDIS 3200 WRITING FOR THE PROFESSION OF SPEECH-LANGUAGE PATHOLOGY (3 credits)**

This course provides candidates with instruction and practice in professional and scientific writing in the area of communication disorders. The focus is on principles of composition and modes of writing suited to scientific and clinical demands. Participants will learn to adapt writing for the needs of various academic and professional audiences including the ethical implications. Professional and evidence-based writing are essential functions for dedicated practitioners, reflective scholars and responsible citizens working in school, medical, and university settings.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and SPTH or SPED major

**Distribution:** Writing in the Discipline Single Course

**CDIS 4330 AURAL REHABILITATION (3 credits)**

This course examines the processes and procedures in determining the aural rehabilitation needs of individuals with hearing loss (children through adult) and developing effective intervention programs.

**Prerequisite(s)/Corequisite(s):** SPED 4370/CDIS 4370 and GPA 3.0 or higher, or permission by instructor for D/HH majors

**CDIS 4370 BASIC AUDIOLOGY (3 credits)**

The purposes of Basic Audiology are twofold: first, to acquaint the student with fundamental knowledge in the area of audiology so that he or she will be able to understand and to discuss basic hearing testing with an audiologist and to be able to read and understand written reports of audiological testing. The second purpose is to provide a broad theoretical background in audition, acoustics, sound and its measurement, hearing loss, and pathologies of the auditory system. This theoretical background will prepare the student for the more advanced concepts and clinical work that form the core of the graduate courses of Audiology.

**Prerequisite(s)/Corequisite(s):** Minimum 3.0 GPA and CDIS 4390

**CDIS 4380 ANATOMY AND PHYSIOLOGY (3 credits)**

This course introduces candidates to the field of speech science. It examines the anatomy and physiology of the human communication process. The mechanisms of respiration, phonation, resonance, speech articulation, and basic neurology will be explored from the biological standpoint.

**Prerequisite(s)/Corequisite(s):** Minimum 3.0 GPA

**CDIS 4390 HEARING SCIENCE (3 credits)**

This course is designed for undergraduate majors in speech-language pathology and audiology and for graduate candidates in education of the deaf/hard of hearing. The course will include basic terminology, anatomy and physiology of the hearing mechanism, acoustics and physics of sound, the processes of human hearing, elements of basic hearing measurements, psychophysics. This course will prepare speech-language pathology candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with CDIS 8396).

**Prerequisite(s)/Corequisite(s):** 2.8 GPA and SPTH major

**CDIS 4420 EARLY LANGUAGE DEVELOPMENT IN CHILDREN (3 credits)**

This course is designed to introduce the candidate to the typical development of language in young children. Theories of development and the major developmental processes, which occur during the early childhood years, will be presented.

**Prerequisite(s)/Corequisite(s):** Overall GPA of 3.0. Not open to non-degree graduate students.

**CDIS 4430 ARTICULATION AND PHONOLOGICAL DISORDERS (3 credits)**

The purpose of the course is to introduce candidates to the study of the disorders of articulation and of phonological patterns. The course will include the study of normal phonological development and typical acquisition of speech sounds in addition to the study of phonological simplification patterns and disordered articulation. This course will prepare pre-service speech-language pathology students as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. Functional and organic parameters will be discussed including etiology, characteristics, assessment tools and techniques, therapeutic intervention, and service delivery models. The availability and effects of technology tools in the areas of assessment and intervention will be discussed. The role of the speech language pathologist in addressing cultural, professional, and ethical issues will be included.

**Prerequisite(s)/Corequisite(s):** Minimum 3.00 GPA; SPED 4450/CDIS 4450. This course is designed for undergraduate candidates majoring in speech-language pathology.

**CDIS 4450 PHONETICS (3 credits)**

The course covers basic theories of phonetics and experience in the application and use of the IPA. It also addresses the use of phonetics in the assessment process. Candidates learn about one aspect of their career that will lead to their becoming dedicated professionals, reflective scholars, and responsible citizens.

**Prerequisite(s)/Corequisite(s):** This course is designed for candidates majoring in speech-language pathology.

**CDIS 4460 LATER LANGUAGE DEVELOPMENT IN CHILDREN (3 credits)**

This course is designed to introduce the student to the normal development of speech and language in children beyond five years of age. Theories of development and the major developmental processes which occur during school age and adolescent years will be presented. The relationship of language to academic performance and learning processes will be included.

**Prerequisite(s)/Corequisite(s):** Admission to the Pre-Professional Speech-Language Pathology program and SPED 4420/CDIS 4420

**CDIS 4470 NEUROPHYSIOLOGY OF SPEECH AND LANGUAGE (3 credits)**

The purpose of this course is to provide speech-language pathology undergraduate students an introduction to human neuroanatomy and neurophysiology of the speech, language and hearing mechanisms, across the lifespan. Emphasis is placed on developing an understanding of the neurophysiological underpinnings of human communication and its disorders.

**Prerequisite(s)/Corequisite(s):** Undergraduate standing, speech-language pathology majors only, and SPED 4380/CDIS 4380 or equivalency. Not open to non-degree graduate students.

**CDIS 4480 RESEARCH METHODS IN COMMUNICATION DISORDERS (3 credits)**

This course will provide candidates with an introductory set of skills to interpret and evaluate research in communication disorders and closely related fields. In addition, this course will provide candidates with basic knowledge regarding research designs and analyses commonly used in communication disorders and related fields. The content addressed in this course will prepare candidates to judiciously evaluate evidence-based practice and apply the scientific method to clinical decision-making. It offers an opportunity to cultivate critical thinking skills imperative to becoming dedicated practitioners, reflective scholars, and responsible citizens who can adeptly meet the ever-evolving challenges of their profession.

**Prerequisite(s)/Corequisite(s):** This course is designed for graduate and undergraduate students majoring in speech-language pathology and is a required course for speech-language pathology candidates.

**CDIS 4490 INTRODUCTION TO PROFESSIONAL PRACTICES (3 credits)**

This course is designed to precede the candidates' first practicum experiences. Candidates will learn about issues affecting their roles and responsibilities as speech-language pathologists. Information about state and national certification, licensure and professional organizations, professional ethics, philosophical bases and professional practice patterns regarding the assessment process in speech-language pathology, and counseling parents in prevention of speech/language disorders is central to the course. Candidates will develop an understanding of how cultural/ethnic diversity affects the assessment process and learn how to identify speech/language differences vs. disorders.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CDIS 4500 PRINCIPLES OF ASSESSMENT AND INTERVENTION (3 credits)**

The purpose of the course is to examine the various aspects of the profession of speech-language pathology as related to scope of practice, prescriptive methodology, models of assessment and service delivery and the selection and use of clinically-oriented technology and materials. Accountability (documentation, data collection, report writing, and service plans), multi/inter-disciplinary team membership, case selection and referral processes will also be examined. This course will provide the students with the knowledge and skills to implement appropriate assessment procedures and create an effective learning environment for each individual client.

**Prerequisite(s)/Corequisite(s):** SPED 4490/CDIS 4490

**CDIS 4510 BASIC CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY (3 credits)**

This course is the entry level clinical course for undergraduate candidates majoring in Speech-Language Pathology. Candidates are offered their first opportunity to apply theoretical knowledge in a hands-on clinical experience under the direct supervision of licensed and certified speech-language pathologists.

**Prerequisite(s)/Corequisite(s):** SPED 4490/CDIS 4490, overall 3.0 GPA in major, Senior standing, Speech-Language Pathology Major, Permission from program faculty. Not open to non-degree graduate students.

**CDIS 4550 CULTURAL COMPETENCE IN SERVICE DELIVERY (3 credits)**

The purpose of this course is to study the impact of cultural and linguistic diversity on communication, learning, and behavior. The contrast between what is considered typical language development and in the presence of culturally and linguistically diverse populations.

**CDIS 4750 INTRODUCTION TO CHILDHOOD LANGUAGE DISORDERS (3 credits)**

This course is designed to introduce the candidate to the theory and clinical practices related to assessment and management of language disorders in children and adolescents. It will cover specific strategies for identifying language disorders and evidence-based approaches to the management of language disorders, including data collection strategies and methods of evaluating efficacy of intervention.

**Prerequisite(s)/Corequisite(s):** SPED 4420/CDIS 4420 and SPED 4460/CDIS 4460. Not open to non-degree graduate students.

## Communication Studies (CMST)

**CMST 1000 PUBLIC SPEAKING ANXIETY: CONQUER IT (1 credit)**

This course will provide you with the practical techniques needed to reduce public speaking anxiety. You will learn the causes, bases, effects, and techniques to help you conquer public speaking anxiety while taking or before taking a public speaking class or before giving a presentation at any level for any major.

**CMST 1110 PUBLIC SPEAKING FUNDS (3 credits)**

Public Speaking Fundamentals helps students become effective public speakers, as well as critical listeners and evaluators of public communication. Students will learn the principles of audience adaptation, topic selection, organization, development of ideas and presentation of speeches. Each student will design and present a minimum of four public speeches. (Special 'Speaking Confidently' sections are available for the students with excessive levels of fear about public communication. Contact the School of Communication for applications.)

**Distribution:** Fundamental Academic Skills-Public Speaking

**CMST 1310 PERSPECTIVES IN COMMUNICATION STUDIES (3 credits)**

This course surveys concepts in the dynamic field of speech communication. Students will examine how communication practices shape our worldviews and our relationships in both private and public contexts. This course emphasizes concepts including, but not limited to: a) interpersonal relationships, b) organizational communication & employee relations, c) public & political communication, d) communication technology & human relationships, e) culture & communication, f) health communication, g) communication training & instructional development and h) conflict resolution. Students will also have the opportunity to be informed about possible careers in speech communication.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree graduate students

**Distribution:** Social Science General Education course

**CMST 2010 INTERPERSONAL COMMUNICATION (3 credits)**

This course is an introduction to the study of interpersonal communication. Within this course, students will be introduced to the theories, research, and concepts relevant to interpersonal communication and will be given opportunities to develop and enhance their own communication skills.

**Distribution:** Social Science General Education course

**CMST 2100 INTRODUCTION TO COMMUNICATION THEORY (3 credits)**

Communication Theory is an undergraduate course designed to introduce students to the major foundational theories that inform the field of communication. Special emphasis is placed on communication theories that examine the self, the message, relationship development, groups and organizations, the public and the media, as well as culture and diversity. Skills learned in this course are necessary foundations for the upper-level communication courses as well as the Communication Studies capstone course.

**CMST 2120 ARGUMENTATION AND DEBATE (3 credits)**

Theory and practice of effective argumentation and debate. Students will participate in a variety of speaking activities involving the application of argumentation principles to current political and social issues.

**Distribution:** Fundamental Academic Skills-Public Speaking

**CMST 2410 SMALL GROUP COMMUNICATION AND LEADERSHIP (3 credits)**

This course is an introduction to the theory and practice of communication and leadership within small group settings. This course will provide students with broad knowledge about small group communication processes.

**Distribution:** Social Science General Education course

**CMST 2420 PARLIAMENTARY PROCEDURE AND MEETING MANAGEMENT (2 credits)**

Theory and practice of parliamentary procedure; forming organizations and drawing up constitutions and by-laws.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120. Not open to non-degree graduate students.

**CMST 3100 PRESENTATION & INTERVIEW ANXIETY REDUCTION TECHNIQUES (3 credits)**

This course will provide you with the knowledge and practice of techniques related to reducing presentational speaking and interview anxieties. You will learn the causes, bases, measurement, correlates, effects, and treatment techniques for those who experience communication anxieties, especially related to giving a speech or preparing for an interview. Then you will develop a plan and execute the plan to reduce your presentation and interview anxieties.

**Prerequisite(s)/Corequisite(s):** A minimum cumulative GPA of 2.25 and CMST 1110 or 2120 and Junior Standing

**CMST 3120 PERSUASIVE SPEAKING (3 credits)**

This course explores persuasive public speaking and helps students learn to create messages of influence. Students will engage in audience analysis, organization, language choices, presentational slide development, delivery, and evaluation with an emphasis on effective use of persuasion speaking methodologies.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120 (or SPCH 1110 or SPCH 2120); and minimum cumulative GPA of 2.25

**CMST 3130 SPEECH COMMUNICATION IN BUSINESS AND THE PROFESSIONS (3 credits)**

This course is designed to introduce students to the important and varied role communication plays in the workplace and other professional settings. The course emphasizes informative and persuasive communication principles and practices in one-to-many presentational situations as well as group communication and interviewing.

**Prerequisite(s)/Corequisite(s):** Junior standing and CMST 1110 or 2120 or SPCH 1110 or 2120; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 3140 ADVANCED PUBLIC SPEAKING (3 credits)**

This course covers the techniques, theory, and practice in the composition and presentation of public speeches.

**Prerequisite(s)/Corequisite(s):** CMST 1110 or CMST 2120 (or SPCH 1110 or SPCH 2120); and a minimum cumulative GPA of 2.25.

**CMST 3150 INTERCOLLEGIATE FORENSIC ACTIVITIES (1-3 credits)**

For those communication, pre-law, and other interested students who desire to participate in intercollegiate debate and forensics (informative, persuasive, impromptu, extemporaneous, and after-dinner speaking; oral interpretation, solo and or duet acting, rhetorical criticism, and discussion).

**Prerequisite(s)/Corequisite(s):** Permission of the Director of Forensics only

**CMST 3160 INTERCOLLEG FORENSIC ACTVTS (1-3 credits)**

For those communication, pre-law, and other interested students who desire to participate in intercollegiate debate and forensics (informative, persuasive, impromptu, extemporaneous, and after-dinner speaking; oral interpretation, solo and or duet acting, rhetorical criticism, and discussion).

**Prerequisite(s)/Corequisite(s):** Permission of the Director of Forensics only

**CMST 3510 CULTURAL COMMUNICATION IN AFRICAN-AMERICAN CINEMA (3 credits)**

This course examines ways in which cultural identity is communicated through African-American cinema, defined as movies with predominantly African American filmmakers, producers, and/or actors. Cultural communication is integrated with historical, political, and social motivation for African-American cinema. (Cross-listed with BLST 3510)

**Prerequisite(s)/Corequisite(s):** Sophomore standing and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**CMST 3520 INTERVIEWING (3 credits)**

This course is a practical course that focuses on various types of interview performances. The course will explore interview types such as probing/journalistic, survey, recruiting/employment, performance, counseling, and persuasive

**Prerequisite(s)/Corequisite(s):** SPCH 1110 or SPCH 2120 or CMST 1110 or CMST 2120; sophomore standing; a minimum cumulative GPA of 2.25.

**CMST 3600 SPECIAL TOPICS IN COMMUNICATION STUDIES (3 credits)**

A variable topic course in communication studies at the Junior level. Topics to be covered may include but are not limited to: marital and family communication, instructional communication, organizational communication, intercultural communication, conflict, relational communication, communication competence, health communication, communication research or theory, communication and gender, social movements, political communication, listening, communication and the aged, etc. (May be repeated for credit as long as the topic is not the same.)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor; a minimum cumulative GPA of 2.25.

**CMST 3750 GENDER AND COMMUNICATION (3 credits)**

This course provides a survey of literature on communication about, by, and between women and men in society, personal relationships, and organizations. Students develop an understanding of how cultural meanings of gender both shape and are shaped by communication. (Cross-listed with WGST 3750).

**Prerequisite(s)/Corequisite(s):** Junior standing; minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**CMST 4110 RHETORICAL THEORY AND CRITICISM (3 credits)**

Rhetorical theory and criticism, emphasizing ways of evaluating oral communication. (Cross-listed with CMST 8116)

**Prerequisite(s)/Corequisite(s):** Junior standing and (Journalism/Media Communication major or Communication Studies major)

**CMST 4120 COMMUNICATION AND SOCIAL PROTEST (3 credits)**

This class will examine the role played by communication in movements for social change in contemporary society. We will examine social movements which rely on speeches (i.e. women's rights movements), social movements which rely on the grassroots political efforts of their members (i.e. the environmental rights movement) and the overall strategies of persuasion utilized in movements which seek social change, including emerging communication technologies. (Cross-listed with CMST 8126)

**Prerequisite(s)/Corequisite(s):** Junior Standing; 2.25 GPA

**CMST 4130 FAMILY COMMUNICATION (3 credits)**

This course emphasizes the role of communication in family relationships. Theories, models, and research methods will be used to examine the family in various cultures and contexts (e.g., nuclear families, single-parent families, and blended families). Topics that will be covered in this course include: family conflict, family roles, family stories, family stress, family well-being, genograms, marriage, and divorce. (Cross-listed with CMST 8136)

**Prerequisite(s)/Corequisite(s):** The prerequisite for the course is junior standing, and CMST 2010 or CMST 2410; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4140 COMMUNICATION AND HUMAN RELATIONSHIPS (3 credits)**

This course applies theories of interpersonal processes and communication principles to the study of close, significant and personal human relationships. Discussion focuses on the communication in different types of relationships and relational stages, e.g., strangers, acquaintances, friendships and intimates. (Cross-listed with CMST 8146)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4150 CORPORATE TRAINING AND DEVELOPMENT (3 credits)**

This course introduces students to the process of designing communication training programs and workshops for a variety of professional settings. It provides students, especially those who are prospective trainers and/or consultants, with experiential and cognitive knowledge about needs assessment, adult learning, communication training research, objectives writing, module design, interactive delivery methods and program evaluation. (Cross-listed with CMST 8156)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4160 COMMUNICATION FOR INSTRUCTIONAL SETTINGS (3 credits)**

This course is designed to help prospective instructors and/or trainers understand and apply the principles of communication in instructional settings (i.e., classrooms, workshops, training programs). It introduces students to the research area in the speech communication discipline called 'Instructional Communication' by covering these five units:

1) Communication Strategies, Objectives, & Content; 2) Student Communication Needs & Expectations; 3) Feedback, Reinforcement, & Discussion; 4) Context, Climate, & Influence; and 5) Teacher Communicator Style, Characteristics, & Behaviors. (Cross-listed with CMST 8166)

**Prerequisite(s)/Corequisite(s):** Junior standing, and CMST 2010 or CMST 2410 (or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25.

**CMST 4170 ORGANIZATIONAL COMMUNICATION (3 credits)**

This course will help students understand organizational communication theories, models, and processes; apply these principles in organizational communication speaking exercises; and learn management and leadership skills. (Cross-listed with CMST 8176)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4180 COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS (3 credits)**

This course provides theoretical and experiential knowledge about such topics as communication leadership styles and tactics, superior and subordinate interactions, power, ethical responsibilities, and diversity gender issues related to communication leadership. (Cross-listed with CMST 8186)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4190 COMPUTER-MEDIATED COMMUNICATION (3 credits)**

Computer Mediated Communication addressing emerging issues of virtual communities, identity, civic life and participation, online relationships, collaborative work environments, digital networks, gender race class issues, legal and ethical considerations of technology, and commodification of mediated communication. (Cross-listed with CMST 8196)

**Prerequisite(s)/Corequisite(s):** CMST 1110 (or SPCH 1110) and Junior standing; a minimum cumulative GPA of 2.25.

**CMST 4220 HEALTH COMMUNICATION (3 credits)**

This course introduces students to the interdisciplinary field of health communication. In this course, students will learn various theories of health communication as well as current research and trends in health communication and its related fields. To speak to the complexity and dynamism of health communication, this course will expose students to the multiple voices and perspectives involved in the delivery of health and healthcare. (Cross-listed with CMST 8226)

**Prerequisite(s)/Corequisite(s):** Junior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4510 PERSUASION AND SOCIAL INFLUENCE (3 credits)**

The primary goal of this course is to provide students with a solid grounding in theories, principles, and strategies of persuasion social influence as they apply to everyday contexts in which influence attempts take place. Students should gain familiarity with findings from empirical investigations on persuasion, social influence, and compliance gaining, and will learn about strategies and techniques of persuasion relating. (Cross-listed with CMST 8516)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4520 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds (Cross-listed with CMST 8526.)

**Prerequisite(s)/Corequisite(s):** Senior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4530 INTERCULTURAL COMMUNICATION-US (3 credits)**

This course will provide a foundation that leads to Intercultural Communication competence. Specifically, this course is to introduce the concepts of cross-cultural communication. Theory and research are integrated with application and necessary skills are identified and developed. (Cross-listed with CMST 8536)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**CMST 4540 CONTEMPORARY SYSTEMS OF COMMUNICATION (3 credits)**

An adaptation of General Systems Theory concepts to the study of human communication processes with emphasis on systems analysis of contemporary interpersonal communication perspectives. (Cross-listed with CMST 8546)

**Prerequisite(s)/Corequisite(s):** CMST 1110 and three hours of mathematics and three hours of natural sciences; or permission; and a minimum cumulative GPA of 2.25.

**CMST 4550 NONVERBAL COMMUNICATION (3 credits)**

This course is designed to familiarize the student with current knowledge and research about nonverbal communication and to provide a wide variety of practical experiences through which the student can analyze and evaluate his or her own nonverbal behavior and that of others. The course, also, reviews the functions, areas and applied contexts of nonverbal communication. (Cross-listed with CMST 8556)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 2410 or SPCH 2010 or SPCH 2410); and a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 4560 COMMUNICATION, TEAMWORK, & FACILITATION (3 credits)**

This course focuses on the communication practices, process tools, and theory associated with team problem solving, group discussion, facilitation skills, facilitative leadership, meeting management, and training in effective group interaction. (Cross-listed with CMST 8566)

**Prerequisite(s)/Corequisite(s):** A minimum cumulative GPA of 2.25. Not open to nondegree students.

**CMST 4570 INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE (3 credits)**

This course examines the intercultural perspective of organizational communication in a modern global world by focusing on the management of cultural differences in the global workplace. The trend towards a global economy is bringing people of different ethnic and cultural background together. Thus, the development of greater intercultural understanding has become an essential element of global workplace. After taking this course you will be more aware of cultural diversity in an organizational setting and further develop intercultural sensitivity and intercultural competence that will help you adapt to your future organizational life. (Cross-listed with CMST 8576).

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**Distribution:** Global Diversity General Education course

**CMST 4580 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with CMST 8586, BLST 4580, BLST 8586)

**Prerequisite(s)/Corequisite(s):** CMST 4530 or Junior standing or instructor permission; minimum cumulative GPA of 2.25.

**Distribution:** U.S. Diversity General Education course

**CMST 4600 COMMUNICATION THEORY AND APPLICATION (3 credits)**

This course begins by introducing students to two broad categories of theory development - objective and interpretive. Then concepts and assumptions associated with each of these two perspectives are employed to critically evaluate several specific theories that fall within different of the sub-disciplines of the field of communication: interpersonal, group, organizational, mass, public/rhetorical, cultural, and intercultural/gender. Along with critically evaluating and comparing/contrasting different communication theories, emphasis is placed on how the theories can be effectively applied in concrete settings and circumstances. (Cross-listed with CMST 8606)

**Prerequisite(s)/Corequisite(s):** Junior standing; and a minimum cumulative GPA of 2.25.

**CMST 4620 DIRECTING FORENSICS (3 credits)**

To provide students planning to teach speech in high school or college with a philosophy and detailed knowledge of how to direct a forensics program. (Cross-listed with CMST 8626)

**CMST 4700 INTERPERSONAL CONFLICT (3 credits)**

This course provides an overview of interpersonal conflict processes. It examines perspectives on conflict, patterns of constructive and destructive conflict, conflict styles and tactics, interpersonal power, negotiation strategies, conflict assessment, and conflict skill development. (Cross-listed with CMST 8706)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or SPCH 2010); and a minimum cumulative GPA of 2.25.

**CMST 4800 CONFLICT MEDIATION (3 credits)**

This course develops knowledge of mediation theory, research, and practice and communication skills essential to the effective mediation of disputes in various contexts. (Cross-listed with CMST 8806)

**Prerequisite(s)/Corequisite(s):** Junior standing and (CMST 2010 or CMST 3520 or CMST 4700 or SPCH 2010 or SPCH 3520 or SPCH 4700); and a minimum cumulative GPA of 2.25.

**CMST 4940 COMMUNICATION STUDIES CAPSTONE SEMINAR (3 credits)**

Communication Studies Capstone Seminar is an undergraduate course designed to provide students with the opportunity to integrate the knowledge and skills they have acquired as communication majors and to prepare them to enter the job market or graduate school using their speech communication skills and knowledge.

**Prerequisite(s)/Corequisite(s):** Senior standing; minimum cumulative GPA of 2.25 and major in Communication Studies. Not open to non-degree students.

**CMST 4960 INTERNSHIP AND CAREER PREPARATION SEMINAR (1 credit)**

This course will prepare students for doing an internship in a communication-related field by addressing such topics as writing resumes and cover letters, interviewing for jobs, and organizing a professional portfolio of their work. The topics covered also will assist with general career preparation. (Cross-listed with JMC 4960)

**Prerequisite(s)/Corequisite(s):** Sophomore standing; School of Communication major or minor; and minimum cumulative GPA of 2.25.

**CMST 4970 INTERNSHIP EXPERIENCE (1 credit)**

This course will provide students professional communication-related experience in an internship approved and supervised by the School of Communication. (Cross-listed with JMC 4970)

**Prerequisite(s)/Corequisite(s):** JMC 4960, CMST 4960, BRCT 4960, JOUR 4960, or SPCH 4960; junior standing; School of Communication major or minor; instructor permission; and minimum cumulative GPA of 2.25.

**CMST 4980 INDEPENDENT STUDY COMMUNICATION (1-3 credits)**

Specialized studies in communication supplementing regular courses: readings, research, tutorial.

**Prerequisite(s)/Corequisite(s):** Junior standing and Communication Major

**CMST 4990 ADVANCED COMMUNICATION PRACTICUM (1-3 credits)**

Special practicum experience in an area of communication.

**Prerequisite(s)/Corequisite(s):** Junior standing and Communication Major

## Communication, Fine Arts, & Media (CFAM)

**CFAM 1000 INTRODUCTION TO THE ARTS: WHY THE ARTS MATTER (3 credits)**

This course utilizes topical approach that explores various inter-/ multidisciplinary connections between the various units of the College of Communication, Fine Arts, and Media (Communication, Music, Art, Theatre, Creative Writing) and their relationship to the individual, society, and culture. To demonstrate the interconnectedness of the arts in all facets of life, students will create a project on an approved topic that connects at least one art form with their intended major or social justice issue.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

## Community & Regional Planning (CRP)

**CRP 4000 INTRODUCTION TO PLANNING (3 credits)**

The field of community and regional planning is introduced and is studied in relation to the history of cities, urbanization and regionalization. The course explores the origins and evolutions of American urban and regional planning practice. The planning process as a response to social, political, physical, and economic factors is analyzed. The course introduces the community comprehensive planning process, plan implementation, and functional areas of planning. Cross-listed with CRP 8006.

**Prerequisite(s)/Corequisite(s):** Senior.

**CRP 4500 SOCIAL PLANNING & POLICY (3 credits)**

The area of social planning and policy is introduced and studied through a historical presentation of U.S. social welfare policy, an exploration of models utilized by government and human service agencies in the planning of social programs, and an analysis of contemporary social policy issues. Areas to be covered include privatization, universalism vs. selectivity, race and ethnicity, homelessness, and poverty. Cross-listed with CRP-8506.

**Prerequisite(s)/Corequisite(s):** Senior.

**CRP 4600 PLANNING AND DESIGN IN THE BUILT ENVIRONMENT (3 credits)**

The course introduces principles and practices of planning, design, and implementation for multiple-structure built environments. The influences of physical, social, environmental, and economic factors upon planned and designed environments are studied. Various planning and design methods, processes, and products are introduced. Means of project implementation are explored, and examples of existing and proposed projects are studied. (Cross-listed with CRP 8606).

**Prerequisite(s)/Corequisite(s):** Senior.

**CRP 4700 ENVIRONMENTAL PLANNING AND POLICY (3 credits)**

The course introduces environmental planning, including its history and origins. Major environmental issues throughout the world, and the roles of planning in addressing these problems, are discussed. The environmental planning process and environmental legislation are studied. (Cross-listed with CRP 8706).

**Prerequisite(s)/Corequisite(s):** Senior.

**CRP 4800 ECONOMIC DEVELOPMENT AND REGIONAL PLANNING (3 credits)**

This course introduced the theory and principles of economic development planning and regional planning involving multiple jurisdictions. Concepts, analytical approaches, and theories of economic growth of local communities and multijurisdictional regions are introduced. The course includes consideration of local economic development plans for small communities, as well as regional plans for multijurisdictional areas. International perspectives of economic development and regional planning are also discussed. (Cross-listed with CRP 8806).

**Prerequisite(s)/Corequisite(s):** Senior.

**CRP 4970 SELECTED TOPICS, COMMUNITY & REGIONAL PLANNING (1-6 credits)**

Group investigation of a topic in community and regional planning and development. (Cross-listed with CRP 8976).

## Computer Science (CSCI)

**CSCI 1200 COMPUTER SCIENCE PRINCIPLES (3 credits)**

This course introduces students to the foundational principles of computer science. It aims to help students learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. The exercises and projects make use of mobile devices and other emerging platforms.

**Prerequisite(s)/Corequisite(s):** MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better, or permission of the instructor

**Distribution:** Natural/Physical Sci General Education lecture

**CSCI 1204 COMPUTER SCIENCE PRINCIPLES LABORATORY (1 credit)**

This is a laboratory course for students enrolled in CSCI 1200. It consists of programming exercises designed to help students practice computational thinking and apply computational solutions to practical problems. The exercises make use of mobile devices and other emerging platforms.

**Prerequisite(s)/Corequisite(s):** CSCI 1200, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**CSCI 1280 INTRODUCTION TO COMPUTATIONAL SCIENCE (3 credits)**

Introduction to Computational Science explores the role of computer science in scientific inquiry. Through the construction and analysis of block-based visual artifacts (e.g., pixel art and geometric patterns), this course aims to help students learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. When executed, these computer programs produce visual artifacts that can be displayed and interacted with using a variety of tools/software including LEGO Digital Designer, Minecraft, LDraw, 3D Builder, and Virtual Reality systems such as the HTC Vive.

**Prerequisite(s)/Corequisite(s):** Math 1220 (or equivalent)

**Distribution:** Natural/Physical Sci General Education lecture and Natural/Physical Science General Education course

**CSCI 1620 INTRODUCTION TO COMPUTER SCIENCE II (3 credits)**

Advanced topics in programming; topics in data representation and manipulation, data structures, problem solving and algorithm design. This course has a required laboratory component; students must register for a laboratory section when enrolling in lecture.

**Prerequisite(s)/Corequisite(s):** (CIST 1400 with grade of C or better) AND (MATH 1930 or MATH 1950 with grade of C- or better)

**CSCI 2030 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (3 credits)**

This course introduces discrete mathematics concepts that are foundational for the study of computer science such as functions, relations, and sets, basic logic, methods of proof, mathematical induction, computational complexity, recursion, counting, recurrences, and relations.

**Prerequisite(s)/Corequisite(s):** (CIST 1400 with grade of C or better) AND (MATH 1930 or MATH 1950 with grade of C- or better)

**CSCI 2240 INTRODUCTION TO C PROGRAMMING (3 credits)**

Programming in 'C' in a UNIX operating system environment; algorithm and program development and file manipulation using 'C'; UNIX-like utility development.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with grade of C or better

**CSCI 2310 VIDEO GAME DESIGN (3 credits)**

The course will cover game design and theory techniques used by the gaming industry. This course is designed for students who have gone through the introductory programming course and have an interest in what it takes to design current games.

**Prerequisite(s)/Corequisite(s):** CIST 1400 with grade of C or better.

**CSCI 2410 INTRODUCTION TO DATA ANALYTICS USING PYTHON (3 credits)**

This course is an introduction to the basic concepts and principles of data analytics using the Python programming language. The first part of the course covers major Python language topics including procedures and functions, iteration, recursion, arrays and matrices, strings, operational model of procedure and function calls, algorithms, exceptions, object-oriented programming, and file input/output. The coverage of Python language features are aimed mainly at the data analytics studies of this course. The second part of the course emphasizes applying Python and its rich functional libraries and special software packages to data munging, analysis, mining, and visualization, and machine learning techniques including statistical analysis, parameter estimation, regression, classification, predictive modeling construction, etc.

**Prerequisite(s)/Corequisite(s):** (CSCI 1620 with grade of C or better) AND (CIST 2500 or equivalent statistics course with grade of C- or better).

Not open to non-degree graduate students.

**CSCI 2510 INTRODUCTION TO GAME PROGRAMMING (3 credits)**

The course will cover programming and development techniques used in a game programming environment. The course is designed for students who have an interest in game programming to be eased into the concepts in a familiar environment.

**Prerequisite(s)/Corequisite(s):** CSCI 2240 with C- or better. Not open to non-degree graduate students.

**CSCI 2620 2D GRAPHICS: IMAGE PROCESSING (3 credits)**

This class introduces the 2D graphics area of image processing, which takes an image, creates an internal model of the image, modifies it using a computer program, and produces a new image. Specific techniques covered in this course include color spaces, image transformations, edge detection, file formats, object tracking, and background removal.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with grade of C or better

**CSCI 2840 C++ & OBJECT-ORIENTED PROGRAMMING (3 credits)**

C++ and Object Oriented Programming (OOP) is taught in the UNIX environment. Topics include C++ as a 'Better C,' OOP with C++, classes and data abstraction, operator overloading, inheritance, virtual functions and polymorphism, C++ stream I/O.

**Prerequisite(s)/Corequisite(s):** CSCI 2240; High-level programming language like Pascal, Java, or C++; solid understanding of pointers & scope; ability to design & implement solutions to modest problems (with C- or better).

**CSCI 2850 PROGRAMMING ON THE INTERNET (3 credits)**

This course is an introduction to and overview of Internet-based application development focusing on the use of Java, Perl and other server-based programming languages. Software development in the context of the World Wide Web and other Internet services will be emphasized. Internet application development will also be discussed. Other techniques will be covered.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840.

**CSCI 2980 TOPICS IN COMPUTER SCIENCE (3 credits)**

A variable topic course in computer science at the sophomore level. Topics not covered in the computer science degree program, but suitable for sophomore-level students.

**Prerequisite(s)/Corequisite(s):** CSCI 1620. Permission of instructor. Additional prerequisites may be required for particular topic offerings with C- or better.

**CSCI 3100 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with CSCI 8105, MATH 3100, MATH 8105).

**Prerequisite(s)/Corequisite(s):** MATH 2030, MATH 2040, MATH 2230, or CSCI 2030 all with a C- or better. Mathematical logic; Set theory; Relations; Functions; Congruences; Inductive and recursive definitions; Discrete probability; sets, graphs, trees, & matrices

**CSCI 3300 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 8305, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 3320 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 8325)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 2030 or MATH 2030. Programming Languages: Java or C++ Topics: Arrays, Pointers, Introductory Lists, Storage Allocation (with C- or better).

**CSCI 3450 NATURAL LANGUAGE PROCESSING (3 credits)**

The course will provide overview of the topics in natural language processing such as word and sentence tokenization, syntactic parsing, semantic role labeling, text classification. We will discuss fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems. We will touch on such applications of natural language processing technology as information extraction and sentiment analysis. (Cross-listed with CYBR 3450).

**Prerequisite(s)/Corequisite(s):** Prereq: CSCI 2030 with C- or better; Co-req: CSCI 3320 with C- or better; Students should be comfortable w/ scripting (Python is the language extensively used in natural language processing tools including NLTK). Not open to non-degree graduate students.

**CSCI 3470 FUNDAMENTALS AND ALGORITHMS OF MACHINE LEARNING (3 credits)**

This course discusses the fundamentals and algorithms of machine learning and contains both theory and application. Machine learning, as a subset of artificial intelligence, is the scientific study of models that computer systems use to perform a specific task without explicit instructions. Topics in this course will include supervised learning such as Decision Tree, Perceptron, Support Vector Machine, Naive Bayes, and Regression, unsupervised learning such as clustering, dimensionality reduction, kernel methods, learning theory such as bias/variance trade-offs, Generalization and Overfitting and large margins. Other crucial topics will include discussions such as Stacking, Semi-Supervised Learning and Interactive Learning. This course will also discuss a few applications in problem domains such as in computer vision.

**Prerequisite(s)/Corequisite(s):** CSCI 2410 or instructor permission. Not open to non-degree graduate students.

**CSCI 3510 ADVANCED GAME PROGRAMMING (3 credits)**

This course is intended for those with an interest in video game programming. This course introduces the advanced concepts of game programming including 3D programming, game networking, and development of a multiplayer, networked game by learning and using the XNA environment.

**Prerequisite(s)/Corequisite(s):** CSCI 2510 and CSCI 3320 with C- or better, or Instructor permission. Not open to non-degree graduate students.

**CSCI 3550 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 8555).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 3660 THEORY OF COMPUTATION (3 credits)**

The course is intended to introduce the students to the theory of computation in a fashion that emphasizes breadth and away from detailed analysis found in a normal undergraduate automata course. The topics covered in the course include methods of proofs, finite automata, non-determinism, regular expressions, context-free grammars, pushdown automata, no-context free languages, Church-Turing Thesis, decidability, reducibility, and space and time complexity.

**Prerequisite(s)/Corequisite(s):** CSCI 3320

**CSCI 3710 INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION (3 credits)**

The course is intended to introduce the students to the topics found in introductory digital design and computer organization classes.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 (could be taken concurrently)

**CSCI 3830 ADVANCED JAVA PROGRAMMING (3 credits)**

This course teaches students web application development using advanced concepts in the Java programming language. It introduces students to distributed computing models such as the client-server model and how it is implemented in web applications using modern Java technology stacks.

**Prerequisite(s)/Corequisite(s):** (CSCI 1620 with C or better) AND (CSCI 3320 with C- or better (can be taken as a co-requisite)) AND (basic knowledge of HTML and SQL)

**CSCI 3850 FOUNDATIONS OF WEB SEARCH TECHNOLOGIES (3 credits)**

This course provides students a basic understanding of how search and information flow works on the web. Main topics include: document representation, inverted indexing, ranking of web search results, vector-space model, web graph, PageRank, search-based advertising, information cascades, and web crawling.

**Prerequisite(s)/Corequisite(s):** CSCI 2030 and CSCI 2850 with C- or better, or instructor Approval. Not open to non-degree graduate students.

**CSCI 4000 ASSESSMENT (0 credits)**

This course provides various resources to students about to graduate, and provides a mechanism that guarantees these students complete the final assessments required to maintain the currency and quality of the program. It is intended for undergraduate computer science majors in their last semester prior to graduation. It is required for all students entering after the spring 2004 semester. All degree requirements should be completed by the end of the semester during which this course is taken. Students taking this course will be expected to file an application for graduation during the semester.

**Prerequisite(s)/Corequisite(s):** All degree requirements should be completed by the end of the semester during which this course is taken. Students taking this course will be expected to file an application for graduation during the semester. Not open to non-degree graduate students.

**CSCI 4010 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 8016).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 4100 INTRODUCTION TO ALGORITHMS (3 credits)**

The course provides students a basic understanding of algorithm analyses. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, sorting and its lower bounds, dynamic programming, greedy algorithms, and graph traversal.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4150 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 8156, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** CSCI 2030 with a C- or better, or MATH 2030 with a C- or better, or MATH 2230 with a C- or better, or permission of instructor.

**CSCI 4220 PRINCIPLES OF PROGRAMMING LANGUAGES (3 credits)**

This course covers the foundational concepts and principles underlying the design and implementation of programming languages. Language constructs including assignment, equality, references, aggregations, scope, encapsulation, and parameter passing are discussed. A central theme is how a particular language construct relates to the concept of equational reasoning (referential transparency). Formal notations for describing syntax and semantics are presented.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and CSCI 3660 with C- or better.

**CSCI 4250 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 8256).

**Prerequisite(s)/Corequisite(s):** Either CSCI 3320 or ITIN 3330 with a grade of C- or better.

**CSCI 4260 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 8266, ITIN 4260, ITIN 8266).

**Prerequisite(s)/Corequisite(s):** Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ITIN 3330.

**CSCI 4300 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 8306, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 4310 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 8316, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 4350 COMPUTER ARCHITECTURE (3 credits)**

The course deals with: Computer evolution, top view of processor design, cache memory and organization, hierarchical memory design and management, performance metrics, RISC versus CISC architecture, and pipeline computer design and architecture. The course also covers analytic design alternatives as needed.

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320 or CSCI 8325 with C- or better.

**CSCI 4380 DIGITAL FORENSICS (3 credits)**

Digital forensics involves the preservation, identification, extraction, analysis and documentation of digital evidence stored on a variety of electronic devices. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a forensics investigation. Topics include: an introduction to digital forensics, data acquisition, first response, memory forensics, operating system forensics, and network forensics. Students will be required to perform several forensics analyses in a controlled lab environment, including acquiring forensically sound hard drive images, memory images and analyzing these using industry standard tools, such as Forensic Toolkit (FTK). The Digital Forensics class is designed for Cybersecurity, Computer Science and other qualified students to learn what actions are both appropriate and required for preserving, collecting and analyzing digital evidence in cases of intrusion, data theft or other cybercrimes. (Cross-listed with CYBR 4380).

**Prerequisite(s)/Corequisite(s):** The student must take the following before enrolling: CYBR 3600 or CIST 3600, CSCI 3550 or ISQA 3400, CYBR 3370, CYBR 3350. Alternatively, instructor permission can be sought for students who have not met all of the above requirements.

**CSCI 4430 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 8436, CYBR 4430).

**Prerequisite(s)/Corequisite(s):** Co-requisites: CYBR 3570 or CSCI 4560; or Instructor permission.

**CSCI 4440 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchronization constructs; and operating systems for parallel computers. (Cross-listed with CSCI 8446)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 which may be taken concurrently.

**CSCI 4450 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 8456).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4470 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 8476).

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 4480 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 8486).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 4500 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 8506).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 4510 ADVANCED OPERATING SYSTEMS (3 credits)**

State-of-the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500

**CSCI 4560 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 8566, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 4620 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 8626).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320

**CSCI 4660 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation, and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 8666, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 4700 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 8706).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and CSCI 4220 with C- or better. Recommended: CSCI 4500.

**CSCI 4760 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 8766).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 4830 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 8836).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better.

**CSCI 4850 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 8856).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or equivalent with C- or better.

**CSCI 4890 DATA WAREHOUSING AND DATA MINING (3 credits)**

This course provides students with a theoretical foundation and practical methods for designing and constructing data warehouse and implementing data mining. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course gives students an opportunity to undertake a real-life data analysis project. (Cross-listed with ISQA 4890).

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850

**CSCI 4900 INTERNET SYSTEMS DEVELOPMENT (3 credits)**

This course focuses on contemporary techniques and technologies in the design, development, and integration of web-enabled information systems. This is a rapidly moving, hands-on course that mirrors real-world development of internet-based applications.

**Prerequisite(s)/Corequisite(s):** CSCI 1620, CSCI 2850, (recommended) CSCI 3830, CSCI 4830 with C- or better.

**CSCI 4950 INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in non-academic environments such as those found in business, industry and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas. The course is intended primarily for juniors and seniors in computer science.

**Prerequisite(s)/Corequisite(s):** Permission of the computer science program chair.

**CSCI 4970 CAPSTONE PROJECT (3 credits)**

The Capstone Project completes a Computer Science student's undergraduate experience. Students will work on a team-based real-world project, practicing software engineering skills and applying fundamental computer science principles acquired throughout their undergraduate study.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 with C- or better; Senior standing in Computer Science. Not open to non-degree graduate students.

**CSCI 4980 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior level. Topics not normally covered in the computer science degree program, but suitable for senior-level students. (Cross-listed with CSCI 8986).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 4990 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the Computer Science Undergraduate Program Committee at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required. Independent study proposals must be approved by the Undergraduate Program Committee.

## Construction Engineering (CONE)

**CONE 1030 INTRODUCTION TO CONSTRUCTION ENGINEERING (1 credit)**

Introduction to the organization and terminology of construction engineering. Overview of technical and management skills required to succeed in the construction engineering profession.

**CONE 2060 ENGINEERING ECONOMICS (3 credits)**

Introduction to methods of economics comparisons of engineering alternatives: time value of money, depreciation, taxes, concepts of accounting, activity-based costing, ethical principles, civics and stewardship, and the importance to society.

**Prerequisite(s)/Corequisite(s):** Sophomore Standing.

**CONE 2110 CONSTRUCTION BUSINESS METHODS (3 credits)**

Business concepts and practices used by construction contractors. The construction industry, management principles, forms of business ownership, company organization, construction contracts, estimating and bidding, business ethics, bonds and insurance, financial statements, cost accounting, equipment management, planning and scheduling, labor relations and personnel management.

**Prerequisite(s)/Corequisite(s):** CONE 1030 or CNST 1310 or AE 1010

**CONE 2210 GEOMETRIC CONTROL SYSTEMS (3 credits)**

Introduction to the theory and application of mensuration and geometric information processing in civil engineering. Measurement of distance, direction, elevation and location using mechanical, electronic and satellite systems. Collection of field data and error propagation. Elementary geometric data bases for design, construction, operation and control of civil works.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CONE 3190 CONSTRUCTION METHODS AND EQUIPMENT (3 credits)**

Characteristics, capabilities and selection of equipment and methods used in the building construction industry. Estimating job production, equipment production rates, machine operating costs, earth-moving equipment, hoisting equipment, operations analysis, and use of various other construction methods and equipment.

**Prerequisite(s)/Corequisite(s):** CONE 2060

**CONE 3780 CONSTRUCTION ESTIMATING I (3 credits)**

Preparation of detailed cost estimates based on contract documents. Identify and analyze cost components of building and site scopes of work to perform detailed quantity take-offs. Apply labor, material, and equipment pricing from RS Means. Use production rates and quantity takeoffs to prepare a preliminary construction schedule. Complete quantity takeoffs from 2D plans and from 3D BIM software models. (Cross-listed with CNST 3780).

**Prerequisite(s)/Corequisite(s):** CNST 1120.

**CONE 4140 ACCIDENT PREVENTION IN CONSTRUCTION (3 credits)**

Safety practices in the construction industry and the national safety and health standards of the Occupational Safety and Health Administration (OSHA). The theory of accidents; personal attitudes; statistics and environment; accident occurrence; prevention and inspection in connection with the construction of buildings, highways, and associated heavy facilities. Nationally accepted safety codes and their relationship to accepted practices in the industry.

**Prerequisite(s)/Corequisite(s):** Senior standing and CONE 2110 and CONE 3190

**CONE 4160 WOOD/CONTEMPORARY MATERIALS DESIGN (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 8166)

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CONE 4170 FORMWORK SYSTEMS (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design, masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 8176)

**Prerequisite(s)/Corequisite(s):** CONE 4160; Pre/Co-req.: CIVE 441

**CONE 4500 SUSTAINABLE CONSTRUCTION (3 credits)**

Sustainable construction and its application to the green building industry. Topics include: the LEED certification process, sustainable building site management, efficient wastewater applications, optimizing energy performance, indoor environmental issues, performance measurement/verification, recycled content and certified renewable materials. (Cross-listed with CONE 8506.)

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 4590 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

This course instructs CAD users on the effective use of Building Information Model (BIM) for integration of design, document and construction estimate. Topics include: model-based 3D design, file formats, interoperability, and MEP modeling. (Cross-listed with CONE 8596)

**Prerequisite(s)/Corequisite(s):** CNST 1120, or Graduate standing in AE, CIVE, CNST or CONE.

**CONE 4660 HEAVY AND/OR CIVIL ESTIMATING (3 credits)**

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil construction takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts. (Cross-listed with CONE 8666).

**Prerequisite(s)/Corequisite(s):** CONE 3190 and CONE 3780 and CONE 4850

**CONE 4760 PROJECT BUDGETS AND CONTROLS (3 credits)**

The basic systems related to revenues and expenses associated with record keeping of construction contracts. Managerial accounting related to planning and control of construction projects.

**Prerequisite(s)/Corequisite(s):** CNST 3780 and CONE 2060.

**CONE 4810 HIGHWAY & BRIDGE CONSTRUCTION (3 credits)**

The methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment. (Cross-listed with CONE 8816)

**Prerequisite(s)/Corequisite(s):** CONE 3190 or CNST 2410

**CONE 4820 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 4820, CNST 8826, CONE 8826).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CONE 4830 SUPPORT OF EXCAVATION (3 credits)**

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams. Soil mechanics, lateral loads, hydrology, and pumping methods. (Cross-listed with CONE 8836)

**Prerequisite(s)/Corequisite(s):** CET 2180 and CET 3290

**CONE 4850 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 4850, CNST 8856, CONE 8856)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CONE 4890 CONSTRUCTION ENGINEERING CAPSTONE (3 credits)**

CONE 4890 embodies the cumulative CONE experience in a project format and uses teams to simulate actual construction enterprises operating in cooperative and competitive situations which replicate the construction industry. An integrated, comprehensive project; to be taken in the term prior to graduation.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 4950 INTERNSHIP (3 credits)**

Participation in a full-time summer internship associated with a construction-related entity. Includes weekly assignments and a final presentation designed to foster interactions between the intern and the business side of the entity. General topics include personnel and time management, structuring business plans, scheduling work, finance and budgets, marketing plans, contracts, risk analysis, and communication and leadership. (Cross-listed with CNST 4950).

**Prerequisite(s)/Corequisite(s):** Permission of instructor, Letter of application, Letter of agreement from industry mentor. Not open to non-degree graduate students.

**CONE 4980 SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT (1-6 credits)**

Individual or small group study of special topics in construction management. Topic varies. A signed student-instructor learning contract is required. (Cross-listed with CNST 4980, CNST 8986)

# Construction Management (CNST)

**CNST 1120 CONSTRUCTION COMMUNICATIONS (3 credits)**

Development of communication skills including understanding of contract documents, working drawings, technical terminology, graphic symbols, and abbreviations. Fundamentals of drafting principles, sketching, and dimensioning techniques.

**CNST 1310 INTRODUCTION TO THE CONSTRUCTION INDUSTRY (1 credit)**

Introduction to basic management principles and practices for labor, materials, machinery, and budgets.

**CNST 2250 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

Introduction to Building Information Modeling (BIM) concepts and techniques. Explore the use of the Revit Architecture platform to create detailed 3D models of construction projects and other BIM-related topics such as clash detection and point-cloud models.

**Prerequisite(s)/Corequisite(s):** CNST 1120

**CNST 2410 HORIZONTAL CONSTRUCTION (3 credits)**

Introduction to earthmoving equipment and methods, labor, productivity, and economic aspects of excavation, material transportation, and fill work. Introduction to the financial principles of equipment ownership and operation.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CNST 2420 VERTICAL CONSTRUCTION (3 credits)**

Focus on vertical structures, from grade to topping out, with an emphasis on materials and material handling equipment. Includes the assembly process for a variety of applications including cast-in-place concrete, steel erection, wood framing, precast concrete, masonry structural elements, and material finishing.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CNST 2510 CONSTRUCTION MATERIALS AND SPECIFICATIONS (3 credits)**

Introduction to construction materials and proper methods of specifying to achieve design and construction goals, safety and inspection, and to meet zoning code and environmental requirements. Physical, mechanical and aesthetic properties of soils, concrete, masonry, metals, plastics and other materials will be studied as they relate to in-service conditions, acceptability, and performance.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**CNST 2520 CONSTRUCTION MATERIALS AND TESTING (3 credits)**

Introduction to basic materials used in construction. Laboratory testing and evaluation of material properties of soil, aggregate, and concrete.

**Prerequisite(s)/Corequisite(s):** MATH 1950; parallel registration in CNST 2410 is recommended. Laboratory testing procedures emphasizing testing of aggregates, soil, and concrete.

**CNST 3050 BUILDING ENVIRONMENTAL TECHNICAL SYSTEMS I (3 credits)**

Characteristics and performance of buildings with respect to thermal and psychometric environment in buildings related to human comfort, heat gain/heat loss, ventilation, natural energy systems and sustainable design principles, and plumbing and life safety systems in the built environment.

**Prerequisite(s)/Corequisite(s):** PHYS 1050

**CNST 3060 ELECTRICAL SYSTEMS (3 credits)**

Fundamentals of electric power generation and distribution, service, and circuits in buildings with an emphasis on electrical equipment and systems, lighting principles and applications, and fire protection systems. Review of National Electric Code.

**Prerequisite(s)/Corequisite(s):** MATH 1950, PHYS 1050.

**CNST 3310 STRUCTURAL MECHANICS (3 credits)**

Introduction to various external force systems, and their resulting internal forces and deformations, which act on structural elements.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CNST 3320 STRUCTURAL OPTIMIZATION (3 credits)**

Optimization of key properties of elements and systems of building structures: force, geometric, and material.

**Prerequisite(s)/Corequisite(s):** CNST 3310. Not open to non-degree graduate students.

**CNST 3780 CONSTRUCTION ESTIMATING I (3 credits)**

Preparation of detailed cost estimates based on contract documents. Identify and analyze cost components of building and site scopes of work to perform detailed quantity take-offs. Apply labor, material, and equipment pricing from RS Means. Use production rates and quantity takeoffs to prepare a preliminary construction schedule. Complete quantity takeoffs from 2D plans and from 3D BIM software models. (Cross-listed with CONE 3780).

**Prerequisite(s)/Corequisite(s):** CNST 1120.

**CNST 3790 CONSTRUCTION ESTIMATING II (3 credits)**

Continuation of CNST 3780 with emphasis on the determination of total project cost and preparation of complete bid proposals for self-performed and subcontracted commercial projects. Evaluation and analysis of subcontractor bids to determine overall project costs by completing a hard bid simulation scenario. Exploration of contract delivery methods and their effect on overall project cost.

**Prerequisite(s)/Corequisite(s):** CNST 3780

**CNST 4050 MECHANICAL ESTIMATING (3 credits)**

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of mechanical construction.

**Prerequisite(s)/Corequisite(s):** CNST3050 and CNST3060 and CNST3790

**CNST 4060 ELECTRICAL ESTIMATING (3 credits)**

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of electrical construction.

**Prerequisite(s)/Corequisite(s):** CNST 3050, CNST 3060 and 3790.

**CNST 4110 PROJECT ADMINISTRATION (3 credits)**

Ownership and administration of companies focusing on documentation and specifications, contracts, take-offs, estimating, bidding, bonds, insurance, project management and administration, scheduling, time and cost management, labor law and labor relations, and project safety. (Crosslisted with CNST 8116).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4150 MECHANICAL/ELECTRICAL PROJECT MANAGEMENT (3 credits)**

Fundamentals of project management within the mechanical and electrical contracting industry. Codes, contract documents, productivity, coordination, project control and administration, scheduling, safety, and project closeout, from a specialty contracting perspective. (Cross-listed with CNST8156)

**Prerequisite(s)/Corequisite(s):** CNST 3050, CNST 3060 and CNST 3790. CNST 4050 and CNST 4060 are recommended.

**CNST 4200 PROFESSIONAL PRACTICE AND ETHICS (3 credits)**

Examination of professional practice considering the perspectives of designers and the contractors and their respective relationships to society, specific client types, and other collaborators in the design and construction fields. Focus on ethics, professional communication and responsibility, professional organization, office management, environmental stewardship, professional registration, and owner-designer-contractor relationships. (Cross-listed with CNST 8206).

**Prerequisite(s)/Corequisite(s):** CNST 3790, LAWS 3930. Not open to non-degree graduate students.

**CNST 4250 ALTERNATIVE PROJECT DELIVERY METHODS (3 credits)**

Historical and current project delivery methods (PDM) are explored. Procurement strategies, contractual arrangements, and compensation methods are also discussed in conjunction with risks, costs, and legal and ethical issues that need to be considered when determining which system is best for a particular project. (Cross-listed with CNST 8256)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4340 THE DESIGN-BUILD PROJECT DELIVERY SYSTEM (3 credits)**

The organizational, managerial, ethical and legal principles involved in design-build as a project delivery system. Advantages and disadvantages, growth, merits, and criticism of the design-build system. (Cross-listed with CNST 8346)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4360 INTENT AND APPLICATION OF INTERNATIONAL BUILDING CODE (3 credits)**

Fundamentals of how to research, interpret, and apply building code requirements to the design and construction of both new and renovated structures. (Cross-listed with CNST 8366)

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4400 BUILDING INFORMATION MODELING (BIM) II (3 credits)**

Advance topics in building information modeling, including structural and MEP modeling, 4/5 dimensional construction animations and visualization. Good knowledge of Revit Architectural Modeling and knowledge of construction estimating and scheduling is required before registering in this class. (Cross-listed with CNST 8406)

**Prerequisite(s)/Corequisite(s):** CNST 2250 and CNST 3780.

**CNST 4440 CONSTRUCTION SITE SAFETY MANAGEMENT (3 credits)**

Introduction to safety management for project engineers, project managers, safety teams, and company safety officers. Addresses basic accident and injury models, human accident costs, safety behavior, ethical issues in safety, workers' compensation and EMR, job safety analysis (JSA), project site safety audits, safety promotion and training, emergency planning and response, safety management programs and training, and OSHA record-keeping and reporting. (Cross-listed with CNST 8446).

**Prerequisite(s)/Corequisite(s):** CNST 2410 or CONE 3190. Not open to non-degree graduate students.

**CNST 4760 PROJECT BUDGETS AND CONTROLS (3 credits)**

The basic systems related to revenues and expenses associated with record keeping of construction contracts. Managerial accounting related to planning and control of construction projects.

**Prerequisite(s)/Corequisite(s):** CNST 3780 and CONE 2060.

**CNST 4800 PRODUCTIVITY AND HUMAN FACTORS IN CONSTRUCTION (3 credits)**

Motivation and productivity improvement methods for management in typical job environments. Methods to improve working environments in the field and office. Procedures and mechanisms to implement human behavior and ergonomics concepts for enhanced productivity and safety. (Cross-listed with CNST 8806).

**Prerequisite(s)/Corequisite(s):** CNST 3780, MGMT 3490. Not open to non-degree graduate students.

**CNST 4820 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 8826, CONE 4820, CONE 8826).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4850 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 8856, CONE 4850, CONE 8856)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CNST 4860 CONSTRUCTION MANAGEMENT SYSTEMS (3 credits)**

Application of selected topics in systems analysis (operations research). Simulation, mathematical optimization, queuing theory, Markov decision processes, econometric modeling, neural networks, data envelopment analysis, decision analysis, and analytic hierarchy processes as used in the industry. (Cross-listed with CNST 8866).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CNST 4880 RESIDENTIAL CONSTRUCTION AND REAL ESTATE DEVELOPMENT (3 credits)**

Application of various strategies to real estate development including community and residential design, planning, site selection, land development, marketing and customer service. Methods used by construction companies to analyze, bid, and market their developments to customers through the preconstruction and bidding process. (Cross-listed with CNST 8886)

**Prerequisite(s)/Corequisite(s):** CNST 3790.

**CNST 4890 SENIOR CONSTRUCTION PROJECT (3 credits)**

Execution of a project from conceptual design and location through estimating, bidding, site layout, planning and scheduling, cost control, records management, and project completion and documentation. Capstone course.

**Prerequisite(s)/Corequisite(s):** CNST 3790; CNST 4200; CNST 4760 ; CNST 4850. Pre/Coreq: CNST 4800.

**CNST 4950 INTERNSHIP (3 credits)**

Participation in a full-time summer internship associated with a construction-related entity. Includes weekly assignments and a final presentation designed to foster interactions between the intern and the business side of the entity. General topics include personnel and time management, structuring business plans, scheduling work, finance and budgets, marketing plans, contracts, risk analysis, and communication and leadership. (Cross-listed with CONE 4950).

**Prerequisite(s)/Corequisite(s):** Permission of instructor, Letter of application, Letter of agreement from industry mentor. Not open to non-degree graduate students.

**CNST 4980 SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT (1-6 credits)**

Individual or small group study of special topics in construction management. Topic varies. A signed student-instructor learning contract is required. (Cross-listed with CNST 8986, CONE 4980).

## Cooperative Education (COOP)

**COOP 2700 COOPERATIVE EDUCATION (1-3 credits)**

A semester of off-campus relevant semi-professional and professional work experience coordinated to complement classroom academics with practical firsthand involvement in the business world.

**Prerequisite(s)/Corequisite(s):** Permission of the dean of the College of Public Affairs and Community Service (CPACS)

**COOP 3700 COOPERATIVE EDUCATION (1-3 credits)**

A semester of off-campus relevant semi-professional and professional work experience coordinated to complement classroom academics with practical firsthand involvement in the business world.

**Prerequisite(s)/Corequisite(s):** Permission of the dean of the College of Public Affairs and Community Service (CPACS).

## Counseling (COUN)

**COUN 2020 INTRODUCTION TO COUNSELING THEORY AND PSYCHOTHERAPY (3 credits)**

This course introduces the major theoretical paradigms and concepts of psychotherapy that are taught in graduate level counseling programs and utilized by professional counselors and allied mental health professionals in the provision of mental health services. Selected readings, video-based lectures, discussion boards, case studies, written assignments, and exams are utilized as means of introducing these concepts and their use and applicability with clients within and across different therapeutic contexts (i.e., individual, group, family, crisis).

**Prerequisite(s)/Corequisite(s):** Completion of an introductory course in social sciences, human services, or human development. Consult your primary advisor, program coordinator, and/or program chair/director to determine viability of course for your plan of study.

**COUN 4000 SPECIAL STUDIES IN COUNSELING (1-6 credits)**

This course is designed to allow candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities are mutually agreed upon by the candidate and instructor. This course will prepare graduate (or undergraduate) candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with COUN 8006).

**COUN 4010 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health.

The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 8016, SPED 4010, SPED 8016).

**Prerequisite(s)/Corequisite(s):** SPED 1500 or EDUC 2510, TED 2300, Minimum 2.75 GPA. Not open to non-degree graduate students.

**COUN 4300 COUNSELING TECHNIQUES I (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Adlerian counseling (specified in this syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed.. (Cross-listed with COUN 8306)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree students. Must take prior to practicum.

**COUN 4310 COUNSELING TECHNIQUES II (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Rational Emotive Behavior Therapy (REBT) (specified in this syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 8316)

**Prerequisite(s)/Corequisite(s):** Admission to students seeking a Bachelor degree in General Studies Option One Major with a concentration in Behavioral Health. Not open to non-degree graduate students

**COUN 4400 COUNSELING TECHNIQUES III (1 credit)**

This course will assist candidates in developing more systematic integration of previously learned information and skills and the application to specific counseling situations related to various approaches. Topics may include Solution Focused Counseling - SFC (specified in this syllabus), Dialectical Behavioral Therapy, anger management, art therapy, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 8406)

**Prerequisite(s)/Corequisite(s):** Admission to students seeking a Bachelor degree in General Studies Option One Major with a concentration in Behavioral Health. Not open to non-degree graduate students.

**COUN 4510 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 8516, SOWK 4510, SOWK 8516).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. Not open to non-degree graduate students.

**COUN 4680 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 4680, SOWK 8686, COUN 8686).

**COUN 4690 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 8696, SOWK 4690, SOWK 8696).

## Criminology and Criminal Justice (CRCJ)

**CRCJ 1010 SURVEY OF CRIMINAL JUSTICE (3 credits)**

This course is designed to provide an overview of the justice process and the criminal justice system in general. Concepts of crime and justice are discussed as well as the rights of individuals in a democratic society. The law enforcement, judicial, juvenile justice, and corrections systems are explored.

**Distribution:** Social Science General Education course

**CRCJ 2030 POLICE AND SOCIETY (3 credits)**

This course is designed to explore the role of the police in American society. Attention is given to the origins of policing, the nature of police organizations and police work, and patterns of relations between the police and the public. The values of a democratic society as they affect the law enforcement role are discussed.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

**CRCJ 2110 CRIMINAL COURT SYSTEM (3 credits)**

The purpose of this course is to give you a greater understanding of the U.S. criminal courts system. In this course we will cover topics such as judges, lawyers, litigants, criminal and civil procedure, state and federal courts, and theories of judicial decision making. We will analyze these concepts, actors and institutions from a variety of perspectives. The course will include discussions of the constitutional rules and case law as they apply to the courts process.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

**CRCJ 2210 SURVEY OF CORRECTIONS (3 credits)**

This course provides an overview of the American criminal justice system correctional responses to criminal offending. We explore the history, philosophy, and law underlying corrections. We will focus on understanding risks and needs of offenders, treatment options and types of correctional sanctions in the U.S. These include, but are not limited to probation, jail, intermediate sanction, prison and the death penalty.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

**CRCJ 2220 COMMUNITY-BASED CORRECTIONS (3 credits)**

This course is designed to familiarize the student with the most recent developments in community-based corrections. Discussion will focus on the issues related to implementation, management, effectiveness and challenges of community-based programs. Students will be provided a broad overview of the structure and functions of Community-based Corrections. By the end of the course, students should expect to understand the best practices in community corrections.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

**CRCJ 2410 CRIMINAL PROCEDURE (3 credits)**

This course deals with the legal aspects of the investigation, arrest processes, and criminal trial proceedings, as well as the rules governing the admissibility of evidence in criminal court proceedings.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or permission

**CRCJ 2510 RESEARCH METHODS (3 credits)**

The primary goal of this course is to facilitate your growth as both consumers and producers of research. We will explore a variety of methodologies (e.g., survey research/self-report, official stats/secondary data, quasi-experimental design, etc.) used in criminological and criminal justice research. Further, we will evaluate these methodologies within the context of design concerns such as: research purpose, operationalization, validity, reliability, and ethics.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, or instructor permission

**CRCJ 3000 APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR (3 credits)**

A course on the use of data and statistical methods to explore and make inferences about society, while critically considering the influence of context and the powers and limitations of quantitative evidence. (Cross-listed with PA 3000, SOWK 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1120 or 1130 or 1220, or an ACT of 19, or above or permission from the department.

**CRCJ 3010 PHILOSOPHY OF CRIMINAL JUSTICE (3 credits)**

This course is designed to critically evaluate concepts like "justice", "morality", "crime", "criminal", etc. These concepts are used every day, and yet we often take it for granted that their meaning is common knowledge. The reality is that arriving at a definition for a term like "justice" varies greatly depending on who you are talking to. When you consider that the overarching goal of our criminal "justice" system is to dispense justice, the definition of "justice" becomes supremely important. Unlike many other classes you will take, much of what we talk about in this class will have no clear cut answers. You will leave this course with questions, but hopefully you will be equipped with the tools necessary to evaluate those questions and form an educated opinion.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission.

**CRCJ 3100 WRITING FOR CRIMINAL JUSTICE (3 credits)**

This is a writing course for all Criminology and Criminal Justice majors. Students will learn how to write effective cover letters, incident reports, position papers, and executive summaries.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1160, and CRCJ 1010. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**CRCJ 3310 CRIMINAL LAW (3 credits)**

This course will examine the development of the criminal law, the elements and types of criminal offenses, as well as principles of criminal culpability.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 3350 CRIMINOLOGY (3 credits)**

This course is about facts and frameworks. The facts that we are interested in are facts about criminal behavior and the frameworks are theories that organize these facts in a coherent fashion. As we learn about criminological facts and the theories that organize these facts we will pay attention to research so that we understand how these facts are developed and how these theories are tested. We will also try to draw out the policy implications of the various facts and theories that we address.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission.

**CRCJ 3370 JUVENILE DELINQUENCY AND JUVENILE JUSTICE (3 credits)**

This course has been designed to provide and expose students to a broad base of information about juveniles, youth in need of supervision, youth crime and how these areas are handled within the juvenile justice system in the United States. This course will examine the juvenile justice system and the role of family, peers, school, courts, law enforcement, corrections, and the broader community as it pertains to the life of a juvenile.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours

**CRCJ 3380 RACE, ETHNICITY, AND CRIMINAL JUSTICE (3 credits)**

This course provides a survey of minority groups and their experiences with regard to crime and criminal justice in the United States. This course will focus on racial and ethnic minorities as victims, as offenders, as defendants, and as criminal justice professionals.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major; CRCJ minor; CRCJ 1010 and jr/sr standing; or instructor permission. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**CRCJ 3390 WOMEN, CRIME AND JUSTICE (3 credits)**

This course focuses on women's experiences in the criminal justice system. The course will examine women's experiences as victims of crime, as offenders, as prisoners, and as criminal justice professionals. (Cross-listed with WGST 3390)

**Prerequisite(s)/Corequisite(s):** WGST major; CRCJ or WGST minor; CRCJ 1010, ENGL 1160 and 45 credit hours; or instructor permission.

**Distribution:** U.S. Diversity General Education course

**CRCJ 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with BLST 3410, PSCI 3410).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR CRCJ 1010 OR Junior standing OR instructor permission.

**Distribution:** U.S. Diversity General Education course

**CRCJ 3970 INTERNSHIP IN CRIMINAL JUSTICE (3 credits)**

A minimum of 160 hours of experiential learning with criminal justice agencies. The internship program integrates learning with service. It allows students to learn occupational skills and competencies and develop professional relationships with organizations involved in the criminal justice sector, at the same time, students will apply criminological theories to their work. The internship prepares students to demonstrate the integration of professional ethics and values, knowledge and skills, and the capacity to think critically and constructively.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, 75 credit hours completed, GPA of 2.5, and permission of instructor. Not open to non-degree graduate students.

**CRCJ 4000 MENTAL HEALTH AND THE CRIMINAL JUSTICE SYSTEM (3 credits)**

This course focuses on the intersection of individuals with mental health, substance abuse, and/or severe and persistent mental illness diagnoses and the criminal justice system. Students will examine how individuals become involved in the criminal justice system and how the criminal justice system and other social services respond to their involvement.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; OR instructor permission

**CRCJ 4030 CRIMINAL JUSTICE ORGANIZATION AND ADMINISTRATION (3 credits)**

This course covers contemporary concepts, principles and theories of organization and administration as they relate to criminal justice agencies. The historical development and modern principles of policy administration are also contrasted. The primary goal of this course is to identify the basic structure and function of criminal justice organizations, while paying particular attention to how criminal justice organizations are managed and led.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours

**CRCJ 4060 CRIMINAL JUSTICE ETHICS (3 credits)**

The principal objectives of this course will focus on creating an awareness of the ethical issues and dilemmas present in the criminal justice system, as well as the development of a more informed ability or basis to address them.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours. Not open to non-degree graduate students.

**CRCJ 4110 BIOSOCIAL CRIMINOLOGY (3 credits)**

This course is designed to acquaint students with the biological, genetic, and environmental origins to criminal and antisocial behavior. Toward this end, we will examine an array of topics including personality development, brain functioning, and the biosocial basis of crime. Discussion will also center on the manner in which various environmental influences operate through biological mechanisms to influence criminal behavior across different stages of the life course. Particular emphasis will be placed on using empirical-based research to understand the etiology of antisocial and criminal conduct and issues pertaining to the criminal justice system.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission.

**CRCJ 4130 SOCIOLOGY OF DEVIANT BEHAVIOR (3 credits)**

This course is designed to investigate the etiology of many forms of norm-violating conduct. Emphasis will be placed on rule-breaking behavior as defined in the criminal statutes. (Cross-listed with CRCJ 8136).

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major; CRCJ minor; CRCJ 1010 and jr/sr standing; or instructor permission.

**CRCJ 4210 INSTITUTIONAL CORRECTIONS (3 credits)**

The purpose of this course is to provide you with a practical and theoretical understanding of Institutional Corrections.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours.

**CRCJ 4400 DOMESTIC VIOLENCE (3 credits)**

This course examines the criminal justice system response to domestic violence/intimate partner violence. A focus on the interactions between battered victims and components of the criminal justice system, as well as the role of the community in addressing and preventing this violence serves as the foundation for this course. Students will also gain insight into factors contributing to the incidence of intimate partner violence, explore the background/history of domestic violence.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission

**CRCJ 4410 VICTIMOLOGY (3 credits)**

This course provides an introduction to the topics and issues that are pertinent to the study of victimology. Students will learn about the prevalence, predictors, and consequences of various forms of victimization, including child abuse, intimate partner violence, rape and sexual assault, stalking, and homicide over the life-course. In addition, students will learn about the nature of criminal justice victimization data, and the issues related to the measurement and costs of victimization.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission.

**CRCJ 4420 CHILD ABUSE AND NEGLECT (3 credits)**

This course addresses issues related to child abuse and neglect investigation, intervention and prevention efforts facilitated through criminal justice system processes. Course content discusses the history of child maltreatment, definitional challenges, statistical trends, physical and behavioral indicators, mandatory reporting, investigative processes, intervention strategies and prevention efforts.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission

**CRCJ 4430 HUMAN TRAFFICKING (3 credits)**

This course is designed to provide students with a systematic introduction to the study of human trafficking. Students will learn about what constitutes human trafficking, theories of victimization as they apply to trafficking, debates about the language and definitions surrounding sex trafficking and prostitution. Students will discuss the prevalence, predictors, and consequences of various forms of trafficking and critically assess efforts related to measurement, intervention, and prevention.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or permission.

**CRCJ 4440 VICTIMS' RIGHTS AND SERVICES (3 credits)**

This course focuses on the experiences of victims of crime through the criminal justice system, from reporting the crime to case closure. Students will learn about the types of victim services and advocacy throughout various points of the criminal justice system (e.g., police, courts, corrections), as well as about the history of victims' rights and the development of victim services over time.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010

**CRCJ 4450 SEXUAL VIOLENCE (3 credits)**

This course will examine the complicated nature and dynamics of sexual violence. Students will learn about the nature and extent of sexual violence. Data and measurement issues will be addressed as well as the history of system responses to sexual violence and victimization.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours or instructor permission

**CRCJ 4510 VIOLENCE (3 credits)**

This course will examine the social, political and psychological aspects of violence. It will identify various analytical approaches to the study of violence: identifying violent groups, reviewing societal response to violence, and examining police and governmental responses to reduce or control violence. Please note that a core competency of this course is critical thinking. Critical thinking requires students to think through situations, facts, and issues in an open-minded and objective way in an effort to analyze and evaluate information in an informed manner.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission

**CRCJ 4520 DRUGS AND CRIME (3 credits)**

Drugs and Crime is an introduction course to the major facts and issues concerning criminal justice and drug-taking behavior in America. It is specifically designed to provide the means for understanding (1) the multiple challenges that drug abuse brings to our society, (2) the drug control policies we have enacted to meet those challenges, (3) the range of international and domestic law enforcement efforts and drug control strategy, and (4) the systems of criminal justice that have been established to deal with the prosecution of drug law offenders.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours or instructor permission

**CRCJ 4530 SEXUAL OFFENDING (3 credits)**

In this course students will learn about sex offenses, sex offenders, and the responses of the criminal justice system. This course will examine applications of theory to sex offending, trends and patterns of behavior, characteristics of sex offenders, and the psychological and legal responses to sex crimes.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours or instructor permission

**CRCJ 4550 GANGS AND GANG CONTROL (3 credits)**

This course will examine criminal street gangs, including these gangs' members, activities, underlying dynamics, and the roles that drugs and sex trafficking play in gang activity. We will consider the history and proliferation of gangs in the United States, common characteristics of U.S. gangs across different regions, how gangs obtain their power and the connection between street gangs and prison gangs. Lastly, we will evaluate multiple methods employed by communities and law enforcement to control and defeat criminal street gangs.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours

**CRCJ 4560 HOMICIDE INVESTIGATIONS (3 credits)**

This course is designed to present an overview of the crime of homicide. Attention is given to homicide data, theories of why homicides occur, types of homicide, investigating/solving homicides, prosecuting homicide cases, and the impact on co-victims and society as a whole. Students will use critical thinking skills while exploring various investigative techniques.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160 and 45 credit hours; or instructor permission

**CRCJ 4710 COMPARATIVE CRIMINAL JUSTICE SYSTEMS: ENGLAND (3 credits)**

This is a specialized course which provides a comparison of the criminal justice systems of the United States and the United Kingdom. The design of the course allows for an exploration of how the American system developed from the British system and why social and cultural factors influenced the differences/similarities in their development.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major or CRCJ minor and permission of the instructor. Not open to non-degree graduate students.

**CRCJ 4750 INTERNATIONAL CRIMINOLOGY AND CRIMINAL JUSTICE (3 credits)**

This course analyzes the dynamics of criminality and the social response to criminality across countries. Differences in crime and justice between developed and developing countries and between socialist and capitalist nations are emphasized.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission.

**Distribution:** Global Diversity General Education course

**CRCJ 4760 TERRORISM (3 credits)**

This course is designed to assist the student in developing an understanding of terrorism as a political crime. It includes an examination of the social, political and psychological aspects of this behavior.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission.

**Distribution:** Global Diversity General Education course

**CRCJ 4770 ORGANIZED CRIME (3 credits)**

This course will deal with issues surrounding the phenomena of organizational crime. The student will be exposed to theories, concepts, case studies and issues relating to this topic. Organizational crimes are some of the most dangerous to American society and range from the commonly known offenses of gambling and narcotics trafficking to the more subtle and sophisticated crimes of extortion, commercial bribery, and political corruption.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours; or instructor permission

**CRCJ 4780 WHITE COLLAR CRIME (3 credits)**

This course is designed to examine those illegal acts committed by nonphysical means and by concealment or guile, to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours

**CRCJ 4790 CYBER & COMPUTER CRIMES (3 credits)**

This course is designed to provide students with an introduction to cybercrime. Cybercrime is an extremely broad term that encompasses a wide variety of criminal behaviors. Specifically, this course is designed to introduce students to the following: how the digital world has influenced crime, theories related to cybercrime, types of cybercrimes, the implications of computer crimes and cyber-terrorism, privacy and freedom of speech in the context of the digital world, and the challenges cybercrime poses for our criminal justice system.

**Prerequisite(s)/Corequisite(s):** CRCJ 1010, ENGL 1160, and 45 credit hours or instructor permission

**CRCJ 4800 SPECIAL TOPICS (3 credits)**

This course is a topical approach that explores various aspects of Criminology and Criminal Justice. Topics and disciplines will vary from term to term. Course description will be announced in advance. This course will be devoted to the exploration and analysis of contemporary problems in the criminal justice system.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major; CRCJ minor; CRCJ 1010 and jr/sr standing; or instructor permission.

**CRCJ 4950 INDEPENDENT STUDY (1-3 credits)**

Faculty-guided research in an area of mutual interest to the student and his instructor. Students are responsible for selecting the area of inquiry prior to contacting the instructor. May be repeated to a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major and instructor permission. Not open to non-degree graduate students.

**CRCJ 4960 ISSUES IN CRIME AND JUSTICE (3 credits)**

This is a capstone course that will focus on contemporary issues of crime and justice. It will examine the justice process and the general operations of the criminal justice system. Concepts of crime and deviance, rights and discrimination in a democratic society will be reviewed and critiqued against the backdrop of contemporary issues. The law enforcement, judicial, juvenile justice, and corrections subsystems will be explored, and a number of reform proposals presented and considered.

**Prerequisite(s)/Corequisite(s):** CRCJ majors with senior standing, OR permission of the instructor. Not open to non-degree graduate students.

**CRCJ 4970 SENIOR HONORS PROJECT/THESIS (3-6 credits)**

An independent research project supervised by School faculty. The senior honors project must be approved by the CPACS Honors Coordinator.

**CRCJ 4999 SENIOR ASSESSMENT (0 credits)**

This assessment tool is part of the School's Student Outcomes effort. It is designed to monitor the School's performance and to identify changes needed. Graduating seniors must register for and complete CJUS4999 - Senior Assessment in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for CJUS 4999 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Cybersecurity (CYBR)

**CYBR 1100 INTRODUCTION TO INFORMATION SECURITY (3 credits)**

This course emphasizes our current dependence on information technology and how its security in cyberspace (or lack thereof) is shaping the global landscape. Several historical and contemporary global events that have been influenced by the exploitation of information technology motivates topics on cyber crime, malware, intrusion detection, cryptography, among others, and how to secure one's own data and computer system. Several aspects of this course are geared towards developing an understanding of the "cyberspace" as a new medium that breaks all geographical boundaries, while highlighting noticeable influences on it from social, political, economic and cultural factors of a geographical region.

**Distribution:** Global Diversity General Education course

**CYBR 2250 LOW-LEVEL PROGRAMMING (3 credits)**

This course will teach the cybersecurity (CYBR) students low-level programming in the 'C' and assembly languages, and the interrelationship between these two programming paradigms. The student will learn the various control structures in 'C' and how they are implemented in machine code, memory allocation and management, and the basics of allocation classes such as static versus automatic variables. The students will also learn assembly language in the 'C' environment and will be able to write useful, functional, stand-alone assembly language programs with no help from external libraries.

**Prerequisite(s)/Corequisite(s):** CSCI 1620. Not open to non-degree graduate students.

**CYBR 2600 SYSTEM ADMINISTRATION (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various computer management requirements using both Windows and Linux operating systems on both physical and virtual machines. Topics include installation, creating and maintaining file systems, user and group administration, backup and restore processes, network configuration, system services, virtualization, and security administration.

**Prerequisite(s)/Corequisite(s):** CIST 1400 or Instructor Permission

**CYBR 2980 SPECIAL TOPICS IN CYBERSECURITY (1-3 credits)**

The course provides a format for exploring subject areas in Cybersecurity and related fields for sophomore undergraduate students. Specific topics vary, in keeping with research interests of faculty and students. Examples include network configuration, network security, forensics, regulatory compliance, web services and applications, vulnerability assessments, cloud computing security, and other issues in Cybersecurity.

**Prerequisite(s)/Corequisite(s):** Instructor permission required. Not open to non-degree graduate students.

**CYBR 3350 SECURITY ADMINISTRATION - LINUX (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the a Linux-based Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission.

**CYBR 3370 SECURITY ADMINISTRATION - WINDOWS (3 credits)**

This course covers topics a system administrator would encounter in their profession. The student will learn how a system administrator fulfills various organizational information resource management requirements using the Windows Operating System. Topics will include; installation; creating and maintaining file systems; user and group administration; backup and restore processes; network configuration; various system services; simple security administration; and updating and maintaining the system.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or CSCI 1840 or Instructor Permission

**CYBR 3450 NATURAL LANGUAGE PROCESSING (3 credits)**

The course will provide overview of the topics in natural language processing such as word and sentence tokenization, syntactic parsing, semantic role labeling, text classification. We will discuss fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems. We will touch on such applications of natural language processing technology as information extraction and sentiment analysis. (Cross-listed with CSCI 3450).

**Prerequisite(s)/Corequisite(s):** Prereq: CSCI 2030 with C- or better; Co-req: CSCI 3320 with C- or better; Students should be comfortable w/ scripting (Python is the language extensively used in natural language processing tools including NLTK). Not open to non-degree graduate students.

**CYBR 3570 CRYPTOGRAPHY (3 credits)**

The course will provide a broad overview of the concepts, fundamental ideas, vocabulary, and literature base central to the study and development of cryptography and cryptanalysis. This course will explore historical development of cryptography, as well as methods used to defeat it. In addition, the course will cover the mathematical foundations of cryptography today, as well as some current uses of such cryptography, such as public key infrastructures, the Internet Key Exchange protocol, and more.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or ISQA 3300. Not open to non-degree graduate students.

**CYBR 3600 INFORMATION SECURITY, POLICY AND AWARENESS (3 credits)**

This course will cover the planning and development for information governance, security policies and procedures, and security awareness. (Cross-listed with CIST 3600)

**Prerequisite(s)/Corequisite(s):** CIST 2100; CIST 3110, which may be taken concurrently.

**CYBR 4000 CENTER OF ACADEMIC EXCELLENCE-CYBER OPERATIONS COMPLETION CERTIFICATE (0 credits)**

This course is utilized to provide a specific designation for students that have completed the Center of Academic Excellence - Cyber Operations coursework. It is a zero credit hour class used to designate the completion of this focus area in the cybersecurity curriculum.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. The program committee will work w/ the UG advisors to verify that the student has fulfilled the requirements for this designation. If the student has fulfilled (or will soon) all the requirements, they may register for this class.

**CYBR 4360 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 8366, CSCI 8366).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CYBR 4380 DIGITAL FORENSICS (3 credits)**

Digital forensics involves the preservation, identification, extraction, analysis and documentation of digital evidence stored on a variety of electronic devices. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a forensics investigation. Topics include: an introduction to digital forensics, data acquisition, first response, memory forensics, operating system forensics, and network forensics. Students will be required to perform several forensics analyses in a controlled lab environment, including acquiring forensically sound hard drive images, memory images and analyzing these using industry standard tools, such as Forensic Toolkit (FTK). The Digital Forensics class is designed for Cybersecurity, Computer Science and other qualified students to learn what actions are both appropriate and required for preserving, collecting and analyzing digital evidence in cases of intrusion, data theft or other cybercrimes. (Cross-listed with CSCI 4380).

**Prerequisite(s)/Corequisite(s):** The student must take the following before enrolling: CYBR 3600 or CIST 3600, CSCI 3550 or ISQA 3400, CYBR 3370, CYBR 3350. Alternatively, instructor permission can be sought for students who have not met all of the above requirements.

**CYBR 4390 MOBILE DEVICE FORENSICS (3 credits)**

Mobile device forensics is the science of recovering digital evidence from a mobile device under forensically sound conditions using accepted methods. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a mobile device forensics investigation. Topics include: an introduction to digital and mobile device forensics, mobile forensics standards, acquisition methods (manual, logical, physical and provider-side), Android and iOS filesystem analysis, decoding approaches, application data analysis, and report writing. Students will be required to perform several investigations in a controlled lab environment, including acquiring forensically sound evidence and analyzing these using industry standard tools. (Cross-listed with CYBR 8396).

**Prerequisite(s)/Corequisite(s):** CYBR 4380/8386 - Computer and Network Forensics or Instructors Permission

**CYBR 4430 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 8436, CSCI 4430).

**Prerequisite(s)/Corequisite(s):** Co-requisites: CYBR 3570 or CSCI 4560; or Instructor permission.

**CYBR 4440 INDUSTRIAL CONTROL SYSTEM SECURITY (3 credits)**

The objective of this course is to research vulnerabilities into, and provide guidance for securing, industrial control systems (ICS). ICS is a general term that encompasses several types of control systems, including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system items such as Programmable Logic Controllers (PLC). The student will learn to identify network and device vulnerabilities and potential countermeasures to these weaknesses. (Cross-listed with CYBR 8446)

**Prerequisite(s)/Corequisite(s):** CSCI 3550.

**CYBR 4450 HOST-BASED VULNERABILITY DISCOVERY (3 credits)**

The class will cover security issues at an implementation and hardware level. The students will learn assembly language and the use of a reverse assembler and debugger. This will allow the student to analyze various "packing" algorithms for computer viruses, the viruses themselves, operating system "hooking", "fuzzing", and other machine code, host-based exploits. The class will be using both Windows and Linux as operating systems. (Cross-listed with CYBR 8456.)

**Prerequisite(s)/Corequisite(s):** CSCI 3710 and CYBR 2250

**CYBR 4460 NETWORK-BASED VULNERABILITY DISCOVERY (3 credits)**

The course is an advanced class in which the students learn various techniques for testing for and identifying security flaws in network software and web applications. Internet technologies such as HTTP, DNS, DHCP, and others are examined in the context of cyber security. Students are expected to participate in numerous hands-on experiments related to Information Assurance with respect to web technologies. (Cross-listed with CYBR 8466)

**Prerequisite(s)/Corequisite(s):** CSCI 3550

**CYBR 4540 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST 4540, CYBR 8546, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CYBR 4580 CERTIFICATION AND ACCREDITATION OF SECURE SYSTEMS (CAPSTONE) (3 credits)**

This is the BSIA capstone course where students extend and apply their knowledge in defining, implementing, and assessing secure information systems. Students will demonstrate their ability to specify, apply, and assess different types of countermeasures at different points in the enterprise with a special focus on system boundaries. Students will complete and defend a Certification and Accreditation package.

**Prerequisite(s)/Corequisite(s):** CIST 3600 or CYBR 3600; CIST 4360; CYBR 3350 or CYBR 3370; and CIST 4540 or CYBR 4540 may be taken prior to or concurrently. Not open to non-degree graduate students.

**CYBR 4950 INTERNSHIP IN CYBERSECURITY (1-3 credits)**

The course provides a format for a student to work with a local or national industry partner in a cyber-security oriented position, and to receive credit for this practical experience. The internship may or may not be a paid position, but will definitely be directly related to the Cybersecurity degree program. The class is proposed and organized by the student, with participating faculty supervising and input provided by the industry partner.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 4980 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research. (Cross-listed with CYBR 8986)

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 4990 INDEPENDENT STUDY IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. The class is designed for students that would like to explore specific Information Assurance topics at a greater depth, or topics which are not currently a part of the IA curriculum. The class is proposed and organized by the student, with participating faculty mentoring.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

## Design (DSGN)

**DSGN 1010 INTRODUCTION TO DESIGN (2 credits)**

Introduction to architecture, industrial design, interior design, landscape architecture and related design fields; the forces that shape these fields and the processes of production they rely upon.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture or permission.

**DSGN 1100 DESIGN THINKING (3 credits)**

Introduction to an approach to problems employing a user-focused, iterative, team-based process. Through experiential labs, lectures, workshops, and class discussions students practice design thinking to promote innovation in a wide variety of disciplines.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture or permission

**DSGN 1110 DESIGN MAKING (4 credits)**

Builds upon the skills acquired in Design Thinking by focusing on formal and spatial constructs. Integrates craft and compositional principles into the design process. Introduces multiple techniques for communicating ideas through physical and digital modeling, orthographic projection, freehand drawing, and other forms of graphic representation.

**Prerequisite(s)/Corequisite(s):** DSGN 1100 or permission.

**DSGN 1200 DESIGN DRAWING (3 credits)**

Introduction to the fundamental practice and exploration of observational, projective and speculative drawing for design through a variety of media and drawing techniques.

**Prerequisite(s)/Corequisite(s):** Acceptance into the College of Architecture or permission.

**DSGN 1230 COMPUTER APPLICATIONS IN DESIGN (3 credits)**

Application of computer technology to the design disciplines. Enabling the effective use of computer technology to produce measured drawings and digital models to aid the investigation, visualization, and communication of design.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture or permission.

**DSGN 1400 HISTORY OF DESIGN (3 credits)**

Thematic exploration of the history and theory of design as it relates to political, economic, and societal shifts.

**Prerequisite(s)/Corequisite(s):** Admission to the College of Architecture or permission.

## Economics (ECON)

**ECON 1200 AN INTRODUCTION TO THE U.S. ECONOMY (3 credits)**

An introduction to U.S. economy and an investigation of U.S. and international economic problems and policies.

**Prerequisite(s)/Corequisite(s):** Not available to students who have completed either ECON 2200 or 2220.

**Distribution:** Social Science General Education course

**ECON 2200 PRINCIPLES OF ECONOMICS (MICRO) (3 credits)**

An introduction to economic principles, decision making and policies affecting product and resource markets. Particular emphasis is on price, output and input decisions by individuals and firms under various market conditions. An introduction to the fundamentals of international trade.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and MATH 1310 or MATH 1220 with 'C-' (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

**ECON 2220 PRINCIPLES OF ECONOMICS (MACRO) (3 credits)**

An introduction to economic principles, decision making and policies on national income and output, employment, growth, money, the price level and the international economy.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ENGL 1150 with a C-minus (1.67) or better, or permission of CBA advisor

**Distribution:** Social Science General Education course

**ECON 2400 PRINCIPLES OF ECONOMICS FOR EDUCATORS (3 credits)**

This course teaches principles of microeconomics and macroeconomics to K-12 educators. After taking this course students will be able to use the economic way of thinking to study current economic issues. Students will be introduced to macroeconomic principles, decision-making and policies on national income and output, employment, growth, money, price level, and fundamentals of international issues. Students will study microeconomic issues including product and resource markets, and prices output and input decisions under various market conditions. Economic concepts will be aligned to K-12 state social studies standards. This course cannot be substituted for ECON 2200 and/or ECON 2220.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ENGL 1150. Not open to non-degree graduate students.

**ECON 3130 ECONOMIC GEOGRAPHY (3 credits)**

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with GEOG 3130).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or Majoring in Geography

**ECON 3190 SPORTS ECONOMICS (3 credits)**

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Sports Economics, however, students will explore the very real ways in which economics influences sporting competitions and the businesses surrounding them. Students will explore topics such as unionization in sports, discrimination, amateurism, monopoly power, game theory, and more in the context of sports, giving the student a deeper understanding of how these topics apply to real-world problems. After this course, students will understand how readily economics can be applied to businesses and problems in any industry or domain.

**Prerequisite(s)/Corequisite(s):** ECON 2200 OR ECON 1200 OR ECON 2400 OR Instructor Approval. Not open to non-degree graduate students.

**ECON 3200 ECONOMIC THEORY: MICRO (3 credits)**

Analysis of individual, firm and industry behavior in product and factor markets. Provides a theoretical foundation for managerial and public policy decision-making.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3220 ECONOMIC THEORY: MACRO (3 credits)**

This course is designed to follow introductory economics, to examine the determination of output, employment, the price level, inflation, interest rates, and the exchange rate in the economy. Piece-by-piece, theoretical models will be constructed describing how each of these and other variables are determined in both, the long-run and in the short-run. We will analyze how changes in a particular event affect different markets in the economy, and in turn, how one market interacts with another within a general equilibrium framework. A large part of the course will be devoted to business cycle theory, macroeconomic policy issues, and open economy macroeconomics. The world economies are very much integrated, and thus, a full understanding of macroeconomics requires knowledge of international aspects of macroeconomics. The purpose of this course is to provide the student with an understanding of the connection between macroeconomic theory and related policy issues.

**Prerequisite(s)/Corequisite(s):** Completion of ECON 2200 with a C or better AND ECON 2220 with a C or better

**ECON 3290 ECONOMICS OF PUBLIC ISSUES (3 credits)**

Economics is frequently considered an abstract topic, with interesting results that are not easily applied in the real world. Through Economics of Public Issues, however, students will explore the real ways in which economics can be used to understand, explain, and answer tough questions that affect everyone. Students will explore and define capitalism and key economic institutions required for economies to develop and prosper. We will examine markets and market failures that exist today. Classes will focus on the outcomes - intended and unintended - of various policies (local, national, and global). While specific issues are going to be covered in the course the intent is that students will learn the tools and strategy of thinking like an economist to guide them through future issues that will come up in their personal, professional, and civic lives.

**Prerequisite(s)/Corequisite(s):** (ECON 2200 AND ECON 2220) OR ECON 1200 OR ECON 2400 OR Instructor Approval.

**ECON 3300 INTRODUCTION TO ECONOMETRICS (3 credits)**

An introduction to empirical research methods in economics. Subjects covered include estimations of the basic linear regression model, hypothesis testing, correlation coefficients, analysis of variance, multicollinearity, dummy variables, specification error, auto-correlation, heteroscedasticity and unconditional forecasting. Empirical illustrations are provided by reference to contemporary economic questions.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, ECON 2220, BSAD 2130 or BSAD 3160, each with a "C" (2.0) or better, or permission of instructor.

**ECON 3310 SQL, DATABASES, AND DATA CLEANING FOR DATA SCIENTISTS (3 credits)**

Analytics requires data. Within an organization, this data is usually housed in databases. In this class, you will extract data from these systems using Structured Query Language (SQL), programmatically combine multiple datasets, and learn advanced programmatic data cleaning techniques, such as regular expression.

**Prerequisite(s)/Corequisite(s):** ECON 2200 with a "C" or better

**ECON 3320 INTRODUCTION TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3 credits)**

This course explores the economic approach to environmental and natural resources. It introduces economic concepts and theory at a level accessible to non-economic majors but still challenging to economic majors. It then applies these to such topics as: air and water pollution, solid and hazardous waste management, renewable and nonrenewable natural resource use, and recycling.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better.

**ECON 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with FNBK 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 3600 INTRODUCTION TO INTERNATIONAL ECONOMICS (3 credits)**

An introduction to analyses of international trade and the international monetary system. Subjects covered include the economic basis for international specialization and trade, the effect of trade on income distribution, commercial policy, economic integration, the balance of payments, adjustment mechanism, exchange rate determination, external effects of monetary and fiscal policy and foreign investment.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**ECON 4000 SPECIAL TOPICS IN ECONOMICS (1-5 credits)**

The course content and topic will vary. Please contact the economics department for specific course offerings.

**ECON 4210 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 8216).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4300 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 8306).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C"(2.0) or better, or permission of instructor.

**ECON 4320 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role to markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 8326).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4340 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 8346).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 and ECON 2200, each with a "C" (2.0) or better, or BSAD 8180, or permission of instructor.

**ECON 4350 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 8316).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 4450 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 8456).

**Prerequisite(s)/Corequisite(s):** ECON 3220, or permission of instructor.

**ECON 4500 SPECIAL PROBLEMS IN ECONOMICS (2-3 credits)**

Individual investigation of specific problems in the field of economics under the supervision of a faculty member.

**Prerequisite(s)/Corequisite(s):** Senior and permission of department chair.

**ECON 4510 ECONOMIC INTERNSHIP (1-3 credits)**

Students engage in part time employment in their area of concentration to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required (maximum 3 credit hours).

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in ECON 2200 and ECON 2220; 2.5 Cumulative GPA; junior or senior standing.

**ECON 4570 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 8576).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or permission of the instructor

**ECON 4610 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 8616).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4620 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 8626).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4660 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 8666).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4730 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 8736, BSAD 8736).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**ECON 4850 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 8856)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 4990 SENIOR ASSESSMENT (0 credits)**

This assessment tool is part of the Department's Student Outcomes effort. It is designed to monitor the Department's performance and to identify changes needed. Graduating seniors must register for and complete this course in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for ECON 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Educational Professional Sequence (EDUC)

**EDUC 2510 APPLIED SPECIAL EDUCATION (3 credits)**

This course is designed to describe the characteristics and learning styles of students with various exceptional learning needs. This course is also intended to provide pre-service teachers with the knowledge base and many of the teaching strategies/techniques essential for modifying the learning environment and individualizing instruction for students with exceptional learning needs. This course will prepare pre-service teacher candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Undergraduate, EDUC 2010, EDUC 2030; GPA=2.75 or better; Co-requisites EDUC 2520 and EDUC 2524

**EDUC 2514 INTERMEDIATE FIELD EXPERIENCES ORIENTATION (0 credits)**

Orientation for intermediate field experiences.

**Prerequisite(s)/Corequisite(s):** EDUC 2010

**EDUC 2524 INTERMEDIATE FIELD EXPERIENCES PRACTICUM (0 credits)**

Co-requisite for EDUC 2510 and EDUC 2520

**Prerequisite(s)/Corequisite(s):** EDUC 2010

## Electrical and Computer Engineering (ECEN)

**ECEN 1030 ELECTRICAL AND COMPUTER ENGINEERING FUNDAMENTALS (4 credits)**

Introduction to DC circuit analysis and digital logic. Topics include Ohm's and Kirchoff's laws, mesh and nodal analysis, Boolean algebra, logic gates, minimization, counters and flip-flops. Uses of computer based resources for data analysis and report generation. Use of internet to locate and retrieve engineering resources.

**Prerequisite(s)/Corequisite(s):** MATH 1950 (pre or coreq)

**ECEN 1060 MICROPROCESSOR APPLICATIONS (3 credits)**

Introduction to assembly language programming of microprocessors/microcontrollers, assemblers, and debugging tool utilization. Microprocessor system hardware components, control signals, and 'C' language micro-controller programming.

**Prerequisite(s)/Corequisite(s):** ECEN 1030, CIST 1400

**ECEN 1234 INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING (1 credit)**

Laboratory design projects introducing some basic concepts and skills needed in electrical and computer engineering.

**Prerequisite(s)/Corequisite(s):** Coreq: CIST 1400. Open to first year students only or by permission.

**ECEN 1920 INDIVIDUAL STUDY IN COMPUTER AND ELECTRONICS ENGINEERING I (1-3 credits)**

Individual study at the freshman level in a selected electrical, computer, or electronics engineering area under the supervision and guidance of an electrical and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Departmentally approved proposal

**ECEN 1940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING I (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering which may not be covered in the other courses in the electrical and computer engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Freshman standing or permission.

**ECEN 1980 SPECIAL TOPICS IN ELECTRICAL ENGINEERING I (1-6 credits)**

Offered as the need arises to treat electrical engineering topics for first-year students not covered in other courses.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 2110 ELEMENTS OF ELECTRICAL ENGINEERING (3 credits)**

Basic circuit analysis including direct and alternating currents and operational amplifiers. Digital signals and circuits. Not for electrical engineering majors.

**Prerequisite(s)/Corequisite(s):** MATH 1960 and PHYS 2110

**ECEN 2130 ELECTRICAL CIRCUITS I (3 credits)**

Electrical circuit theory, Kirchhoff's and Ohm's laws, circuit analysis theorems, Norton and Thevenin equivalence. The analysis of resistor circuits, with capacitors and inductors, in DC and AC steady state. Transients and variable frequency response are studied, including computer solutions to circuit problems.

**Prerequisite(s)/Corequisite(s):** ECEN 1030 and ECEN 2250. MATH 2350 prior to or concurrent.

**ECEN 2140 ELECTRICAL CIRCUITS II (3 credits)**

Introduction to the analysis of electrical circuits in sinusoidal steady states. The concepts of impedance, phasors, power, frequency response, resonance, magnetic circuits and two-part networks. Transform techniques for circuit analysis.

**Prerequisite(s)/Corequisite(s):** ECEN 2130 and ECEN 2184. Pre or Corequisite: MATH 2050.

**ECEN 2150 ELECTRONICS AND CIRCUITS I (3 credits)**

Introduction to electrical engineering circuit theory. Kirchhoff's law and circuit analysis theorem applied to steady state DC resistive circuits. Analysis of transient RLC and sinusoidal steady-state circuits. Modern computer methods are employed.

**Prerequisite(s)/Corequisite(s):** Co-Req; MATH 1970

**ECEN 2160 ELECTRONICS AND CIRCUITS II (3 credits)**

Steady-state power calculations for sinusoidal single-phase and balanced three-phase circuits. Mutual inductance. Frequency response. Introduction to the fundamentals of semiconductor theory and their applications to P-N junction devices. Kirchhoff's laws and circuit analysis theorems applied to steady-state diode circuits. Modern computer methods employed.

**Prerequisite(s)/Corequisite(s):** ECEN 2150 with grade of C or higher. Coreq: MATH 2350.

**ECEN 2170 ELECTRICAL CIRCUITS III (1 credit)**

Analysis of first and second order RLC circuits using differential equations and Laplace transforms. Variable frequency network performance analysis. This course is for computer engineering majors only.

**Prerequisite(s)/Corequisite(s):** ECEN 2130. Not open to non-degree graduate students.

**ECEN 2184 ELECTRICAL CIRCUITS LABORATORY I (1 credit)**

The use of laboratory tools for measurement and verification of electrical concepts. Experiments using both passive and semiconductor devices at audio frequencies. Analysis verification with computer simulation.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2130.

**ECEN 2200 INTRODUCTION TO EMBEDDED SYSTEMS (3 credits)**

Basic hardware and software concepts of embedded microprocessor systems and interfacing with other hardware components. Simple circuits are designed and drivers to run these circuits are written. Design and build hardware and write drivers in assembly language.

**Prerequisite(s)/Corequisite(s):** CSCI 1200 or working knowledge of C programming. Not open to non-degree graduate students.

**ECEN 2220 ELECTRONIC CIRCUITS I (4 credits)**

Analysis and design of modern electronic circuits. Diode circuits, bipolar and field effect transistor switching and amplifier circuits, and operational amplifier circuits.

**Prerequisite(s)/Corequisite(s):** ECEN 2130 with grade of C or better, and ECEN 2184.

**ECEN 2240 INTRODUCTION TO SIGNAL PROCESSING (4 credits)**

This course demonstrates the use of mathematical and digital computation tools key to engineering applications. Auditory and visual senses are used in the presentation and study of sinusoidal signals, sampling, frequency response and filtering theory.

**Prerequisite(s)/Corequisite(s):** ECEN 1060, CIST 1400, MATH 1960.

**ECEN 2250 ELECTRICAL AND COMPUTER ENGINEERING SEMINAR (1 credit)**

An overview of electrical, computer, electronics and telecommunication fields. There will be information on professional careers available upon graduation. Professionalism and ethics are addressed as well as the need for lifelong learning experiences.

**Prerequisite(s)/Corequisite(s):** ECEN 1030 or parallel

**ECEN 2310 ELECTRICAL ENGINEERING LABORATORY (1 credit)**

Laboratory accompanying ECEN 2110.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2110. Not open to non-degree graduate students.

**ECEN 2350 INTRODUCTORY ELECTRICAL LABORATORY I (1 credit)**

Laboratory accompanying ECEN 2150.

**Prerequisite(s)/Corequisite(s):** Coreq: ECEN 2150.

**ECEN 2360 INTRODUCTORY ELECTRICAL LABORATORY II (1 credit)**

Laboratory accompanying ECEN 2160

**Prerequisite(s)/Corequisite(s):** ECEN 2350, Coreq: ECEN 2160.

**ECEN 2920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING II (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a electrical and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Sophomore Standing, ECE departmentally approved proposal.

**ECEN 2940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING II (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering at the sophomore level which may not be covered in the other courses in the electrical and engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Sophomore standing or permission.

**ECEN 3040 SIGNALS AND SYSTEMS I (3 credits)**

Mathematical modeling of physical systems and signals. Representation of signals in terms of basic functions. Fourier Series expansion, Fourier Transforms, Laplace and Z-Transforms. Input-output relations, convolution. Transfer functions. System Stability. Poles/zeros and s- and z-plane methods. Applications.

**Prerequisite(s)/Corequisite(s):** ECEN 2140 or ECEN 2160 with a grade of C or better and MATH 2350.

**ECEN 3050 PROBABILITY THEORY AND STATISTICS FOR ELECTRICAL AND COMPUTER ENGINEERS (3 credits)**

Random experiment model, random variables, functions of random variables, and introduction to random processes; statistics and practical data analysis.

**Prerequisite(s)/Corequisite(s):** MATH 1970/(UNL)MATH 208

**ECEN 3060 ELECTROMAGNETIC FIELD THEORY (3 credits)**

Complex vectors, Maxwell's equations. Uniform plane waves. Wave reflection and transmission at interfaces. Waveguides and resonators. Transmission line principles. Antennas. Topics in waves.

**Prerequisite(s)/Corequisite(s):** ECEN 2150 or ECEN 2130 with grade of C or better, PHYS 2120, MATH 1970, MATH 2350., not open to non-degree graduate students.

**ECEN 3074 ELECTRICAL ENGINEERING LABORATORY I (2 credits)**

Laboratory work on circuits and systems, digital and analog electronic circuits.

**Prerequisite(s)/Corequisite(s):** ECEN 1060; ECEN 2220 or ECEN 2360; Coreq: ECEN 3130 or ECEN 3700; Admission to College of Engineering; not open to non-degree graduate students.

**ECEN 3100 DIGITAL DESIGN AND INTERFACING (4 credits)**

Digital design from both the circuit and system perspectives. Topics include the structure and analysis of digital integrated circuits, interface signal integrity, Field Programmable Gate Array (FPGA) design and synthesis, software simulation. Lab exercises provide hands-on experience with design tools and the design process.

**Prerequisite(s)/Corequisite(s):** ECEN 2220. Prereq or coreq: ECEN 3130.

**ECEN 3130 SWITCHING CIRCUITS THEORY (4 credits)**

Combinational circuit analysis and design. State machine analysis and design. Includes synchronous/clock mode circuits and asynchronous sequential circuits. Minimization, race and hazard elimination are covered. Circuits are implemented in discrete logic and in CPLD and FPGA devices. VHDL hardware description language is used to describe circuits. Circuits are implemented in discrete logic and in CPLD/FPGA devices.

**Prerequisite(s)/Corequisite(s):** ECEN 1060.

**ECEN 3160 ELECTRONICS AND CIRCUITS III (3 credits)**

Kirchhoff's laws and circuit analysis theorems applied to steady state transistor circuits. Frequency response of filters and amplifiers. Basic power amplifier types. Advanced operational amplifier circuits. Introduction to the fundamentals of semiconductor theory and their application to p-n junction and field devices.

**Prerequisite(s)/Corequisite(s):** ECEN 2160 with grade of C or better.

**ECEN 3174 ELECTRICAL ENGINEERING LABORATORY II (2 credits)**

Lab work on electromagnetic fields and waves, solid state devices, discrete systems, control systems, and communications.

**Prerequisite(s)/Corequisite(s):** ECEN 3040, ECEN 3074 Coreq: ECEN 3060, ECEN 3160, not open to non-degree graduate students.

**ECEN 3250 COMMUNICATIONS SYSTEMS (4 credits)**

Relevant communication systems; principles of transmission and reception; amplitude; frequency and phase modulation. Sampling theorem, pulse-code modulation and delta modulation.

**Prerequisite(s)/Corequisite(s):** ECEN 2220; ECEN 3050.

**ECEN 3274 DISCRETE SYSTEMS LABORATORY (1 credit)**

Laboratory work on discrete systems.

**Prerequisite(s)/Corequisite(s):** ECEN 1060 or ECEN 2200 and ECEN 3074

**ECEN 3280 APPLIED FIELDS AND LINES I (3 credits)**

Transmission lines. Discontinuities, different termination, and matching methods. Application of vector analysis to Maxwell's equations. Uniform plane waves including reflection/transmission. S-parameters. Principles of antennas. LW, MW, SW, USW propagation.

**Prerequisite(s)/Corequisite(s):** MATH 1970 and MATH 2350

**ECEN 3290 APPLIED FIELDS AND LINES II (3 credits)**

Metallic waveguides with rectangular, circular and coaxial cross section, antennas, free space, propagation in free space, applications.

**Prerequisite(s)/Corequisite(s):** ECEN 3280.

**ECEN 3320 ASSEMBLY LANGUAGE PROGRAMMING (1 credit)**

Architecture and assembly language programming of 8-bit and 32-bit microcontrollers.

**Prerequisite(s)/Corequisite(s):** ECEN 1060

**ECEN 3380 INTRODUCTION TO POWER AND ENERGY SYSTEMS (3 credits)**

Energy sources, environmental impacts, power systems principles, three phase circuits, transmission lines, transformers, per unit analysis, generators, loads, and power system modeling.

**Prerequisite(s)/Corequisite(s):** ECEN 2160 or ECEN 2140 with grade of C or better. Not open to non-degree graduate students.

**ECEN 3450 MOBILE ROBOTICS I (4 credits)**

Introduction to the primary issues spanning the field of mobile robotics, including robotics history, robot components (sensors, actuators), robot system design considerations, low-level control (feedback control) and robotics control architectures. The lab focuses on the practical implementation of autonomous robot control on a real mobile robot using behavior-based methods in the C language.

**Prerequisite(s)/Corequisite(s):** ECEN 1060, ECEN 2130.

**ECEN 3474 ELECTRICAL ENGINEERING LABORATORY II (1 credit)**

Lab work on electromagnetics, fields and waves, solid state devices and control systems.

**ECEN 3500 ELECTRICAL ENGINEERING INTERNSHIP OR COOPERATIVE EDUCATION (1-3 credits)**

Approval of faculty sponsor prior to the internship or Co-op is required. For Internships or Cooperatives primarily technical in nature lasting 4.5 months or greater. Weekly communication and/or final report required. Must be taken during or after the semester in which the Internship/Co-op occurs.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 3520 ELECTRONIC CIRCUITS II (4 credits)**

Operational amplifier circuit design and analysis with emphasis on feedback and stability. Design and analysis of large signal power amplifiers. Other integrated devices such as regulators, comparators, Schmitt triggers, oscillators and active filters.

**Prerequisite(s)/Corequisite(s):** ECEN 2220

**ECEN 3550 SIGNALS AND LINEAR SYSTEMS (3 credits)**

Continuous and discrete time representations of signals. System modeling and analysis using differential and difference equations. Fourier, Laplace and z transforms. State description of continuous and discrete time transfer functions. The primary mathematical tools used in the analysis of continuous and discrete time systems.

**Prerequisite(s)/Corequisite(s):** ECEN 2140

**ECEN 3610 ADVANCED ELECTRONICS AND CIRCUITS (3 credits)**

Analog and digital electronics for discrete and integrated circuits. Multistage amplifiers, frequency response, feedback amplifiers, simple filters and amplifiers MOS and bipolar logic gates and families A/D and D/A converters.

**Prerequisite(s)/Corequisite(s):** ECEN 3160; not open to non-degree graduate students.

**ECEN 3620 DATA AND TELECOMMUNICATIONS TRANSCEIVERS (4 credits)**

Noise and signal distortions in communication systems, impedance matching techniques, high frequency measurement techniques, design of high frequency amplifiers and oscillators, PLL and frequency synthesizers, data synchronization and multiplexing techniques, Antennas and their arrays.

**Prerequisite(s)/Corequisite(s):** ECEN 3520; Pre or Coreq.: ECEN 3250, ECEN 3280

**ECEN 3700 DIGITAL LOGIC DESIGN (3 credits)**

Combinational and sequential logic circuits. MSI chips, programmable logic devices (PAL, ROM, PLA) used to design combinational and sequential circuits. CAD tools. LSI and PLD components and their use. Hardware design experience.

**Prerequisite(s)/Corequisite(s):** ECEN 1210, not open to non-degree graduate students.

**ECEN 3920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING III (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a electric and computer engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Junior standing and ECE departmentally approved proposal.

**ECEN 3940 SPECIAL TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING III (1-4 credits)**

Special topics in the emerging areas in electrical, computer and electronics engineering which may not be covered in the other courses in the Electrical and Computer engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission.

**ECEN 3980 SPECIAL TOPICS ELECTRICAL ENGINEERING III (1-6 credits)**

Offered as the need arises to treat electrical engineering topics for third-year students not covered in other courses.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to nondegree students.

**ECEN 3990 UNDERGRADUATE RESEARCH (1-3 credits)**

Research accompanied by a written report.

**Prerequisite(s)/Corequisite(s):** Electrical engineering seniors or permission., not open to non-degree graduate students

**ECEN 4000 ELECTRONIC INSTRUMENTATION (3 credits)**

Applications of analog and digital devices to electronic instrumentation. Includes transducers, instrumentation amplifiers, mechanical and solid state switches, data acquisition systems, phase-lock loops, and modulation techniques. Demonstrations with working circuits and systems. (Cross-listed with ECEN 8006)

**Prerequisite(s)/Corequisite(s):** Senior Standing in Engineering or Permission. Not open to non-degree graduate students.

**ECEN 4060 POWER SYSTEMS ANALYSIS (3 credits)**

Symmetrical components and fault calculations, power system stability, generator modeling (circuit view point), voltage control system, high voltage DC transmission, and system protection. (Cross-listed with ECEN 8066)

**Prerequisite(s)/Corequisite(s):** ECEN 3380, not open to non-degree graduate students.

**ECEN 4070 POWER SYSTEMS PLANNING (3 credits)**

Economic evaluation, load forecasting, generation planning, transmission planning, production simulation, power plant reliability characteristics, and generation system reliability. (Cross-listed with ECEN 8076)

**Prerequisite(s)/Corequisite(s):** ECEN 3050, not open to non-degree graduate students.

**ECEN 4080 ENGINEERING ELECTROMAGNETICS (3 credits)**

Applied electromagnets: Transmission lines in digital electronics and communication. The quasistatic electric and magnetic fields; electric and magnetic circuits and electromechanical energy conversion. Guided waves; rectangular and cylindrical metallic waveguides and optical filters. Radiation and antennas; line and aperture antennas and arrays. (Cross-listed with ECEN 8086)

**Prerequisite(s)/Corequisite(s):** ECEN 3060, not open to non-degree graduate students.

**ECEN 4100 MULTIVARIATE RANDOM PROCESSES (3 credits)**

Probability space, random vectors, multivariate distributions, moment generating functions, conditional expectations, discrete and continuous-time random processes, random process characterization and representation, linear systems with random inputs. (Cross-listed with ELEC 8106)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 4160 MATERIALS AND DEVICES FOR COMPUTER MEMORY, LOGIC, AND DISPLAY (3 credits)**

Survey of fundamentals and application of devices used for memory, logic, and display. Magnetic, superconductive, semi-conductive, and dielectric materials. (Cross-listed with ECEN 8166)

**Prerequisite(s)/Corequisite(s):** PHYS 2120, not open to non-degree graduate students.

**ECEN 4170 SEMICONDUCTOR FUNDAMENTALS II (3 credits)**

Analysis of BJT's and MOSFET's from a first principle materials viewpoint. Statics and dynamic analysis and characterization. Device fabrication processes. (Cross-listed with ECEN 8176)

**Prerequisite(s)/Corequisite(s):** ECEN 4210 or ECEN 8216. Not open to non-degree graduate students.

**ECEN 4200 PLASMA PROCESSING OF SEMICONDUCTORS (3 credits)**

Physics of plasmas and gas discharges developed. Includes basic collisional theory, the Boltzman equation and the concept of electron energy distribution. Results are related to specific gas discharge systems used in semiconductor processing, such as sputtering, etching, and deposition systems. (Cross-listed with ECEN 8206)

**Prerequisite(s)/Corequisite(s):** Senior or graduate standing. Not open to non-degree graduate students.

**ECEN 4210 PRINCIPLES OF SEMICONDUCTOR MATERIALS AND DEVICES I (3 credits)**

Introduction to semiconductor fundamentals, charge carrier concentration and carrier transport, energy bands, and recombination. PN junction, static and dynamic, and special PN junction diode devices. (Cross-listed with ECEN 8216)

**Prerequisite(s)/Corequisite(s):** PHYS 2130. Not open to non-degree graduate students.

**ECEN 4240 DIGITAL SIGNAL PROCESSING (3 credits)**

The temporal and spectral analysis of digital signals and systems, the design of digital filters and systems, and advanced systems including multi-rate digital signal processing techniques. (Cross-listed with ECEN 8246)

**Prerequisite(s)/Corequisite(s):** ECEN 3550

**ECEN 4280 POWER ELECTRONICS (3 credits)**

Basic analysis and design of solid-state power electronic devices and converter circuitry. (Cross-listed with ECEN 8286)

**Prerequisite(s)/Corequisite(s):** ECEN 3040, ECEN 3160.

**ECEN 4300 WIND ENERGY (3 credits)**

This broad multidisciplinary course will combine engineering principles of both the mechanical/aerodynamical and electrical components and systems, along with economic and environmental considerations for siting and public policy, to appropriately cover the relevant topics associated with all scales of wind energy implementations. (Cross-listed with ECEN 8306)

**Prerequisite(s)/Corequisite(s):** Senior standing or permission.

**ECEN 4330 MICROPROCESSOR SYSTEM DESIGN (4 credits)**

Microprocessor based systems. Architecture; design and interfacing. Memory design, input/output ports, serial communications, and interrupts. Generating assembly ROM code, assembly/C firmware generation, and designing device drivers. (Cross-listed with ECEN 8336)

**Prerequisite(s)/Corequisite(s):** ECEN 3100 with grade of C or better and ECEN 3320 with grade of C or better.

**ECEN 4350 EMBEDDED MICROCONTROLLER DESIGN (4 credits)**

Microcontroller architecture: design, programming, and interfacing for embedded systems. Timing issues, memory interfaces, serial and parallel interfacing, and functions for common microcontrollers. (Cross-listed with ECEN 8356)

**Prerequisite(s)/Corequisite(s):** ECEN 4330/ECEN 8336 with grade of C or better, STAT 3800.

**ECEN 4360 ELECTRIC MACHINES (3 credits)**

Provides a solid background in electric machine analysis, covering fundamental concepts, techniques, and methods for analysis and design. Discussion of transformers and presentation of some new systems and applications. (Cross-listed with ECEN 8366)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and ECEN 2160

**ECEN 4370 PARALLEL AND DISTRIBUTED PROCESS (3 credits)**

Parallel and Distributed Processing concepts, principles, techniques and machines. (Cross-listed with ECEN 8376).

**Prerequisite(s)/Corequisite(s):** ECEN 4350 or ECEN 8356

**ECEN 4420 BASIC ANALYTICAL TECHNIQUES IN ELECTRICAL ENGINEERING (3 credits)**

Applications of partial differential equations, matrices, vector analysis, complex variables, and infinite series to problems in electrical engineering. (Cross-listed with ECEN 8426)

**Prerequisite(s)/Corequisite(s):** MATH 2350. Not open to non-degree graduate students.

**ECEN 4440 LINEAR CONTROL SYSTEMS (3 credits)**

Classical (transfer function) and modern (state variable) control techniques. Both time domain and frequency domain techniques are studied. Traditional, lead, lag, and PID compensators are examined, as well as state variable feedback. (Cross-listed with ECEN 8446)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 4480 DECISION ANALYSIS (3 credits)**

Principles of engineering economy including time value of money, net present value, and internal rate of return. Use of influence diagram and decision tree to structure and analyze decision situations under uncertainty including use of stochastic dominance, value of information, and utility theory. Fundamentals of two-person matrix games including Nash equilibrium. (Cross-listed with ECEN 8486)

**Prerequisite(s)/Corequisite(s):** ECEN 3050 or STAT 3800.

**ECEN 4500 BIOINFORMATICS (3 credits)**

This course examines how information is organized in biological sequences such as DNA and proteins and will look at computational techniques which make use of this structure. During this class various biochemical processes that involve these sequences are studied to understand how these processes effect the structure of these sequences. In the process bioinformatics algorithms, tools, and techniques which are used to explore genomic and amino acid sequences are also introduced. (Cross-listed with ECEN 8506)

**Prerequisite(s)/Corequisite(s):** Computer programming language and ECEN 3050 or STAT 3800 or equivalent.

**ECEN 4510 INTRODUCTION TO VLSI SYSTEM DESIGN (3 credits)**

The concepts, principles, and methodology at all levels of digital VLSI system design and focused on gate-level VLSI implementation. (Cross-listed with ECEN 8516).

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 4520 INTRODUCTION TO COMPUTER-AIDED DIGITAL DESIGN (3 credits)**

The concepts, simulation techniques and methodology in computer-aided digital design at system and logic levels. (Cross-listed with ECEN 8526)

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 4530 COMPUTATIONAL AND SYSTEMS BIOLOGY (3 credits)**

Provides the required biology primer and covers functional genomics, transcriptomics, differential expression, clustering, classification, prediction, biomarker discovery, pathway analysis and network based approaches to high throughput biological data analysis. Includes the development of databases, algorithms, web-based and other tools regarding management and analysis of life science data. Areas of study include DNA, RNA, and protein sequence analysis, functional genomics and proteomics, 3D macromolecule structure prediction, and systems/network approach. (Cross-listed with ECEN 8536).

**Prerequisite(s)/Corequisite(s):** By permission.

**ECEN 4540 POWER SYSTEMS OPERATION AND CONTROL (3 credits)**

Characteristics and generating units. Control of generation, economic dispatch, transmission losses, unit commitment, generation with limited supply, hydrothermal coordination, and interchange evaluation and power pool. (Cross-listed with ECEN 8546)

**Prerequisite(s)/Corequisite(s):** ECEN 3380 or ECEN 8385. Not open to non-degree graduate students.

**ECEN 4600 LABVIEW PROGRAMMING (3 credits)**

Labview as a programming language and for applications to acquire data, to access the network, control lab instruments, and for video and sound applications. (Cross-listed with ECEN 8606)

**Prerequisite(s)/Corequisite(s):** Prior programming experience.

**ECEN 4610 DIGITAL COMMUNICATIONS MEDIA (4 credits)**

Topics related to the transport of bit streams from one geographical location to another over various physical media such as wire pairs, coaxial cable, optical fiber, and radio waves. Transmission characteristics, media interfacing, delay, distortion, noise, and error detection and correction techniques. (Cross-listed with ECEN 8616)

**Prerequisite(s)/Corequisite(s):** ECEN 3250 or ECEN 4620

**ECEN 4620 COMMUNICATION SYSTEMS (3 credits)**

Mathematical descriptions of signals in communication systems. Principles of analog modulation and demodulation. Performance analysis of analog communication systems in the presence of noise. (Cross-listed with ECEN 8626)

**Prerequisite(s)/Corequisite(s):** ECEN 3040 and ECEN 3050. Not open to non-degree graduate students.

**ECEN 4630 DIGITAL SIGNAL PROCESSING (3 credits)**

Discrete system analysis using Z-transforms. Analysis and design of digital filters. Discrete Fourier transforms. (Cross-listed with ECEN 8636)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 4640 DIGITAL COMMUNICATION SYSTEMS (3 credits)**

Principles of digital transmission of information in the presence of noise. Design and analysis of baseband PAM transmission systems and various carrier systems including ASK, FSK, PSK. (Cross-listed with ECEN 8646)

**Prerequisite(s)/Corequisite(s):** ECEN 4620. Not open to non-degree graduate students.

**ECEN 4650 INTRODUCTION TO DATA COMPRESSION (3 credits)**

Introduction to the concepts of Information Theory and Redundancy removal. Simulation of various data compression schemes such as Delta Modulation, Differential Pulse Code Modulation, Transform Coding and Runlength Coding. (Cross-listed with ECEN 8656)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 4660 TELECOMMUNICATION ENGINEERING I (4 credits)**

Standard telecommunications protocols, architecture of long distance integrated data networks, local area networks, wide area networks, radio and satellite networks. Network management, internetworking, system modeling and performance analysis. (Cross-listed with ECEN 8666)

**Prerequisite(s)/Corequisite(s):** ECEN 3620; ECEN 4610/ECEN 8616 prior to or concurrent.

**ECEN 4670 ELECTROMAGNETIC THEORY AND APPLICATION (3 credits)**

Engineering application of Maxwell's equations. Fundamental Parameters of Antennas, Radiation analysis, and synthesis of antenna arrays. Aperture Antennas. (Cross-listed with ECEN 8676)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 4680 MICROWAVE ENGINEERING (3 credits)**

Applications of active and passive devices to microwave systems. Includes impedance matching, resonators, and microwave antennas. (Cross-listed with ECEN 8686)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 4690 ANALOG INTEGRATED CIRCUITS (3 credits)**

Analysis and design of analog integrated circuits both bipolar and MOS. Basic circuit elements such as differential pairs, current sources, active loads, output drivers used in the design of more complex analog integrated circuits. (Cross-listed with ECEN 8696)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 4700 DIGITAL AND ANALOG VLSI DESIGN (3 credits)**

Introduction to VLSI design techniques for analog and digital circuits. Fabrication technology and device modeling. Design rules for integrated circuit layout. LSI design options with emphasis on the standard cell approach of digital and analog circuits. Lab experiments, computer simulation and layout exercises. (Cross-listed with ECEN 8706)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 4710 COMPUTER COMMUNICATION NETWORKS (4 credits)**

This course investigates the standard protocols and hardware solutions defined by the International Standard Organization (ISO) and Institute of Electrical and Electronics Engineers (IEEE) for the computer communications networks. Included are ISO OSI model, IEEE 802.X (Ethernet, token bus, token ring) and Asynchronous Transfer Modals (ATM) networks. (Cross-listed with ECEN 8716)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4730 MOBILE AND PERSONAL COMMUNICATIONS (4 credits)**

This course provides basic concepts on mobile and personal communications. Concepts on mobile and personal communications. Modulation techniques for mobile radio, equalization, diversity, channel coding, and speech coding. (Cross-listed with ECEN 8736)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4740 DIGITAL SYSTEMS (3 credits)**

Synthesis using state machines; design of digital systems; micro programming in small controller design; hardware description language for design and timing analysis. (Cross-listed with ECEN 8746)

**Prerequisite(s)/Corequisite(s):** ECEN 3700. Not open to non-degree graduate students.

**ECEN 4750 SATELLITE COMMUNICATIONS (4 credits)**

The fundamental concepts of satellite communications. Orbits, launching satellites, modulation and multiplexing, multiple access, earth stations, coding, interference and special problems in satellite communications. (Cross-listed with ECEN 8756)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4760 WIRELESS COMMUNICATIONS (3 credits)**

The fundamental concepts of wireless communications. Basic communications concepts such as multiple access, and spectrum. Propagation, radio, standards, and internetworking. Current issues in wireless communications. (Cross-listed with ECEN 8766)

**Prerequisite(s)/Corequisite(s):** ECEN 3250 or ECEN 4620 prior to or concurrent

**ECEN 4770 DIGITAL SYSTEMS ORGANIZATION AND DESIGN (3 credits)**

Hardware development languages, hardware organization and realization, microprogramming, interrupt, intersystem communication, and peripheral interfacing. (Cross-listed with ECEN 8776)

**Prerequisite(s)/Corequisite(s):** ECEN 4740 or ECEN 8746. Not open to non-degree graduate students.

**ECEN 4790 OPTICAL FIBER COMMUNICATIONS (4 credits)**

Fundamentals of lightwave communication in optical fiber waveguides, physical description of fiber optic systems. Properties of the optical fiber and fiber components. Electro-optic devices: light sources and modulators, detectors and amplifiers; optical transmitter and receiver systems. Fiber optic link design and specification; fiber optic networks. (Cross-listed with ECEN 8796)

**Prerequisite(s)/Corequisite(s):** ECEN 4630.

**ECEN 4800 INTRODUCTION TO LASERS AND LASER APPLICATIONS (3 credits)**

Physics of electronic transition production stimulated emission of radiation. Threshold conditions for laser oscillation. Types of lasers and their applications in engineering. (Cross-listed with ECEN 8806)

**Prerequisite(s)/Corequisite(s):** PHYS 2130

**ECEN 4820 ANTENNAS AND RADIO PROPAGATION FOR WIRELESS COMMUNICATIONS (4 credits)**

Fundamental theory of antennas and radio propagation for wireless communications. Basic antenna characteristics and various antennas and antenna arrays. Basic propagation mechanisms and various channel models, such as Friis free space model, Hata model, lognormal distribution, and multipath model. Includes practical antenna design for high radio frequency (RF) with modeling software tools such as Numerical Electromagnetic Code (NEC) and ADvanced Design System (ADS). Design projects will be assigned as the main part of course. (Cross-listed with ECEN 8826)

**Prerequisite(s)/Corequisite(s):** ECEN 3280

**ECEN 4840 NETWORK SECURITY (4 credits)**

Network security and cryptographic protocols. Classical encryption techniques, block ciphers and stream cyphers, public-key cryptography, authentications digital signatures, key management and distributions, network vulnerabilities, transport-level security, IP security. (Cross-listed with ECEN 8846)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4860 APPLIED PHOTONICS (3 credits)**

Introduction to the use of electromagnetic radiation for performing optical measurements in engineering applications. Basic electromagnetic theory and light interaction with matter are covered with corresponding laboratory experiments conducted. (Cross-listed with ECEN 8866)

**Prerequisite(s)/Corequisite(s):** ECEN 3060 or permission. Not open to non-degree graduate students.

**ECEN 4880 WIRELESS SECURITY (4 credits)**

A comprehensive overview on the recent advances in wireless network and system security. Covers security issues and solutions in emerging wireless access networks and systems as well as multihop wireless networks. (Cross-listed with ECEN 8886)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 4910 SPECIAL TOPICS IN ELECTRIC AND COMPUTER ENGINEERING IV (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering which may not be covered in the other courses in the electrical, and computer engineering curriculum. (Cross-listed with ECEN 8916)

**Prerequisite(s)/Corequisite(s):** Senior standing

**ECEN 4920 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING IV (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a Electrical and Computer Engineering faculty member. (Cross-listed with ECEN 8926).

**Prerequisite(s)/Corequisite(s):** Senior or graduate standing and departmentally approved proposal.

**ECEN 4940 ELECTRICAL ENGINEERING CAPSTONE I (2 credits)**

A substantial design project that allows application of electrical engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals. The first in a two semester electrical engineering capstone senior design course sequence.

**Prerequisite(s)/Corequisite(s):** ECEN 2220, ECEN 3040, ECEN 3060, ECEN 3130, and (UNO) ENGL 1160. The ECE department changed its English composition requirements to ENGL 1160 (UNO); ENGL 1160 is required, not technical writing.

**ECEN 4950 ELECTRICAL ENGINEERING CAPSTONE II (3 credits)**

A substantial design project that allows application of electrical engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team and applying new ideas as needed to meet project goals.

**Prerequisite(s)/Corequisite(s):** ECEN 4940

**ECEN 4960 COMPUTER ENGINEERING CAPSTONE I (2 credits)**

A substantial design project that allows application of computer engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals. The first in a two semester computer engineering capstone senior design course sequence.

**Prerequisite(s)/Corequisite(s):** ECEN 4330; (UNO) ENGL 1160. The ECE department changed its English composition requirements to ENGL 1160 (UNO); ENGL 1160 is required, not technical writing.

**ECEN 4980 SPECIAL TOPICS IN ELECTRICAL ENGINEERING IV (1-6 credits)**

Offered as the need arises to meet electrical engineering topics for fourth-year and graduate students not covered in other courses. (Cross-listed with ECEN 8986)

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 4990 COMPUTER ENGINEERING CAPSTONE II (3 credits)**

Requires the completion of a design project that demonstrates the ability to combine knowledge from individual courses in the program to complete a design task. The capstone design course for the B.S. in computer engineering, electrical engineering and electronics engineering.

**Prerequisite(s)/Corequisite(s):** ECEN 4960. Not open to non-degree graduate students.

## Emergency Management (EMGT)

**EMGT 1000 INTRODUCTION TO EMERGENCY MANAGEMENT (3 credits)**

This course is an introduction to the National Response Framework (NRF) and the National Incident Management System (NIMS) and their influence on modern community Emergency Management and Homeland Security. The course conceptually introduces the four phases of Emergency Management: Mitigation, Preparedness, Response, and Recovery.

**Distribution:** Social Science General Education course

**EMGT 1150 INTRODUCTION TO TRIBAL MANAGEMENT AND EMERGENCY SERVICES (3 credits)**

This course is an introduction to how Tribal history and contemporary governance affect the delivery of emergency management services on Tribal lands as well as how the National Response Framework (NRF) and the National Incident Management System (NIMS) are integrated to provide emergency services. The course focuses on the challenges of implementing the five mission areas of Emergency Management: Mitigation, Preparedness, Prevention, Response, and Recovery for Native American Communities.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**EMGT 2020 EMERGENCY MANAGEMENT STRATEGIES AND COMMUNICATION (3 credits)**

This course covers tactical issues, current communication methods, and critical information channels utilized during actual disaster and emergency management field operations. Topics include inter-agency linkages, command and control tactics, National Incident Management System and the Incident Command System, (NIMS-ICS) and other crucial management requirements for successful disaster planning, mitigation, and recovery operations.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

**EMGT 2050 POLITICAL AND LEGAL FOUNDATIONS IN EMERGENCY SERVICES (3 credits)**

The provision of Emergency Services in contemporary society occurs within an environment of legal requirements and community resource allocation that often requires difficult administrative and political decisions. Successful professionals who control, manage, and operate these services must understand and adhere to the demand and intent of the law. Also, they must master the practical art of politics related to the various community constituents and shareholders who fund and support them, staff them, and utilize them. This course examines the legal aspects and social consequences of emergency management provision. Environmental issues and Occupational Health and Safety policy and programs affecting emergency services are also examined.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or taken concurrently with EMGT 1000.

**EMGT 2060 FOUNDATIONAL INDIAN LAW & POLICY ISSUES (3 credits)**

This course provides an examination of the federal and tribal legal cases and policies that affect the delivery of critical services on tribal lands. The course will also examine how such case law and resulting policy affects current U.S./Tribal/State relationship, specifically in the area of sovereignty and regulatory jurisdiction of emergency management principles. The student will gain an understanding of the legal obligations of Tribal Government and the emergency manager with regard to disaster response within the legal context of tribal law and policy.

**Prerequisite(s)/Corequisite(s):** EMGT 1150 (can be taken currently with EMGT 1150 with instructor approval).

**EMGT 2500 DISASTERS AND VULNERABLE POPULATIONS (3 credits)**

This course is an introduction to the sociological examination of disasters. In the course students will learn about vulnerability in terms of social, economic, political, geographical and cultural factors. Students will investigate how vulnerable groups such as children, elderly, racial and ethnic minorities, and low income, are affected and cope before, during and after hazardous events. Other topics covered include: disaster warning responses, evacuation behavior, survival behavior, roles of volunteers, and disaster impacts.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**EMGT 3020 FEDERAL/TRIBAL GOVERNMENT TO GOVERNMENT RELATIONS (3 credits)**

This course will introduce the Federal/Tribal government to government relationship that has evolved through U.S. Supreme Court case law; federal Indian policy; and through the Indian Self Determination and Education Assistance Act of 1975. Specifically, this course will focus on overcoming the challenges of implementing Emergency Management principles between the U. S. and Tribal governments by understanding how the government to government relationship works.

**Prerequisite(s)/Corequisite(s):** EMGT 1150; (can be taken currently with EMGT 1150 with instructor approval).

**EMGT 3040 PREPAREDNESS/PLANNING AND RISK MITIGATION (3 credits)**

Provision of emergency and management of emergency services is dependent on extensive planning and preparedness. This process aids in the reduction of loss of property and life in extreme circumstances, even when confronted with a variety of environmental and politically motivated risks. An open society, which becomes ever more highly technological, demonstrates new sources of stress, complicated threats, and complex inter-relationships. Together, these factors present a significant challenge to those tasked with preventing and managing emergencies and disasters. This course provides a theoretical framework for the understanding of the ethical, sociological, organizational, political, and legal components of community risk analysis and mitigation, and a methodology for the development of comprehensive community risk preparedness planning.

**Prerequisite(s)/Corequisite(s):** EMGT 2020, EMGT 2050, PA 3000 / CRCJ 3000 or concurrent.

**EMGT 3080 AGENCY COLLABORATION DURING DISASTERS (3 credits)**

Federal, state, and local agency cooperation and interoperability in the provision of emergency management will be studied in this course. Federal, state, and local government authority and roles will be explored in concert with collaborative management programs. The origins of collaborative partnerships will be presented along with introduction of the Emergency Management Assistance Compact, development of volunteer networks, and formation of partnerships with the Citizen Corps, Community emergency Response Teams, the Medical Reserve Corps and Mercy Medical Airlift, and other groups that have the potential to contribute to the emergency management and response effort.

**Prerequisite(s)/Corequisite(s):** EMGT 2020, EMGT 2050, PA 3000 / CRCJ 3000 or concurrent.

**EMGT 4020 PROTECTING AND SUSTAINING TRIBAL ECONOMIES (3 credits)**

This course provides an understanding of unique tribal economies and how they operate under tribal law, constitutions and federal legislation, as well as an appreciation of how vulnerable tribal economies are to man-made and natural disasters. This course will also introduce Emergency Management principles and practices designed to assist tribal governments in protecting and sustaining their economies during crisis events.

**Prerequisite(s)/Corequisite(s):** EMGT 1150 Introduction to Tribal Management and Emergency Services

**EMGT 4050 INTEGRATION OF CONTEMPORARY ISSUES IN TRIBAL EMERGENCY MANAGEMENT (3 credits)**

This course covers application and integration of Tribal Management and Emergency Service (TMES) principles and practices, as well as contemporary issues affecting Tribal nations and their citizens; recent federal/tribal TMES legislation and case law; Federal/Tribal agency collaborative efforts; TMES Tribal Code development and implementation; and TMES funding resources such as PL 93-638 Contracts, grants and tribal taxation.

**Prerequisite(s)/Corequisite(s):** EMGT 1150

**EMGT 4060 DISASTER RESPONSE AND RECOVERY (3 credits)**

This course examines concepts and principles of: 1) community risk assessment, 2) disaster recovery planning, 3) responses specific to fires and natural and man-made disasters, 3) National Incident Management System and the Incident Command System (NIMS ICS), 4) mutual aid and automatic response, 5) training and preparedness, 6) communications, 7) civil disturbances, 8) terrorist threats/incidents, 9) hazardous materials planning, 10) mass casualty incidents, 11) earthquake preparedness, and 12) disaster mitigation and recovery.

**Prerequisite(s)/Corequisite(s):** EMGT 3040 (May be taken concurrently) or by instructor's permission

**EMGT 4200 INTERNSHIP IN EMERGENCY MANAGEMENT (3 credits)**

This course is designed to provide direct work experience in the emergency management field for selected students. This experience will be in a full-time or part-time, preferably paid position, in a highly structured environment. Student will be selected following formal job placement procedures and screening by Emergency Management Faculty and the participating organization. This course is intended for upper level, Emergency Management majors who have been selected following an application and interview process approved by both the School of Public Administration and the intern provider.

**Prerequisite(s)/Corequisite(s):** PA 3000 / CRCJ 3000; EMGT 3040, EMGT 3080, EMGT 4060; Instructor's Permission Required.

**EMGT 4800 SPECIAL READING IN EMERGENCY MANAGEMENT (3 credits)**

This course is intended for upper-level Emergency Management degree students who are pursuing advanced specialized areas of knowledge in Emergency Management. The course is conducted under an independent study format, and subject matter will vary based on the interests of the student. Learning outcome objectives will be established by the instructor and shall remain consistent with Emergency Management curriculum goals. Faculty approval is required prior to registration.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree or non-degree graduate students. Students will need faculty approval.

**EMGT 4900 SPECIAL TOPICS IN EMERGENCY MANAGEMENT (3 credits)**

This course is meant to provide upper-level EMGT students with an in-depth look at current and future issues affecting the Emergency Management industry and industry professionals. Possible topics include disaster case studies, comparative international studies, issues in federalism, and Continuity of Operations (COOP). Subject matter will vary by student interest and by faculty preference. Students may repeat the course for additional academic credit as long as the course topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree or non-degree graduate students. Students will need faculty approval.

**EMGT 4990 CAPSTONE PROJECT IN EMERGENCY MANAGEMENT (3 credits)**

This course fulfills the Emergency Management Capstone senior project demonstrating expertise on a specific issue area and/or problem in emergency management. The student will be required to construct and execute a research project analyzing a contemporary operational, economic, or managerial issue within emergency management utilizing an appropriate research or analytical methodology. Both a written report and PowerPoint presentation will be presented as part of the course requirements.

**Prerequisite(s)/Corequisite(s):** PA 3000 / CRCJ 3000; EMGT 3040, EMGT 3080, EMGT 4060; Writing in the Discipline course; all with a C- or better; Instructor's Permission Required.

## Engineering (ENGR)

**ENGR 100 FRESHMAN ENGINEERING SEMINAR (0 credits)**

Overview of the engineering field as well as major specific information. Information will be provided to help with transitional needs to UNL and the college of engineering (time management, study skills, and resources), involvement opportunities (student organizations, research, and study abroad, tours of engineering facilities for experiential learning, and interactive learning to increase business knowledge and skills).

**Prerequisite(s)/Corequisite(s):** First year College of Engineering students. Not open to non-degree graduate students.

**ENGR 150 SPATIAL VISUALIZATION TRAINING (0 credits)**

Develop and improve spatial visualization skills.

**ENGR 200 SOPHOMORE ENGINEERING SEMINAR (0 credits)**

Overview of career opportunities in engineering and construction management. Emphasizes internships, cooperative education and career placement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 1000 INTERPERSONAL SKILLS FOR ENGINEERING LEADERS (3 credits)**

Establishes a foundation in communication and leadership skills that is needed for engineering students to be successful in their academic endeavors and future career opportunities. Introduction to the principles and practices of positive interpersonal relationships for leadership development. Self-awareness, awareness of others, effective interpersonal communication, and the building of trust relationships as a basis for understanding and developing leadership.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 1010 INTRODUCTION TO ENGINEERING (3 credits)**

Students will examine relevant and practical industrial and commercial engineering applications to gain necessary engineering skills that will help them succeed as a student as well as a professional engineer. A variety of engineering disciplines will be highlighted and discussed, as well as topics in the underlying physical, chemical, and biological scientific principles and processes related to each topic. The class will use a specified focus area that involves real world applications to aid in the conceptualization and learning of the course material. Students will develop engineering problem solving skills; gain expertise and experience using modern engineering and computational tools; and emulate an engineering team atmosphere - each of which can be applied to a profession engineering environment.

**ENGR 1910 FRESHMAN ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary.

**ENGR 2000 PROFESSIONALISM & GLOBAL PERSPECTIVE (3 credits)**

Enhance essential professional skills for personal and team success through investigating issues in a global context. Explore in-demand professional aptitudes (self-awareness, emotional intelligence, teamwork, communication, and workplace interaction expectations). Through industry/community interaction, explore cultural and business norms and the application of broader perspectives to identify issues/solutions responsive and adaptive to their global context.

**ENGR 2500 ENGINEERING COOPERATIVE EDUCATION (1-12 credits)**

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Sophomore standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 2910 SOPHOMORE ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary.

**ENGR 3000 CREATIVITY AND WRITING FOR ENGINEERS (3 credits)**

Writing technical engineering reports; creative thinking and brainstorming applied to a real engineering problem with individual solutions submitted in report form.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and Sophomore

**ENGR 3010 INTRODUCTION TO NUCLEAR AND RADIATION ENGINEERING CONCEPTS (1 credit)**

History of nuclear development, basic concepts of radiation and radioactivity, radioactive waste management, global warming, and the impact of nuclear power plants. Industrial applications, health, and nuclear medicine. Job opportunities at power plants, graduate school, and national laboratories. Tour of the University of Texas nuclear research reactor and demonstration experiments. (Requires off-campus travel.)

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

**ENGR 3100 UTILIZATION OF NUCLEAR TECHNOLOGIES IN SOCIETY (3 credits)**

The applications of nuclear science to society and the fundamental radiation principles utilized in these applications.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 3200 LEADERSHIP, MANAGEMENT, AND ETHICS (3 credits)**

Explore professional leadership, ethics, project management tools and skills, and how to successfully implement and respond to change. In a team based environment, enhance essential professional skills for personal and team success by developing and presenting a responsive proposal considering: client needs, basic project controls and scheduling. Learn about personal styles, motivation and effectively implementing change. Examine ethical dilemmas regarding principles, stewardship, and civics from ethical, legal, and expediency perspectives.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ENGR 3500 ENGINEERING COOPERATIVE EDUCATION (0-12 credits)**

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Junior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 3910 JUNIOR ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary

**ENGR 3950 ENGINEERING INTERNSHIP (0-1 credits)**

Provides an opportunity to reflect on experience gained through an internship related to the major field of study and an integral or important part of their program of study. Develop non-technical professional skills through reflective writing assignments. May be repeated.

**Prerequisite(s)/Corequisite(s):** Undergraduate major in the College of Engineering; sophomore standing; permission from instructor.

**ENGR 4000 PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY (1 credit)**

Discussions on professionalism and ethics of engineering practice; problems encountered by new graduates.

**Prerequisite(s)/Corequisite(s):** Senior

**ENGR 4020 ENERGY SYSTEMS AND RESOURCES (3 credits)**

Energy as a critical component of civilization. The critical role of energy from the economic and political point of view world wide. Energy resources available, the technology to use the resources, the economics of energy production, the environmental consequences of energy use, and energy policy.

**Prerequisite(s)/Corequisite(s):** ENGR 3010, not open to nondegree students

**ENGR 4070 PROJECT MANAGEMENT (3 credits)**

Project development, role of the project manager, project selection, project planning, budgeting and cost estimation, project scheduling, and project termination.

**ENGR 4100 RADIATION PROTECTION AND SHIELDING (3 credits)**

Basic principles and concepts of radiation protection and shield design. Dosi-metric units and response functions, hazards of radiation doses, radiation sources, basic methods for dose evaluation, and shielding design techniques for photons and neutrons.

**Prerequisite(s)/Corequisite(s):** MENG 4010, MECH 4010 MENG 8016, MECH 8016 or ENGR 4210

**ENGR 4110 NUCLEAR REACTOR THEORY (3 credits)**

Introduction to neutron diffusion theory, neutron moderation, neutron thermalization, and criticality condition of nuclear reactor.

**Prerequisite(s)/Corequisite(s):** ENGR 3100, not open to nondegree students

**ENGR 4120 NUCLEAR REACTOR ANALYSIS (3 credits)**

Group diffusion method, multiregional reactors, heterogeneous reactors, reactor kinetics, and change in reactivity.

**Prerequisite(s)/Corequisite(s):** ENGR 4110, not open to nondegree students

**ENGR 4150 COGNITIVE ERGONOMICS (3 credits)**

Human factors affecting work. Focus on humans: energy requirements, lighting, noise, monotony and fatigue, learning, simulations versus sequential tasks. Experimental evaluation of concepts.

**Prerequisite(s)/Corequisite(s):** ENGR 4300 or permission.

**ENGR 4160 PHYSICAL ERGONOMICS (3 credits)**

Human performance in work. Human response to various environmental and task-related variables with emphasis on physical and physiological effects.

**Prerequisite(s)/Corequisite(s):** ENGR 4300 or permission

**ENGR 4170 OCCUPATIONAL SAFETY HYGIENE ENGINEERING (3 credits)**

Introduction to occupational hygiene engineering with emphasis on workplace environmental quality. Heat, illumination, noise, and ventilation.

**Prerequisite(s)/Corequisite(s):** Senior standing or permission

**ENGR 4200 NUCLEAR REACTOR ENGINEERING (3 credits)**

The physics governing nuclear reactors and the design principles for commercial nuclear power plants. Reactor designs currently operating in the power industry.

**ENGR 4210 ELEMENTS OF NUCLEAR ENGINEERING (3 credits)**

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research. (Cross-listed with MECH 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 2120, and (ENGR 3010 or ENGR 3100)

**ENGR 4500 ENGINEERING COOPERATIVE EDUCATION (0-12 credits)**

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum. Special approval is required to take course for credit hours. C/N only.

**Prerequisite(s)/Corequisite(s):** Senior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. All engineering students participating in cooperative education must register each term prior to commencing work.

**ENGR 4600 PACKAGING ENGINEERING (3 credits)**

Investigation of packaging processes, materials, equipment and design. Container design, material handling, storage, packing and environmental regulations, and material selection.

**Prerequisite(s)/Corequisite(s):** CONE 2060; MENG 3210 or MECH 3210; MENG 3730 or MECH 3730

**ENGR 4610 RFID SYSTEMS IN THE SUPPLY CHAIN (3 credits)**

Foundations of Radio Frequency Identification Systems (RFID). The fundamentals of how RFID components of tag, transponder, and antennae are utilized to create RFID systems. Best practices for implementation of RFID systems in common supply operations.

**ENGR 4690 TECHNOLOGY, SCIENCE AND CIVILIZATION (3 credits)**

(Lect 2 Dis. 2) This course studies the development of technology as a trigger of change upon humankind, from the earliest tools of Homo Habilis to the advent of the radio telescope in exploring the creation of the universe. The course traces the paths from early science to development of the sciences and technologies that will dominate the new millennium. (8696 is for non SET students) (Cross-listed with ENGR 8696).

**Prerequisite(s)/Corequisite(s):** Senior or permission.

**ENGR 4810 SUPPLY CHAIN OPTIMIZATION (3 credits)**

Foundations of supply chain network modeling. The concepts that support the economic and service trade-offs in supply chain and logistics management. Using decision support system (DSS) to design optimal logistics network models given data requirements and operational parameters. Using leading software packages to model problems arising in strategic management of logistics networks.

**ENGR 4830 LOGISTICS IN THE SUPPLY CHAIN (3 credits)**

The process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption. Domestic transportation systems, distribution centers and warehousing, international logistics, logistic system controls, and reengineering logistics systems.

**ENGR 4900 GLOBAL EXPERIENCES IN ENGINEERING (1-3 credits)**

Individual or group educational experience combining classroom lectures, discussions, and/or seminars with field and/or classroom studies in a foreign country. Choice of subject matter and coordination of on- and off-campus activities are at the discretion of the instructor.

**ENGR 4910 SENIOR ENGINEERING SPECIAL TOPICS (1-3 credits)**

Topics vary.

## Engineering Mechanics (EMEC)

**EMEC 4600 VIBRATION THEORY AND APPLICATIONS (3 credits)**

## English (ENGL)

**ENGL 1010 INTRODUCTION TO GENRE STUDIES: PROSE (3 credits)**

This course introduces students to the study of short stories, novels, and creative non-fiction (optional; inclusion may vary by instructor).

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 1020 INTRODUCTION TO GENRE STUDIES: POETRY, DRAMA, FILM (3 credits)**

This course introduces students to the study of poetry, drama, and film (optional; inclusion may vary by instructor).

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 1030 US CULTURES IN LITERATURE (3 credits)**

The course introduces students to literary texts representing diverse U.S. groups: their ideologies, norms, and behaviors. Students will study conventions of various genres; ways in which those genres portray group identities; and attitudes toward group identities. Students will engage with texts through analysis, interpretation, and personal reflection.

**Prerequisite(s)/Corequisite(s):** Placement of 4 or higher on the English Placement and Proficiency Exam (EPPE)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ENGL 1090 ENGLISH AS A SECOND LANGUAGE I (3 credits)**

This class is an intermediate writing-intensive course that will help students learn about the nature of the academic essay in American university settings; it is intended for students whose language of nurture is not English. Students receive intensive instruction in vocabulary and grammatical conventions appropriate for writing in a variety of disciplines as they engage in expository essay writing. In addition, students study the conventions of a thesis-driven argument and appropriate use of evidence to support their assertions.

**Prerequisite(s)/Corequisite(s):** A Score  $\geq$  500 on the paper TOEFL, 61 on the Internet TOEFL, 6.0 on the IELTS, 44 on the PTE (Pearson Test of English), or a placement of 2 (ENGL 1090) by Dept of English diagnostic examination (called the English Placement and Proficiency Exam or EPPE).

**ENGL 1100 ENGLISH AS A SECOND LANGUAGE II (3 credits)**

This class is an advanced writing-intensive course in which students learn about the nature of the academic essay in American university settings; it is intended for students whose language of nurture is not English. Through a study of cultural rhetorics, students become acclimated to the more advanced academic environments they will encounter in American universities and learn the conventions of the writing they will be asked to perform in their major courses, for example, research standards demanded by US professors, including appropriate selection and integration of sources into a student's own writing and navigation of an academic library.

**Prerequisite(s)/Corequisite(s):** Placement of 3 (ENGL 1100) by Department of English diagnostic examination (called the English Placement and Proficiency Exam or EPPE), or C- or better in ENGL 1090

**ENGL 1150 ENGLISH COMPOSITION I (3 credits)**

Instruction and practice in academic literacy practices, especially writing summaries, analyses, and critical essays in response to assigned texts. Sections identified as "ENGL 1154" are taught in a computer classroom. (Cross-listed with ENGL 1154).

**Prerequisite(s)/Corequisite(s):** Placement of 5 (ENGL 1150/ENGL 1154) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in ENGL 1050 or ENGL 1100, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition 1

**ENGL 1154 ENGLISH COMPOSITION I (3 credits)**

Instruction and practice in academic literacy practices, especially writing summaries, analyses, and critical essays in response to assigned texts. Sections identified as "ENGL 1154" are taught in a computer classroom. (Cross-listed with ENGL 1150).

**Prerequisite(s)/Corequisite(s):** Placement of 5 (ENGL 1150/ENGL 1154) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in ENGL 1050 or ENGL 1100, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition 1

**ENGL 1160 ENGLISH COMPOSITION II (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. Sections identified as "ENGL 1164" are taught in a computer classroom. (Cross-listed with ENGL 1164).

**Prerequisite(s)/Corequisite(s):** Placement of 6 (ENGL 1160/ENGL 1164) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in Composition I, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 1164 ENGLISH COMPOSITION II (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. Sections identified as "ENGL 1164" are taught in a computer classroom. (Cross-listed with ENGL 1160).

**Prerequisite(s)/Corequisite(s):** Placement of 6 (ENGL 1160/ENGL 1164) on the English Placement and Proficiency Exam (EPPE), grade of C- or better in Composition I, or permission of the department.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 1200 AUTOBIOGRAPHICAL READING AND WRITING (3 credits)**

This course helps students to write effectively by focusing on their own personal experience and by examining a variety of autobiographical writings. Students are exposed to multicultural perspectives throughout the course.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2000 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

A variety of topics primarily for the non-major. (For example, this course might study the image of the American businessman in American literature.) One or two such topics may be offered each term, depending upon current student interest and available faculty. Students should consult each term's class schedule in order to determine the specific topics for that term. (Cross-listed with WGST 2000 when topic is appropriate).

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**ENGL 2110 INTRODUCTION TO CREATIVE NONFICTION WRITING (3 credits)**

ENGL 2110 is an introduction to creative nonfiction writing. This course focuses on the study and analysis of creative nonfiction, which will focus primarily on the foundational elements of creative nonfiction writing, including characterization, dialogue, mood, rhythm and style, point-of-view, and voice.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or equivalent, or special permission from instructor. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2160 HONORS COMPOSITION: REASON AND RESEARCH (3 credits)**

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. A variant of Composition II for honors students.

**Prerequisite(s)/Corequisite(s):** Reserved for students in the Honors Program. Admission to the Honors Program and placement of 6 on the English Proficiency Placement Exam (EPPE), grade of C- or better in Composition I, or permission of the Honors Program.

**Distribution:** Fundamental Academic Skills-Composition II

**ENGL 2230 ETHNIC LITERATURE (3 credits)**

An introduction to the literature of Native Americans, black Americans, Hispanic Americans (Chicanos, Puerto Ricans or Cubans), and Asian Americans (Chinese and Japanese). Explains and defines cultural terms and practices, and attempts to prepare students for multicultural living.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ENGL 2250 THE SHORT STORY (3 credits)**

Readings in the modern short story with particular attention to literature as a reflection of life and to form as an outgrowth of content.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 / ENGL 1164 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2260 BLACK SHORT STORY (3 credits)**

A study of short stories written by black American authors as literature and as experience. The course explains and defines cultural terms and practices, and attempts to prepare students for multicultural living. (Cross-listed with BLST 2260).

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1154, or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**ENGL 2280 INTRODUCTION TO LANGUAGE (3 credits)**

A study of the nature of language and its role in human affairs.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Social Science General Education course

**ENGL 2310 INTRODUCTION TO BRITISH LITERATURE I (3 credits)**

A survey of British literature from c.600 to the end of the 18th century.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2320 INTRODUCTION TO BRITISH LITERATURE II (3 credits)**

A survey of English literature from the Romantic period to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2350 AFRICAN AMERICAN LITERATURE 1746-1939 (3 credits)**

This course traces the development of black literature from 1746 to 1939.

Included will be a study of multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied will include early black writers, neoclassic and romantic traditions, and the Harlem Renaissance and Depression era schools of thought. (Cross-listed with BLST 2350).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**ENGL 2360 AFRICAN AMERICAN LITERATURE 1940-PRESENT (3 credits)**

This course traces the development of the literary contribution that black Americans have made from 1940 to the present. The course will study multiple genres including: poetry, short story, novel, drama, and nonfiction. Trends to be studied include an evolution in resistance in writing, a movement toward literary assimilation in the 1940s-1950s, and the subsequent movement toward "Black Arts" from the 1960s to the present. (Cross-listed with BLST 2360).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or instructor permission

**ENGL 2400 ADVANCED COMPOSITION (3 credits)**

This course is an advanced study of writing, including careful examination of 1) written genres generally, 2) discourse conventions of a student's academic discipline, and 3) a student's own reading and writing strategies, processes, habits, and preferences. Students will develop understanding of how writing functions in academic and professional communities as well as gain proficiency in discipline-specific research and writing, including identification of audience and rhetorical situation.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 2410 CRITICAL APPROACHES TO LITERATURE (3 credits)**

An introduction to research, theory, and writing about literary and cultural studies; includes, but is not limited to, reading literary works and a variety of critical interpretations of those works, specialized library research, learning the discipline's documentation style, and writing in diverse genres (e.g. synopses, abstracts, poetry explications, prose analyses, reviews, essay exams and research papers).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**Distribution:** Writing in the Discipline Single Course

**ENGL 2420 CRITICAL APPROACHES TO LANGUAGE STUDIES (3 credits)**

This course introduces students to Language Studies, including disciplinary theories and discourses, key issues, and methodologies in rhetoric, composition, technical communication, and linguistics. Students will also practice and become familiar with the writing conventions within Language Studies.

**Prerequisite(s)/Corequisite(s):** ENGL 1160.

**Distribution:** Writing in the Discipline Single Course

**ENGL 2450 AMERICAN LITERATURE I (3 credits)**

A survey of American literature to the Civil War.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2460 AMERICAN LITERATURE II (3 credits)**

A survey of American literature since the Civil War.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2470 SURVEY OF NATIVE AMERICAN LITERATURE (3 credits)**

An introduction to the literature of the oral tradition among the Native American peoples and to the written literature of post-contact and contemporary times.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 2480 THE AMERICAN LANGUAGE (3 credits)**

A study of the historical development, current condition, and diversity of English language varieties in America, including both linguistic and sociocultural factors that have influenced them.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** U.S. Diversity General Education course

**ENGL 2490 LATINO/A LITERATURE (3 credits)**

This course is an introduction to contemporary literature by Latinos/as in the United States, providing an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from the mid-19th Century to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or by permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**ENGL 2500 LITERATURE OF WESTERN CIVILIZATION: THE ANCIENT WORLD (3 credits)**

A study of European literature in English translation. Includes the works of such writers as Homer, Sophocles, Sappho, Virgil, Horace, Ovid and St. Augustine.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 2510 GLOBAL EXPLORATIONS: MEDIEVAL TO EARLY MODERN WORLD (3 credits)**

A study of world (excluding English) literature and culture in English translation. May include the study of Norse mythology, medieval Jewish and Muslim writers of southern Spain, or the works of such writers as Dante, Chretien de Troyes, Averroes (Ibn Rushid), Maimonides, Christine de Pisan, Maria de Zayas, or Rousseau.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 or permission

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 2520 LITERATURE OF WESTERN CIVILIZATION: THE MODERN WORLD (3 credits)**

A study of the modern period in European literature (exclusive of English literature) from the 18th century Romantic movement to recent 20th century developments, including writings from Rousseau through Solzhenitsyn.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 3000 SPECIAL TOPICS IN ENGLISH (3 credits)**

This course introduces students to a specialized subject matter in the disciplines of English Studies not covered in existing courses. This course may be repeated for different topics.

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**ENGL 3050 WRITING FOR THE WORKPLACE (3 credits)**

In this course students learn to write polished, professional communication, focusing content for specific audiences and contexts. Instruction stresses audience and situational analysis, clarity, and professional tone and style as well as elements of format and pattern, research, and revision techniques.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, ENGL 1164, or permission of instructor

**Distribution:** Writing in the Discipline Single Course

**ENGL 3100 NATIVE AMERICAN LITERATURE: MAJOR FIGURES (3 credits)**

An in-depth study of elements of Native American literature or of particular poets, novelists, biographers or short story writers.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**ENGL 3130 AMERICAN NONFICTION (3 credits)**

This is an intermediate literature course intended to give students broad exposure to American nonfiction. Students will study and analyze a variety of literary forms, including the personal essay, memoir, and literary journalism, from a wide range of historical periods.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 3150 FORM AND STYLE IN CREATIVE NONFICTION (3 credits)**

This is an introduction to creative nonfiction. This course focuses on the study and analysis of the art of creative nonfiction and its various subgenres: personal essay, memoir, literary journalism, travel writing, segmented/collage essay, and literary/cultural analysis.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or ENGL 1164 or a composition II equivalent. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**ENGL 3170 SUCCESSFUL FREELANCE JOURNAL WRITING (3 credits)**

This course will address the steps necessary to successful freelance writing: selecting an interesting topic, choosing an innovative angle, understanding audience, researching a suitable publication, drafting a compelling query, editing work and rewriting all or parts of the essay, working with editors, understanding and accepting rejection letters. Ultimately, students in this course will work toward the end goal of submitting their polished work for publication in both paying and non-paying markets.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents

**ENGL 3180 GENDER IDENTITY IN PERSONAL WRITING (3 credits)**

Students will read a variety of memoirs and personal essays by both emerging and established LGBTQIA+ creative nonfiction writers and allies, with a focus on trans writers; analyze the craft choices each author makes; analyze textual and theoretical explorations of gender identity and gender performativity; and explore their gender identities, and gender experiences in the essays that they compose. (Cross-listed with WGST 3180).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents required.

**ENGL 3280 IRISH LITERATURE I (3 credits)**

This course explores Irish literature from the early medieval period (c. 600) to the late nineteenth century and the Irish Literary Renaissance. Texts include works written in Irish as well as in English, and cover a variety of genres, including but not limited to: early medieval monastic nature poetry, medieval prose saga literature, the Irish bardic and aisling traditions, political satire and laments, Anglo-Irish Ascendancy novels, and the Irish Gothic.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission required; ENGL 2410 and ENGL 2310 recommended.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**ENGL 3290 IRISH LITERATURE II (3 credits)**

A survey of Irish literature in both English and Irish from the beginning of the Irish Literary Renaissance (c. 1880) to the present.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission required; ENGL 2410, and ENGL 2320 or ENGL 3280 recommended. Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

**ENGL 3300 JUNIOR TOPICS IN AMERICAN LITERATURE (3 credits)**

This course is an introduction to topics in American literature, to include colonial, modern, and postmodern literature and also Native American and immigrant/diaspora literature written in English or read in translation. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420

**ENGL 3400 JUNIOR TOPICS IN BRITISH/IRISH/ANGLOPHONE LITERATURE (3 credits)**

This course introduces students to topics in British or Irish literature or the literature of the former British commonwealths. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3500 JUNIOR TOPICS IN GLOBAL LITERATURE (3 credits)**

Topics in world literature, to include trans-national and trans-continental literature written in English or read in translation. Readings will vary according to the topic specified.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3610 INTRODUCTION TO LINGUISTICS (3 credits)**

An introduction to the concepts and methodology of the scientific study of language; includes language description, history, theory, variation, and semantics as well as first and second language acquisition. (Cross-listed with ENGL 8615).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**Distribution:** U.S. Diversity General Education course and Social Science General Education course

**ENGL 3770 WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH (3 credits)**

This course is an introduction to writing center theory, pedagogy, research, and history. The course is designed for undergraduate and graduate students interested in or already working in a writing center. Throughout the course we will explore a wide range of models for writing center work and the often problematic metaphors associated with those models. The overall aim in this course will be to help students develop multiple strategies for teaching writing one-to-one, for conducting research in writing centers, and for understanding writing center administration. (Cross-listed with ENGL 8775).

**ENGL 3800 JUNIOR TOPICS IN LANGUAGE STUDIES (3 credits)**

This is a special topics course in language studies intended primarily for juniors in the English major. Topics include specific study in the areas of composition, rhetoric, technical communication, and/or linguistics, and will often include considerations of other cultures and languages. Readings may vary according to the topic.

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420. Not open to non-degree graduate students.

**ENGL 3980 TECHNICAL WRITING ACROSS THE DISCIPLINES (3 credits)**

This course emphasizes the problem-solving processes of producing effective written documents and visuals in technical professions. Students will study the genres, situations, and audiences related to professional settings, the contexts in which writing occurs, the process involved in individual and collaborative projects, and the production of technical documents.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission

**Distribution:** Writing in the Discipline Single Course

**ENGL 4020 AMERICAN POETRY TO 1900 (3 credits)**

A comprehensive survey of the American poetic tradition from the 17th to the end of the 19th century. (Cross-listed with ENGL 8026).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, or another writing in the major course recommended.

**ENGL 4030 AMERICAN POETRY SINCE 1900 (3 credits)**

A survey of the American poetic tradition from the turn of the twentieth-century to the present, focusing on various "schools" such as Imagism, High Modernism, the Harlem Renaissance, Confessional, Beats, and New Formalism. (Cross-listed with ENGL 8036).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, or other writing in the major course recommended.

**ENGL 4060 THE AMERICAN NOVEL (3 credits)**

A comprehensive survey of the evolution of the American Novel from the 1780s to the present day. Special emphasis will be placed on how a broad range of authors have responded to changing cultural and historical circumstances, and on how they have expressed widely varying viewpoints depending on their own gender, race, geographic region, and/or ethnicity. (Cross-listed with ENGL 8066).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and 1160; ENGL 2410 recommended

**ENGL 4140 AMERICAN LITERARY REALISM AND NATURALISM (3 credits)**

In the late nineteenth and early twentieth century two major literary genres - Realism and Naturalism - emerged in the United States not only to challenge the primacy of Romanticism and its generally optimistic view of life but also to actively engage with the modern America created after the Civil War. This course examines a wide range of realist and naturalist works, written between 1865 and 1914, by an extremely diverse group of male and female authors from different races, ethnicities, regions, religions, and socioeconomic classes. Emphasis will be placed on how various cultural, economic, political, and social factors influenced the construction and reception of these works. (Cross-listed with ENGL 8146).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, and ENGL 2450 or ENGL 2460.

**ENGL 4160 TOPICS IN AMERICAN REGIONALISM (3 credits)**

A study of major topics in American literary regionalism, with special emphasis on particular social, cultural, and geographical contexts. Focus will be determined by instructor, but may include particular historical periods, geographic regions, authors, or literary themes. (Cross-listed with ENGL 8166).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; ENGL 2410 highly recommended.

**ENGL 4230 LATINO LITERATURE (3 credits)**

A study of representative works of Mexican-American, Spanish-American, and American writers, along with their cultural and historical antecedents. Formerly ENGL 4180/8186 Chicano Literature and Culture. (Cross-listed with ENGL 8236).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENGL 4240 TEACHING LATINO LITERATURE (3 credits)**

This course is designed specifically for current or future teachers of high school students. It introduces pedagogical approaches of contemporary literature by Latinos/as in the United States. The course provides an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from mid-19th Century to the present and complement that with social, cultural, historical and other approaches to developing teaching strategies. (Cross-listed with ENGL 8246)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission.

**Distribution:** U.S. Diversity General Education course

**ENGL 4250 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 8256, WGST 4250).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; ENGL 2410 or ENGL 2420 recommended.

**ENGL 4260 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms about a womanist perspective. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on white, male literary experiences and criteria. (Cross-listed with ENGL 8266).

**Prerequisite(s)/Corequisite(s):** English major. ENGL 1150 or ENGL 11160 required; ENGL 2410 highly recommended

**ENGL 4270 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 8276, WGST 4270).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; completion of ENGL 2410 or other writing in the major course recommended.

**ENGL 4280 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 8286, WGST 3160).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; completion of writing in the major course recommended.

**ENGL 4300 ANGLO-SAXON LITERATURE (3 credits)**

From the sixth to the eleventh centuries, a people known collectively as the Anglo-Saxons ruled Britain, giving it a new name and establishing the roots of the modern English language. Anglo-Saxon culture continues to haunt the modern imagination. We study the historic, artistic and intellectual environment that produced this influential literary tradition. We also place these people, their language, and their writings within the context of the broader early medieval world. Finally, we engage with some of the foremost modern scholars of this fascinating culture. (Cross-listed with ENGL 8306).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and ENGL 2410 or 2420; ENGL 2310 recommended; or instructor permission

**ENGL 4320 CHAUCER (3 credits)**

A literary, linguistic, and historical study of the works of Geoffrey Chaucer: his dream visions, Troilus and Criseyde, and the Canterbury Tales. (Cross-listed with ENGL 8326).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320 or permission.

**ENGL 4330 RENAISSANCE SATIRE (3 credits)**

Satirical traditions and the literature of critique and invective as inherited from medieval and classical forms. Considerations will include satire as an aesthetic, philosophical, and political mode of expression; topicality as it relates to and portrays cultural history; and self-representation through humanist learning and response. (Cross-listed with ENGL 8336).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent. ENGL 2410 or ENGL 2420 and ENGL 2310 are recommended.

**ENGL 4340 SHAKESPEARE (3 credits)**

A critical study of selected plays and poetry from Shakespeare's works, in the context of the historical and cultural moment of the English Renaissance and as a set of texts inherited and reinvented by modernity. (Cross-listed with ENGL 8346).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; ENGL 2410 or ENGL 2420 and ENGL 2310 are recommended.

**ENGL 4360 RENAISSANCE LYRIC (3 credits)**

A study of the meaning and form of the short poetry of the Renaissance, including the sonnet, epithalamion, elegy, mock epic, pastoral, satire, city poem, ballad, song, sestina, country poem, libel, complaint, psalm, devotional lyric, epistle, and epigram. (Cross-listed with ENGL 8366).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 required and ENGL 2410 and 2310 recommended.

**ENGL 4370 RESTORATION AND EIGHTEENTH CENTURY LITERATURE (3 credits)**

Poetry, prose (exclusive of the novel), and drama of England in the Restoration and 18th century (1660-1800), with emphasis on Swift and Johnson. Formerly ENGL 4620/8626. (Cross-listed with ENGL 8376).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320 or permission.

**ENGL 4380 THE EIGHTEENTH CENTURY ENGLISH NOVEL (3 credits)**

Readings in the English novel from Daniel Defoe to Jane Austen. Formerly ENGL 4640/8646. (Cross-listed with ENGL 8386).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320

**ENGL 4390 MEDIEVAL CELTIC LITERATURE (3 credits)**

This course examines the literature and culture of the Celtic civilizations. The course examines the archeological record and texts about the Celts by Greek and Roman authors, as well as later medieval tales from the Irish, Welsh, and Breton traditions. All texts are in translation with guided reference to the original languages. (Cross-listed with ENGL 8396).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420 and one ENGL course above 3299; or instructor permission; ENGL 2310 recommended. Not open to non-degree graduate students.

**ENGL 4410 LITERATURE OF THE ROMANTIC PERIOD (3 credits)**

Poetry and prose (excluding the novel) of England from 1798 to 1830. Formerly ENGL 4810/8816. (Cross-listed with ENGL 8416).

**Prerequisite(s)/Corequisite(s):** ENGL 2310 or ENGL 2320.

**ENGL 4420 NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES (3 credits)**

English and Anglophone poetry and prose (excluding the novel) in the nineteenth century. (Cross-listed with ENGL 8426).

**Prerequisite(s)/Corequisite(s):** ENGL 2320 or permission

**ENGL 4430 THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY) (3 credits)**

Introduction to the British and Anglophone novel in the nineteenth and twentieth century. (Cross-listed with ENGL 8436).

**Prerequisite(s)/Corequisite(s):** ENGL 2320 or permission of the instructor

**ENGL 4460 THE 20TH CENTURY ENGLISH NOVEL (3 credits)**

Readings in the English novel from Joseph Conrad to the present. Formerly ENGL 4660/8666. (Cross-listed with ENGL 8466).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420; ENGL 2320 is recommended.

**ENGL 4490 GREAT WORKS OF BRITISH LITERATURE (3 credits)**

This course pursues a trans-historical approach to literary study while interrogating what makes a literary work "great" within the field of British Literature. It allows students to engage with great works of British literature from across the ages - starting with the foundations of British literary history in the medieval period and extending to the present. Attending to formal, thematic, and historical dimensions of a wide array of literary texts, we will increase our appreciation of the many ways texts make meaning while developing a deep understanding of the British literary tradition. Reading literature with a sense of purpose and comparatively across time will allow us not only to appreciate great works but also to enhance the impact they have on us. Furthermore, we will recognize how culture and politics inform what literary works become deemed "great," thereby developing a critical understanding of the process of canon formation. (Cross-listed with ENGL 8496).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 or ENGL 1160, ENGL 2410 recommended

**ENGL 4620 HISTORY OF ENGLISH (3 credits)**

A critical study of both the internal and external histories of English. Includes historical development of English phonology, morphology, graphics, syntax, diction, dialects, and semantics. (Cross-listed with ENGL 8626).

**Prerequisite(s)/Corequisite(s):** Junior or permission

**ENGL 4640 APPLIED LINGUISTICS (3 credits)**

This course is designed to develop knowledge and skills for second language instructors and others interested in second language learning and instruction. Content covers relevant second language acquisition (SLA) theory and second language pedagogy. (Cross-listed with ENGL 8646).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 and Junior standing or with permission from instructor.

**ENGL 4650 STRUCTURE OF ENGLISH (3 credits)**

A study of grammar as it has been conceived through history, including traditional prescriptive and descriptive approaches as well as transformational- generative grammar. (Cross-listed with ENGL 8656).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 / ENGL 8615 or permission.

**ENGL 4670 SOCIOLINGUISTICS (3 credits)**

An exploration of interconnections between language, culture, and communicative meaning, stressing interactional, situational, and social functions of language as they take place and are created within social contexts. (Cross-listed with ENGL 8676).

**Prerequisite(s)/Corequisite(s):** ENGL 3610/ENGL 8615, or permission.

**ENGL 4690 TOPICS IN LINGUISTICS (3 credits)**

Studies in a selected subfield or problem area of linguistics such as sociolinguistics, generative semantics, applied linguistics, descriptive linguistics, teaching English as a foreign language, etc. Formerly ENGL 4960/8966 Studies in Linguistics. (Cross-listed with ENGL 8696).

**ENGL 4730 RHETORIC (3 credits)**

A study of contemporary theories of invention, form, and style and their application in written discourse. Formerly ENGL 4750/8756. (Cross-listed with ENGL 8756, ENGL 8736).

**Prerequisite(s)/Corequisite(s):** Any 2000 or above writing course or permission

**ENGL 4750 COMPOSITION THEORY & PEDAGOGY (3 credits)**

This course is an overview of composition theories and pedagogies since 1968 and focuses on how historical movements in education and theoretical frameworks (rhetorical, expressivist, socio-cognitivist, collaborative, social constructionist, critical pedagogy, cultural studies, feminist, technological, and linguistic theories) both enrich and complicate the teaching of composition. (Cross-listed with ENGL 8756).

**Prerequisite(s)/Corequisite(s):** Any 2000 or above writing course or permission

**ENGL 4790 ENGLISH CAREER PREPARATION (1 credit)**

This course will prepare students for an internship or a career, addressing topics such as finding and applying for internships, workplace and industry, resume and cover letters, interviewing techniques, developing a professional portfolio, and statement of goals. Taking this course prior to an internship is highly recommended. (Cross-listed with ENGL 8796).

**Prerequisite(s)/Corequisite(s):** Junior or senior level, one 4000-level English course, or permission of instructor.

**ENGL 4800 ENGLISH INTERNSHIP (1-3 credits)**

Supervised internship in a professional setting with a local employer or nonprofit organization. Hands-on experience. Work hours, activities, and responsibilities must be specified in a written agreement between the employer and the student in consultation with the internship director. Some internships will be paid and some will not. (Cross-listed with ENGL 8806).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, an ENGL 4000-level writing course, Junior/Senior standing, and permission of internship director.

**ENGL 4810 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 8816, JMC 4810, JMC 8816).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 or permission of instructor

**ENGL 4820 AUTOBIOGRAPHY (3 credits)**

In this creative nonfiction writing course, students will craft, workshop, and revise original works of autobiographical nonfiction. Students will read, discuss and critically analyze writing techniques found in diverse autobiographical prose by published authors and student peers. A final project will invite students to research and summarize a book-length autobiography of their own. (Cross-listed with ENGL 8826).

**Prerequisite(s)/Corequisite(s):** ENGL 2110 or ENGL 3150 or ENGL 2410 or ENGL 2420 or Instructor Permission

**ENGL 4830 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 8836, JMC 4830, JMC 8836.)

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110, or permission of instructor.

**ENGL 4840 TRAVEL WRITING (3 credits)**

Travel Writing is a course in professional writing. Although the course includes critical examinations of texts, the primary focus is on the composition of various kinds of travel essays. (Cross-listed with ENGL 8846).

**Prerequisite(s)/Corequisite(s):** ENGL 2410, ENGL 2420, or ENGL 3150

**ENGL 4850 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 8856, JMC 4850, JMC 8856).

**Prerequisite(s)/Corequisite(s):** ENGL 4810 or ENGL 4830, or permission of instructor.

**ENGL 4860 THE MODERN FAMILIAR ESSAY (3 credits)**

Students in this course will read as well as write the Modern Familiar Essay, a sub-genre of Creative Nonfiction, with an emphasis on writing the informal essay. Essays will represent a wide scope of perspectives and issues, including gender, social class, education, politics, culture, sexuality, health, race, and ethnicity, and will range from the the sixteenth century "inventor" of the modern essay to twenty-first century practitioners of the form. This course will also cover a wide range of sub-genres and stylistic forms, such as memoir, autobiography, flash, experimental, and more. (Cross-listed with ENGL 8866).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2110 or ENGL 3150 or instructor permission for Arts, 7-12; Secondary English, 7-12; and/or English as a Second Language, 7-12

**ENGL 4870 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 8876, JMC 4870, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**ENGL 4890 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 8896, JMC 4890, JMC 8896).

**Prerequisite(s)/Corequisite(s):** ENGL 4810, ENGL 4830, ENGL 4870 and ENGL 4850, or permission of instructor.

**ENGL 4930 NARRATIVE NONFICTION (3 credits)**

Students will read, discuss, and write critical analyses of narrative nonfiction by published and student writers. They will craft, workshop, and revise original works of narrative nonfiction. (Cross-listed with ENGL 8936).

**Prerequisite(s)/Corequisite(s):** One creative nonfiction course or permission from the instructor

**ENGL 4950 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 8956, MEDH 4950).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**ENGL 4960 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

This course introduces students to a specialized subject matter in the discipline of English Studies not covered in existing courses. This course may be repeated for different topics. (Cross-listed with ENGL 8966).

**Prerequisite(s)/Corequisite(s):** Will vary depending on what the topic is.

**ENGL 4970 WRITING ABOUT SICKNESS AND HEALTH (3 credits)**

Students will explore many themes of the human experience in healthcare through reading and discussion of selected poems, short stories, excerpts from fiction, and essays and creative nonfiction. To help students generate their own poems, stories, and essays, the class will incorporate the work of community writing programs and projects. (Cross-listed with ENGL 8976).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor.

**ENGL 4980 TOPICS: INDEPENDENT STUDY (3 credits)**

Specially planned readings in a well-defined field of literature or language, carried out under the supervision of a member of the English faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior, and no incompletes outstanding.

**ENGL 4990 SENIOR PAPER OR PROJECT (1 credit)**

Attached to an existing 4000-level English course in which a student is currently enrolled and normally added during the first six weeks of the academic semester, the Senior Paper or Project contracts a student to produce a culminating paper or project in an area of the English major. The paper or project produced in conjunction with this course will constitute a student's most dedicated accomplishment at the end of her or his undergraduate career.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor and senior standing. Not open to non-degree graduate students.

# Entrepreneurialship (ENTR)

## ENTR 2550 BUSINESS AND ECONOMICS IN AFRICAN AMERICAN COMMUNITIES (3 credits)

This course traces the evolution of African American business and economic development systems in the U.S. and will examine historical economic and political influences which impact African American business communities. Students will be exposed to various aspects of African American business and economics, including Black entrepreneurship and Black owned businesses before, during, and after slavery; an analysis of the role of Black churches in African-American communities; and the impact of modern economic and political systems on African American business communities. (Cross-listed with BLST 2550).

**Distribution:** U.S. Diversity General Education course

## ENTR 2980 SEMINAR IN ENTREPRENEURSHIP (1 credit)

This seminar exposes students to entrepreneurs and innovators from multiple industries and varied backgrounds. This course will explicitly link entrepreneurship theories with the best practice experiences of successful entrepreneurs in the region. Through purposeful interaction with the region's start-up community, this course will strengthen the networks of entrepreneurship students and equip students with the knowledge and tools to make their business ideas a reality.

## ENTR 3330 ENTREPRENEURIAL FINANCE (3 credits)

This course focuses on venture capital formation and the financing of entrepreneurial ventures. The course is intended for students interested in entrepreneurship, venture capital markets, investment banking, and other careers related to new venture financing and/or deal structuring. The course applies basic financial theory to the unique environment of incubating and growing new ventures. (Cross-listed with FNBK 3330).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C or better

## ENTR 3710 ENTREPRENEURIAL FOUNDATIONS (3 credits)

A study of the analytical techniques and managerial tasks associated with developing and executing business plans for small firms and start-ups. These skills, including strategic positioning and competitor analysis, marketing, teaming, project and operations management, and cash flow projection will be taught through a combination of contemporary readings, speakers, and hands-on practice problems.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and 2.0 GPA.

## ENTR 4000 SPECIAL TOPICS IN ENTREPRENEURSHIP (3 credits)

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing an entrepreneurship concentration.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 plus 6 hours of Entrepreneurship, all with C+ or better; GPA of 2.5 or better; or permission of instructor.

## ENTR 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with ENTR 8156, GEOG 4150, GEOG 8156, WGST 4150, WGST 8156)

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

## ENTR 4390 MEDIA ENTREPRENEURSHIP (3 credits)

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 4390, JMC 8396).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

## ENTR 4530 ENTREPRENEURSHIP INTERNSHIP (1-3 credits)

Students engage in part time employment in a new or small business to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to establishing or growing a small business such as market research, customer development, systems design and implementation, funding activities, etc.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C+ or better, a 2.5 GPA, and junior level standing, and permission of instructor. Not open to non-degree graduate students.

## ENTR 4690 EMERGING TECHNOLOGY AND INNOVATION (3 credits)

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with MGMT 4690, BSAD 8696).

**Prerequisite(s)/Corequisite(s):** Junior standing or higher; 2.75 minimum GPA; or permission of instructor

## ENTR 4710 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with ENTR 8716, PSCI 4710, PSCI 8716).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing

## ENTR 4720 INNOVATION VENTURES (3 credits)

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

## ENTR 4730 NEW VENTURE FORMATION (3 credits)

This course is a comprehensive study of the interrelationships between functional business areas in a start-up or small firm. These interrelationships will be taught through the development of a complete business plan for a start-up or small business.

**Prerequisite(s)/Corequisite(s):** ENTR 3710 with a C (2.00) or better; GPA 2.5

## ENTR 4740 TECHNOLOGY AND INNOVATION MANAGEMENT (3 credits)

This course covers the challenges that surround technology and innovation management. Approaching innovation management as a strategic process, this course will focus in on how the innovation process works and what kinds of organizational environments support this process, as well as how innovation affects the competitive dynamics of markets so that firms can better manage their innovation(s).

**Prerequisite(s)/Corequisite(s):** ENTR 3710. Not open to non-degree graduate students.

**ENTR 4750 SOCIAL ENTREPRENEURSHIP (3 credits)**

Motivated by the desire for social change and community betterment, social entrepreneurs use innovation to solve society's problems in a variety of settings - nonprofits, for-profit businesses, or government agencies. Guest speakers, case discussion, lecture, and student presentations will be used in this course and students will be expected to develop a detailed business plan for a social enterprise.

**Prerequisite(s)/Corequisite(s):** Minimum GPA 2.5

**ENTR 4760 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with MKT 4760, BSAD 8766)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**ENTR 4770 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with BSAD 8776).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval.

**ENTR 4780 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with BSAD 8786).

**Prerequisite(s)/Corequisite(s):** Students must have taken Maverick Venture Fund - 1: Venture Capital Concepts (ENTR 4770/8770).

**ENTR 4790 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with BSAD 8796).

**Prerequisite(s)/Corequisite(s):** Students must have taken MAVERICK VENTURE FUND - 2: APPLICATION, SOURCING DEALS & DUE DILIGENCE

## Environmental Studies (ENVN)

**ENVN 2000 LANDSCAPE APPRECIATION AND ENVIRONMENTAL SUSTAINABILITY (3 credits)**

This course enables students to observe, document and critically examine the values and processes associated with human-designed landscapes and their connection to natural environments. Through concepts and tools presented in the course, students understand the environmental, social and economic context of local and global environments. Emphasis is placed on landscape as an indicator of aesthetic quality; the preference and restorative attributes of nature; design principles and processes as integrators of humans and nature in sustainable urbanized landscapes; and the various ways that sustainability can define a framework for multi-functional landscapes.

**Distribution:** Humanities and Fine Arts General Education course

**ENVN 2010 ENVIRONMENTAL PROBLEMS AND SOLUTIONS (1 credit)**

An overview of current environmental problems and the efforts to solve those problems. Intended for Environmental Studies majors and other students with an interest in conservation, the human environment, and management of natural resources. This course examines current local, regional, and global environmental issues and explores work being done to improve environmental quality. The purpose of the course is to give students a broad, interdisciplinary overview of environmental topics to prepare them for advanced course work in the field. Usually offered Spring.

**Prerequisite(s)/Corequisite(s):** BIOL 1330 or GEOL 1010 (or concurrent enrollment). Not open to non-degree graduate students.

**ENVN 2120 SUSTAINABLE LANDSCAPE PLANTS (4 credits)**

This course focuses on the identification of native and adapted landscape plants, including herbaceous perennials, groundcovers, vines, trees and shrubs in natural and urbanized landscapes. In addition, it covers the ecological and design contexts for the landscape roles, sustainable usage and management of identified plants in the Great Plains region. (Cross-listed with BIOL 2120)

**Prerequisite(s)/Corequisite(s):** High school biology

**Distribution:** Natural/Physical Sci General Education lecture&lab

**ENVN 3180 ENVIRONMENTAL ETHICS (3 credits)**

This course introduces students to the thinkers and issues that make environmental ethics what it is today. It includes the analysis and evaluation, from ethical viewpoints, of such topics as: intrinsic value of animals, plants and ecosystems; animal rights; climate change; conservation and preservation; environmental law and politics; obligations to future generations; sustainability and new technologies; war, immigration, and the environment; human rights and the environment; nature and the built environment; and environmental activism. (Cross-listed with PHIL 3180).

**Prerequisite(s)/Corequisite(s):** Junior or 3 hours of philosophy.

**ENVN 3660 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN (3 credits)**

This course provides an overview of graphic techniques and process for landscape design; the analysis and conceptual design of the landscape; and the exploration of the design characteristics of plants, landform, and structures through discussion, case studies and applied design development. A focus on sustainable design components and applications is included, including native and adapted plant selection, stormwater management, water conservation, efficient irrigation concepts, and practical landscape management and maintenance considerations. (Cross-listed with BIOL 3660)

**Distribution:** Humanities and Fine Arts General Education course

**ENVN 3670 INTRODUCTION TO SUSTAINABLE LANDSCAPE DESIGN LABORATORY (1 credit)**

This course covers the basic use of graphic techniques for landscape design; the analysis and process for conceptual design of the landscape; studio problems in value, texture, form and space; and the exploration of the design characteristics of plants, landform, and structures supporting sustainable landscape design and management principles. (Cross-listed with BIOL 3670)

**Prerequisite(s)/Corequisite(s):** ENVN 3660 or BIOL 3660 (prior or concurrent).

**ENVN 4090 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1-5 credits)**

A variable credit lecture and/or laboratory course pertaining to a specific topic in environmental studies or sustainability not available in the regular curriculum. May be repeated as topics change.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing.

**ENVN 4180 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 8186, BIOL 4180).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Must enroll in lab. Not open to non-degree graduate students.

**ENVN 4270 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with PSCI 4270, PSCI 8276)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**ENVN 4310 OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY (3 credits)**

In this course, students will analyze our energy options including the environmental, economic, and ethical connections with a particular emphasis on electrical energy. The course doesn't prescribe a particular energy future but rather emphasizes development of the knowledge and skills to more effectively contribute to the conversation. To understand our future, the course begins with the present energy landscape and its historical underpinnings, then focuses on developing a student's ability to critically assess energy options by examining the associated implications, consequences, intent, origins, and bias. Students' own work, life, and academic experience are used in the course to underscore the individual relevance of these energy choices. The course includes the necessary science, but the greater emphasis is on the associated critical and creative thinking so that ultimately students can make informed, creative, sustainable energy choices. (Cross-listed with ENVN 8316, CACT 8316)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENVN 4320 ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH (3 credits)**

The course will explore and develop the complex context of the systemic links among ecosystems and human health (and more broadly human well-being) using case studies including climate change, water quality, infectious diseases and agricultural production. Students will develop skills in critical thinking and applied research by studying biological connections between humans and ecosystems and how social, economic and cultural processes and practices mediate these connections. This course supports the Health and the Environment concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8326)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing

**ENVN 4330 INTRODUCTION TO GREEN INFRASTRUCTURE (3 credits)**

This course provides an overview of green infrastructure including issues managed with green infrastructure (storm water quality and quantity, urban habitat value, urban sustainability, etc.); basic design and management parameters for best management practices (BMPs); case study applications of BMPs; treatment train assessment and evaluation; and regulatory and cost considerations. (Cross-listed with ENVN 8336).

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing or instructor permission

**ENVN 4350 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 8356, GEOG 4350, ENVN 8356).

**Prerequisite(s)/Corequisite(s):** At least 1 of the following: GEOG 1030, GEOG 1050, GEOG 3510, GEOG 4320, or permission of instructor

**ENVN 4410 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with BIOL 4410 and BIOL 8416)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**ENVN 4420 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 4420, BIOL 8426)

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing.

**ENVN 4600 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 4600, BIOL 8606)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**ENVN 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, GEOG 4610, GEOG 8616, GEOL 4610, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ENVN 4700 SUSTAINABLE SOLUTIONS CAPSTONE (3 credits)**

This is a capstone experience for students interested in sustainability and related fields. Students work as part of a multidisciplinary team under the guidance of faculty mentors to develop sustainable solutions to challenges faced by local, regional, or global organizations.

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**ENVN 4800 INTERNSHIP ENVIRONMENTAL MANAGEMENT AND PLANNING (1-3 credits)**

Internship providing practical experience working with environmental organizations or government agencies for students interested in careers in environmental science and related fields. A proposed internship must be approved by the Environmental Studies Program prior to enrolling. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 4800)

**Prerequisite(s)/Corequisite(s):** Permission of the Environmental Studies Program.

**ENVN 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, BIOL 4820, GEOG 4820, GEOG 8826, PA 8826)

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

**ENVN 4970 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 8976, BIOL 4970).

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and junior or senior student status or above or instructor permission.

## Exploratory (EXPL)

**EXPL 1000 EXPLORATORY STUDIES (3 credits)**

An introductory study of the concepts and practices of interdisciplinary inquiry, writing, critical thinking and problem solving across disciplines and techniques for solving problems and writing from an interdisciplinary perspective. Each semester the course will focus on a different topic or problem for inquiry.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

## Finance and Banking (FNBK)

**FNBK 2280 PERSONAL FINANCE (3 credits)**

This course focuses strengthening the development of sound financial habits through knowledge and application of concepts and activities that enhance personal and family finance.

**FNBK 2710 PRINCIPLES OF INSURANCE (3 credits)**

This course is intended to introduce students to the basic concepts of risk and insurance. Special emphasis is placed on the insurance coverage needed by the consumer: life, health, homeowner and auto insurance. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**FNBK 3000 FINANCIAL REPORTING AND ANALYSIS (3 credits)**

Seeks to develop students' understanding of the origin and derivation of accounting data, and their skills in employing the data for the purpose of financial analysis, reporting and valuation.

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with 'C' (2.0) or better.

**FNBK 3250 PRINCIPLES OF FINANCIAL MANAGEMENT (3 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, ECON 2200, ECON 2220, MATH 1320 or MATH 1370 or MATH 1930, BSAD 2130 or 3160, ENGL 1160/ENGL 1164 or concurrent enrollment in ENGL 1160/1164 each with "C" or better and 2.5 GPA.

**FNBK 3330 ENTREPRENEURIAL FINANCE (3 credits)**

This course focuses on venture capital formation and the financing of entrepreneurial ventures. The course is intended for students interested in entrepreneurship, venture capital markets, investment banking, and other careers related to new venture financing and/or deal structuring. The course applies basic financial theory to the unique environment of incubating and growing new ventures. (Cross-listed with ENTR 3330).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C' (2.0) or better.

**FNBK 3400 INVESTMENT PRINCIPLES AND PRACTICES (3 credits)**

A study of the market for investment securities, an introduction to the field of security analysis, and selection and management of a portfolio of securities. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 3500 FINANCIAL MARKETS (3 credits)**

An overview of money and banking, monetary policy, and analysis of the operations of financial markets in a global context, as well as the evolving regulatory framework within which these markets operate.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 and FNBK 3250 with 'C' or better, or approval of instructor.

**FNBK 3550 PUBLIC FINANCE (3 credits)**

This course explores the objectives and rationale of government activity in a market economy, including positive and normative analysis of public expenditures and taxes. Topics include Social Security, health insurance, education, food stamps, student aid, unemployment insurance, efficiency and incidence of major revenue sources, and tax reform proposals. (Cross-listed with ECON 3550).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better.

**FNBK 3650 COMMERCIAL BANK MANAGEMENT (3 credits)**

This course focuses on the theory and practice of managing commercial banks. Topics covered include but are not limited to: Bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. This course emphasizes the link between theory and practice through readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 3700 INTERNATIONAL FINANCIAL MANAGEMENT (3 credits)**

This course focuses on the application of basic principles and techniques of international financial management to the decision-making process of the multinational firms. The course covers foreign exchange markets, management of foreign exchange risk, international working capital management, and foreign portfolio and direct investment. Factors bearing on international financing and investment decisions, such as political risk and international taxation issues will be also explored. (Fall, Spring, Summer).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.3) or better, GPA of 2.5 or better or approval of instructor.

**FNBK 4000 SPECIAL TOPICS IN FINANCE AND BANKING (1-5 credits)**

The course content and topic will vary. Please contact the CBA for specific course offerings.

**FNBK 4150 INTERMEDIATE FINANCIAL MANAGEMENT (3 credits)**

Seeks to develop the students' ability to identify, analyze and solve integrative problems in management of business finance, including financial analysis, working capital management, capital budgeting decisions, long term financing, and leasing, through the use of prescribed readings, case studies and computer applications. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** FNBK 3250 with 'C+' (2.33) or better, GPA of 2.5 or better, and senior standing. It is highly recommended that a student have an additional 6 hours of finance instruction beyond the introductory course prior to taking this class.

**FNBK 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, MKT 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**FNBK 4500 SPECIAL PROBLEMS IN FINANCE AND BANKING (2-3 credits)**

Individual investigation of specific problems in the fields of finance and banking. (Fall, Spring).

**Prerequisite(s)/Corequisite(s):** Senior. Note: permission of department chair required prior to registration.

**FNBK 4510 FINANCE AND BANKING INTERNSHIP (1-3 credits)**

Students will engage in an applied experience in their area of specialization to gain relevant experience and to practice the skills and concepts learned in the classroom. Supplemental reports and/or reading may be required. Note: FNBK4510 may be taken for a maximum of 3 credits.

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C+' or better in FNBK 3250; 2.5 cumulative gpa; junior or senior standing

**FNBK 4570 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with BSAD 8576).

**Prerequisite(s)/Corequisite(s):** Senior standing. Not open to non-degree graduate students.

**FNBK 4590 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control and risk avoidance, among others. (Cross-listed with BSAD 8596).

**Prerequisite(s)/Corequisite(s):** At least junior standing.

**FNBK 4600 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with BSAD 8606).

**Prerequisite(s)/Corequisite(s):** FNBK 3400 and FNBK 3500 both with a 'C' (2.0) or better, and senior or graduate standing.

**FNBK 4610 PORTFOLIO MANAGEMENT (3 credits)**

This course will focus on modern development in portfolio management including efficient markets, stock selection, and hedging procedures. The main objective of this course is to prepare students for the management of financial resources through the development of skills necessary to make prudent investment decisions.

**Prerequisite(s)/Corequisite(s):** FNBK 3400 with a "C+" (2.33) or above, and a 2.5 GPA.

## Fire Service Management (FSMT)

**FSMT 1600 FUNDAMENTALS OF FIRE SCIENCE (3 credits)**

Fundamentals of Fire Science is an applied science which focuses on basic understanding of the chemical and physical nature of fire. Students will learn about common fire hazards, extinguishing agent properties, as well as fire ignition and growth phenomena.

**Distribution:** Natural/Physical Science General Education course

**FSMT 2200 CODES AND INSPECTIONS (3 credits)**

Fire protection requirements, including zoning laws and primary access routes for flammable and explosive materials will be discussed. Major considerations and rationales employed in the formulation and creation of zoning and building codes are examined and exploration and understanding of local, state and national codes are also introduced. Safety education program development and implementation, fire inspection techniques and fire investigation procedures are additionally covered.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

**FSMT 2300 FIRE INVESTIGATION (3 credits)**

The origin and cause of fire and explosion incidents will be explored. Fire and arson investigation procedures such as on-site investigations and inspections, documentation, and fact gathering, collection of witness statements and canvassing, and procedures for gathering and storage of critical evidence will be presented. Legal and jurisdictional issues affecting fire investigation will also be discussed.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent

**FSMT 2310 FIRE PROTECTION SYSTEMS (3 credits)**

A study of the procedures necessary to evaluate the firefighting requirements and how these needs drive the design and utilization of various types of fire protection equipment, including design of structural protection systems and associated construction materials, fire detection technology and fire suppression systems.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent

**FSMT 2410 STRATEGIES AND TACTICS IN FIRE AND EMERGENCY SERVICES (3 credits)**

This course will provide examples of strategic and tactical considerations that members of the emergency services can employ during structure fires to include residential, commercial, high-rise, special hazard structures, and other types of emergencies like hazardous materials incidents, mass casualty emergencies, and technical rescues.

**Prerequisite(s)/Corequisite(s):** EMGT 1000

**FSMT 2510 BUILDING CONSTRUCTION FOR THE FIRE SERVICE (3 credits)**

The visible and hidden dangers inherently involved with fighting structural fires are examined in this course. Characteristics of construction materials, construction types, fire protection systems, smoke development, fire containment, high rise construction and many other topics relevant to firefighter life safety as related to building construction issues will be studied and evaluated.

**Prerequisite(s)/Corequisite(s):** EMGT 1000 or concurrent.

**FSMT 3020 FIRE DYNAMICS (3 credits)**

This course examines the underlying principles involved in structural fire protection systems, building furnishings, and fire protection systems including water-based fire suppression systems, fire alarm and detection systems, special hazard suppression systems, and smoke management systems.

**Prerequisite(s)/Corequisite(s):** Students must have completed FSMT 1600.

**FSMT 3140 FIRE RELATED HUMAN BEHAVIOR (3 credits)**

The goal of Fire Related Human Behavior is to provide students with knowledge about how humans respond to fire and how that knowledge has been integrated into life safety systems design and development.

**Prerequisite(s)/Corequisite(s):** FSMT 2200

**FSMT 3350 FIRE PREVENTION, ORGANIZATION, AND MANAGEMENT (3 credits)**

This course examines the factors that shape fire risk and the tools for fire prevention, including risk reduction education, codes and standards, inspection and plans review, fire investigation, research, master planning, various types of influences, and strategies.

**Prerequisite(s)/Corequisite(s):** FSMT 2200

**FSMT 3680 ANALYTICAL APPROACHES TO PUBLIC FIRE PROTECTION (3 credits)**

This course examines rational decision making tools and techniques that can be used in Fire and Emergency Services agencies, including data collection, statistics, probability, decision analysis, utility modeling, resource allocation, and cost-benefit analysis.

**Prerequisite(s)/Corequisite(s):** FSMT 2200.

**FSMT 4300 ADVANCED PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL (3 credits)**

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change within the emergency services industry relating to safety, incorporating leadership, supervision, accountability, and personal responsibility. Instruction utilizes the lessons learned from case studies and other investigations that support cultural change throughout emergency services administration.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4450 FIRE AND EMERGENCY SERVICES ADMINISTRATION (3 credits)**

This course provides students with the knowledge to understand how to help the fire and emergency services administrator perform as an effective risk manager by recognizing legal and political issues affecting public safety, finding and applying appropriate legal rules and/or political constructs, and articulating supportable conclusions and recommendations.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4800 SPECIAL READINGS IN FIRE SERVICE MANAGEMENT (3 credits)**

This course is intended for upper-level Fire Service Management degree students who are pursuing specialized areas of knowledge in Fire Services. The course is conducted under an independent study format, and subject matter will vary based on the interests of the student and learning outcome objectives established by the instructor. Faculty approval is required prior to registration.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree graduate students. EMGT students will need faculty approval.

**FSMT 4860 APPLICATIONS OF FIRE RESEARCH (3 credits)**

This course examines the basic principles of research and methodology for analyzing current fire-related research. The student will be able to understand the rationale that fire research organizations use for conducting fire-related research and evaluation.

**Prerequisite(s)/Corequisite(s):** FSMT 2410.

**FSMT 4900 SPECIAL TOPICS IN FIRE SERVICE MANAGEMENT (3 credits)**

This course is meant to provide upper-level FSMT students with an in-depth look at current and future issues affecting the Fire Services industry and industry professionals. Possible topics include fire case studies, comparative international studies, issues in federalism, fire education, and fiscal administration. Subject matter will vary by student interest and by faculty preference. Students may repeat the course for additional academic credit as long as the course topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** Prerequisites will be established by the coordinating instructor to meet the foundational knowledge requirements for the area being studied. Not open to non-degree graduate students. EMGT students will need faculty approval.

## Food Science & Technology (FSCI)

**FSCI 1310 SCIENCE OF FOOD (3 credits)**

A basic and applied science, general education course emphasizing scientific concepts in biology, chemistry and physics using food as a model. Students will study food from its chemical and nutritional perspectives and the fate of food from production to consumption. (Cross-listed with BIOL 1350).

**Distribution:** Natural/Physical Science General Education course

## Foreign Language & Literature (FLNG)

**FLNG 2530 SPECIAL TOPICS IN LANGUAGE AND CULTURE I (1-3 credits)**

A variety of topics primarily for the lower division, non-major. Students in this course will study topics not usually included in the curriculum, and can include a teaching practicum at an area school.

**Prerequisite(s)/Corequisite(s):** Permission from the Department of Foreign Languages.

**FLNG 3530 SPECIAL TOPICS IN LANGUAGE AND CULTURE II (1-3 credits)**

A variety of topics primarily for the upper division, non-major. Students in this course will study topics not usually included in the curriculum, and can include a teaching practicum at an area school.

**Prerequisite(s)/Corequisite(s):** Permission from the Department of Foreign Languages.

## French (FREN)

**FREN 1110 ELEMENTARY FRENCH I (5 credits)**

Elementary French I emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, as well as introduces cultural issues from the francophone world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**FREN 1120 ELEMENTARY FRENCH II (5 credits)**

French 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including listening, writing, speaking, and reading.

**Prerequisite(s)/Corequisite(s):** FREN 1110 with a grade of C- or better or placement by diagnostic examination. Department permission is needed for transfer credit.

**FREN 2110 INTERMEDIATE FRENCH I (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** FREN 1120 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**FREN 2120 INTERMEDIATE FRENCH II (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** FREN 2110 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**FREN 3020 SPECIAL TOPICS IN FRENCH (3 credits)**

Topics for this course will include French grammar review, conversation practice, composition, and structure. This course is a bridge course designed for students who have completed FREN 2120, FREN 3030, or FREN 3040, to prepare them for 3000/4000-level content courses in French.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or equivalent. Not open to non-degree graduate students.

**FREN 3030 FRENCH CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or placement by Department of Foreign Languages diagnostic examination.

**FREN 3040 FRENCH GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles, practice in written composition.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or placement by Department of Foreign Languages diagnostic examination.

**FREN 3050 INTRODUCTION TO TRANSLATION (3 credits)**

Introduction to the theory and various techniques of translation from French into English. Students will review specific differences between French and English grammar and lexicon. Students will first practice translating sentences, moving to paragraphs to end on translating various genres of literary works. Throughout the course, students will translate a great variety of texts such as news articles, administrative forms, official records, business documents, brochures, operating instructions, and how to translate subtitles.

**Prerequisite(s)/Corequisite(s):** FREN 3040 or permission

**FREN 3060 READINGS IN FRENCH (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** FREN 2120. Not open to non-degree graduate students.

**FREN 3160 INTRODUCTION TO FRENCH LITERATURE (3 credits)**

Readings in this survey course will include a selection of French authors from the medieval period to the present. This selection will vary depending on the instructor. The main objective of this course is the development of critical reading skills and an understanding of major authors, movements, and themes in French literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. The course also focuses on continuing to develop French language skills, in particular through reading for comprehension and interpretation of metaphorical meaning. Discussion will help to hone speaking skills.

**Prerequisite(s)/Corequisite(s):** FREN 3060 or instructor permission.

**FREN 3370 FRENCH CIVILIZATION (3 credits)**

A historical view of France through its political, artistic, musical, literary, architectural and philosophical development from prehistory to the present.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or permission

**FREN 3580 BUSINESS FRENCH (3 credits)**

An introduction to the French business world. Students will acquire the necessary vocabulary, skills and cultural strategies to perform adequately in a French business environment so they can understand the cultural differences between the American and French business worlds.

**Prerequisite(s)/Corequisite(s):** FREN 2120 or equivalent

**FREN 4030 ADVANCED FRENCH CONVERSATION (3 credits)**

This course focuses on the development of oral skills in French through the use of complex and sophisticated conversational structures and nuanced lexicon. Students will be involved in expressing or presenting their ideas and opinions, interpersonal speaking activities, and a variety of activities including reading short literary and cultural texts and screening films. (Cross-listed with FREN 8036).

**Prerequisite(s)/Corequisite(s):** FREN 3030 or departmental permission. Not open to non-degree graduate students.

**FREN 4040 ADVANCED FRENCH COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics.

**Prerequisite(s)/Corequisite(s):** French majors with Junior or Senior standing. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**FREN 4050 SEMINAR IN THE CULTURE AND CIVILIZATION OF QUEBEC (3 credits)**

An introduction to the many facets of Quebec Culture & Civilization, through readings on Quebec's history and contemporary culture and also through films and other media related to Quebec. (Cross-listed with FREN 8056).

**Prerequisite(s)/Corequisite(s):** FREN 2120 or permission, and ENGL 1160

**FREN 4150 CONTEMPORARY FRENCH NOVEL (3 credits)**

Selected contemporary French novels are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. In addition, students will examine the sociopolitical and cultural contexts of these literary works. (Cross-listed with FREN 8156).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 4170 CONTEMPORARY FRENCH THEATER (3 credits)**

Selected contemporary French plays are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. (Cross-listed with FREN 8176).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission of instructor. Not open to non-degree graduate students.

**FREN 4220 THE STRUCTURE OF FRENCH (3 credits)**

A survey of the linguistic structure of modern French, including phonology, morphology, and syntax. (Cross-listed with FREN 8226).

**Prerequisite(s)/Corequisite(s):** FREN 3040 or departmental permission. Not open to non-degree graduate students.

**FREN 4860 MODERN FRENCH WOMEN AUTHORS (3 credits)**

Selected contemporary French literary texts written by women are analyzed and discussed. This may include novels, short stories, poetry, and graphic novels. The primary objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the works under consideration. In addition, students will examine the sociopolitical and cultural contexts of these works. (Cross-listed with FREN 8866).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work. (Cross-listed with FREN 8906).

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**FREN 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the Francophone world. (Cross-listed with FREN 8956).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

**FREN 4960 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address narrow field of study of the civilization, history, film, contemporary culture, art, politics, and or cultural studies of the Francophone world. (Cross-listed with FREN 8966).

**Prerequisite(s)/Corequisite(s):** FREN 2120; FREN 3030, FREN 3040, and FREN 3060

**FREN 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Francophone world. (Cross-listed with FREN 8976).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

## Geography (GEOG)

**GEOG 1000 FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY (3 credits)**

An introductory course designed to acquaint students with the basic concepts of geography and to examine the interrelationships between people and their environments.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**GEOG 1020 INTRODUCTION TO HUMAN GEOGRAPHY (3 credits)**

An introductory course which studies the geography of human activity through a topic by topic coverage of cultural traits and complexes that characterize different societies in the world. Major cultural topics of focus are the geography of population, agricultural systems, settlement, language, religion, political patterns, and man's ways of occupying urban and industrial space, among others.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**GEOG 1030 INTRODUCTION TO PHYSICAL GEOGRAPHY (4 credits)**

This course is designed to acquaint the student with those processes active in shaping the surface of the earth and their relationship to one another. Includes the study of the atmosphere, river systems and hydrology, glaciers, climate, plate tectonics and landforms. Includes weekly laboratory sessions. One half-day field trip is included.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 1050 HUMAN-ENVIRONMENT GEOGRAPHY (4 credits)**

Learn about how sustainability and quality of life depend on human interactions with environmental phenomena such as Climate, Drought, Energy, Water, and Biodiversity. These interactions influence patterns of Urbanization, Technology, Consumption, and Agriculture that can improve or degrade quality of life and sustainability. Lecture emphasizes concepts for understanding and explaining human-environment interaction. Labs focus on fundamentals of physical earth science and how these offer possibilities for sustainable development.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 1090 INTRODUCTION TO GEOSPATIAL SCIENCES (4 credits)**

An introductory lecture/lab that has students learn and apply the principles of geospatial science within the frameworks of Geographic Information Science (GISc), Remote Sensing, Aerial Photography, Photogrammetry, Global Positioning Systems and Cartography/Visualization. The course focuses on the underlying scientific basis that is shared across all of these frameworks. Students will produce both maps and spatial analysis by the end of the course using all of the above frameworks.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOG 2500 SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY (1 credit)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Various classes will be offered as sections of GEOG 2500/GEOG 2500, but will be separate from one another. Students may repeat GEOG 2500/GEOG 2500 as often as they like as long as no specific subject is duplicated.

**Prerequisite(s)/Corequisite(s):** Variable.

**GEOG 2620 AERIAL PHOTOGRAPHIC INTERPRETATION (3 credits)**

A practical application of various types of air photographs to the interpretation and analysis of both physical and cultural landscapes. Provides a fundamental tool for those interested in geography, geology, ecology and the environment. Recommended: Three hours in geography or geology.

**GEOG 3000 TRAVEL STUDY IN GEOGRAPHY (3 credits)**

The course examines the development of travel as a human endeavor and the process of planning a trip to a foreign country. A major objective of the course is the use and evaluation of Internet travel resources. This is accomplished by searching for relevant sources and assembling this material for presentation to others through the Internet.

**Prerequisite(s)/Corequisite(s):** An introductory course in geography is highly recommended along with a basic knowledge of online tools available through the Internet.

**GEOG 3030 GEOGRAPHY OF AFRICA (3 credits)**

A comprehensive and systematic survey of the environments, natural resources, populations, their cultures, and histories of the geographic regions of Africa and their development.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3050 GEOGRAPHY IN FILM (3 credits)**

Our views of the world are largely shaped by images that we see through popular media. This course examines contemporary films from around the world and how they depict places, the environment, and the lives of people. Critical and constructive examination of film will enable students to understand how images produce powerful ideological messages and how they shape the representation of entire cultures and people.

**Prerequisite(s)/Corequisite(s):** Junior standing. Introductory courses in regional, human, physical geography are highly recommended.

**GEOG 3070 GEOGRAPHY OF LATIN AMERICA (3 credits)**

This course surveys the physical and human environments of Latin America. Emphasis is placed upon the persistence of cultural factors in the use of land and on the difficulty in developing the various areas of Latin America.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3080 EAST & SOUTHEAST ASIA (3 credits)**

An introduction to the physical and human landscape of East, and Southeast Asia, encompassing countries from Japan to Myanmar. Emphasis is placed upon the sequence of occupancy of the land, agrarian traditional economies and contemporary development. Dominated by China, the region represents a major area for economic development.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3130 ECONOMIC GEOGRAPHY (3 credits)**

A comprehensive study of production, consumption and exchange in primary, secondary and tertiary economic activities as related to spatial factors. (Cross-listed with ECON 3130)

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200, and ECON 2220, each with a "C" (2.0) or better.

**GEOG 3230 GEOGRAPHY OF EUROPE (3 credits)**

This course is a comprehensive examination of contemporary Europe from a geographical perspective. The course covers physical, cultural, political, urban, population and economic geography of Europe as well as the recent political and economic transformations in both Western and Eastern Europe.

**Prerequisite(s)/Corequisite(s):** GEOG 1000, GEOG 1020, GEOG 1030 or GEOG 1050, and junior.

**GEOG 3240 GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS (3 credits)**

A comprehensive examination of Russia and the former Soviet republics from a geographical perspective. The course is organized topically to cover physical, historical, political, urban, population, economic and environmental geography. Special attention is given to geographical and environmental effects of the collapse of the former Soviet Union and the post-Communist transformation.

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 or GEOG 3130 and junior, or permission of instructor

**GEOG 3330 UNITED STATES & CANADA (3 credits)**

GEOG 3330: UNITED STATES & CANADA involves the analysis of the natural environment, historical development, economic systems, cultural patterns, and political structures of the Canada geographic region. The course provides a regional geographic perspective on these two countries by examining the expression of culture on the landscape. The course is designed for students wishing to gain regional geographical knowledge, while expanding their understanding of the interconnections among people and place within the United States and Canada.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 3440 NEBRASKA NATURAL RESOURCES MANAGEMENT (3 credits)**

Method and actual application of managing natural resources in Nebraska, with emphasis on individual stewardship. The course will focus on the most current political, physical and economic developments in resources management.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**GEOG 3510 METEOROLOGY (3 credits)**

A course designed to acquaint the student with the atmospheric environment. The course deals with atmospheric processes, their relationship and variation in both time and space, and their effect on the overall environment of the earth.

**Distribution:** Natural/Physical Sci General Education lecture

**GEOG 3514 INTRODUCTION TO METEOROLOGY LABORATORY (1 credit)**

This lab is designed to give students practice with atmospheric processes using scientific principles techniques, procedures and data associated with meteorology. Offered on-line only.

**Prerequisite(s)/Corequisite(s):** Concurrent or previous enrollment in GEOG 3510

**Distribution:** Natural/Physical Sci General Education lab course

**GEOG 3530 CARTOGRAPHY AND DATA VISUALIZATION (4 credits)**

An introduction to the concepts and techniques of map construction and visual data communication. Topics include map scale, map projections, thematic cartography, history of cartography, computer mapping, and global positioning systems. Particular attention is given to designing both paper and Internet distributed maps. This course is offered in both the Fall and Spring semesters. (Cross-listed with GEOG 8535).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 and GEOG 1030 or GEOG 1050, a statistics course, and a programming course.

**GEOG 3540 CARTOGRAPHY & GIS LAB (2 credits)**

An introduction to the methods and techniques of map construction using both graphic design and geographic information system software. Topics include map design for both general reference and thematic maps. Particular attention is given to the processing, compilation, data classification, and symbolization of various types of spatial data. This course is the lab component of GEOG 3530.

**Prerequisite(s)/Corequisite(s):** Concurrent registration in GEOG 3530.

**GEOG 3930 POLITICAL GEOGRAPHY (3 credits)**

An introduction to the basic concepts and approaches in contemporary political geography at the global, national and local scales. Core topics to be examined include geopolitics, imperialism, war and peace, global ecopolitics, states, nationalism and electoral geography.

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 4010 CONSERVATION OF NATURAL RESOURCES (3 credits)**

This course provides a diverse overview of the principles and contemporary issues related to ecology and management of wildlife, fisheries, forests, soil, rangeland, minerals, and water. It includes the philosophical, economic and social aspects of resource management. Current local, regional, and global issues are examined. (Cross-listed with GEOG 8016).

**Prerequisite(s)/Corequisite(s):** Three hours of geography.

**GEOG 4020 SPATIAL ANALYSIS IN GEOGRAPHY (3 credits)**

An introduction to spatial analysis with a focus on spatial statistics. Emphasis will be placed on the nature of geographic data, spatial data handling, modeling logic, sampling theory, and design. Both descriptive and spatial statistics methods are covered. Students will receive hands-on experience working with statistical data sets, software, and scientific visualization of research results. (Cross-listed with GEOG 8026).

**Prerequisite(s)/Corequisite(s):** STAT 1530 or equivalent

**GEOG 4030 COMPUTER MAPPING AND VISUALIZATION (3 credits)**

Computer techniques in the mapping and visualization of spatial data. Various forms of spatial data manipulation and computer graphic output techniques are examined. Particular attention is given to the creation of maps for the internet and the incorporation of interaction and animation in their display. (Cross-listed with GEOG 8036).

**Prerequisite(s)/Corequisite(s):** GEOG 1090 or permission of instructor. Background in programming, particularly JavaScript, highly recommended.

**GEOG 4040 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOG 8046, GEOL 4040).

**Prerequisite(s)/Corequisite(s):** Major in geology or geography; or major in anthropology, philosophy or religion with GEOG 1030, GEOG 1060 or GEOG 1070; or GEOL 1170 or GEOL 1010; or permission

**GEOG 4050 GEOGRAPHIC INFORMATION SYSTEMS I (4 credits)**

An introduction to the concepts and principles of geographic information systems (GIS). Emphasis will be placed on geographic data inputs, manipulation, analysis, and output functions. Exercises introduce students to GIS software and applications. Usually offered Fall, Spring, Summer. (Cross-listed with GEOG 8056).

**Prerequisite(s)/Corequisite(s):** GEOG 3530 and GEOG 3540 or 6 credit hours of GEOG course.

**GEOG 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOL 4100, BIOL 8106, GEOG 8106, GEOL 8106).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**GEOG 4120 URBAN GEOGRAPHY (3 credits)**

This course is designed to serve as an introduction to the complex and dynamic urban system, including the physical, economic, political, cultural, social, and environmental forces that shape the form and function of cities, as well as how individuals and groups experience urban life. We make ample use of geographic information systems (GIS) to analyze cities and better understand crucial urban concepts such as urban growth and development, patterns of urban form, segregation and neighborhood change, economic specialization and agglomeration, urban sprawl, and environmental justice. (Cross-listed with GEOG 8126).

**GEOG 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with WGST 4150, ENTR 4150, ENTR 8156, GEOG 8156 and WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**GEOG 4160 URBAN SUSTAINABILITY (3 credits)**

Using sustainability as a conceptual framework, students in this course will investigate a variety of social, economic, and environmental challenges facing cities of the 21st century. Topics and issues explored include urban growth and expansion, livability, equity & gentrification, energy use & production, urban farming, poverty, automobility & transportation, water security, urban pollution, and the role of cities in climate change. (Cross-listed with GEOG 8166)

**Prerequisite(s)/Corequisite(s):** Junior

**GEOG 4170 ADVANCED CULTURAL GEOGRAPHY (3 credits)**

This course examines current theoretical debate and research practice in a select topic in Cultural Geography. Emphasis will be on readings and discussion with students engaging in original research. Specific thematic focus will vary from year to year. This course may be taken multiple times as long as topics differ. (Cross-listed with GEOG 8176).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020, junior standing, or permission of the instructor.

**GEOG 4230 GREAT PLAINS & NEBRASKA (3 credits)**

This course is a comprehensive examination of the Great Plains region from a geographical perspective. It considers both the physical and human geography of the Plains, with particular attention to our home, Nebraska. Topics to be covered include: the Plains' unique ecosystems, its early human inhabitants, its later settlers, its evolving land-use patterns, and current issues. (Cross-listed with GEOG 8236).

**GEOG 4260 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 8266, GEOL 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOG 4320 CLIMATOLOGY (3 credits)**

A study of climatic processes and their effect on shaping the physical landscape. Emphasis on physical and applied aspects of the field. (Cross-listed with GEOG 8326).

**Prerequisite(s)/Corequisite(s):** GEOG 1030, GEOG 1050, GEOG 3510, or permission of instructor.

**GEOG 4330 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOL 4330, GEOG 8336).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOG 4340 WATER RESOURCES (3 credits)**

This course explores the applied principles of hydrology, water systems modeling, river basin development, and water management issues and practices in the United States and other parts of the world. Two local Saturday field trips will be required. (Cross-listed with GEOG 8346).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 and Junior standing

**GEOG 4350 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 8356, ENVN 8356, ENVN 4350).

**Prerequisite(s)/Corequisite(s):** At least one of the following: GEOG 1030, GEOG 1050, GEOG 3510, GEOG 4320, or permission from instructor

**GEOG 4530 HISTORICAL GEOGRAPHY OF THE UNITED STATES (3 credits)**

This course examines the geography, physical and human, real, perceived, or theoretical, of the United States' historical development. It considers the ways history has and has not been affected by geography. It will also cover the field of historical geography, its theories and practices. (Cross-listed with GEOG 8536).

**Prerequisite(s)/Corequisite(s):** Junior and HIST 1110 and HIST 1120 or GEOG 1020 or GEOG 3330

**GEOG 4550 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 8556, CACT 8116).

**Prerequisite(s)/Corequisite(s):** An introductory level human geography course: GEOG 1020 or GEOG 1000

**GEOG 4600 INDEPENDENT RESEARCH (1-3 credits)**

Advanced study in the form of a major paper to give the senior student knowledge of and experience in using government documents, professional, and/or primary materials on a topic. Must be under the supervision of the instructor who is particularly qualified for the topic chosen. (Cross-listed with GEOL 4600).

**Prerequisite(s)/Corequisite(s):** Permission of department chair.

**GEOG 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOL 4610, GEOG 8616, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOG 4620 GEOGRAPHICAL FIELD STUDIES (3 credits)**

Field experience course based on variable topics and themes. Students must attend the multiple day field trip that will require overnight stays. (Cross-listed with GEOG 8626).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**GEOG 4630 ENVIRONMENTAL REMOTE SENSING (4 credits)**

An introduction to remote sensing science and technology. Emphasis will be placed on multispectral data, matter/energy interactions, sensor system characteristics, photogrammetry, image interpretation, digital image processing, and environmental applications. Formal laboratory instruction will provide students with problem-solving skills and hands-on experience with remote sensing and GIS software. (Cross-listed with GEOG 8636).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 or GEOG 1070 or GEOL 1170. Introductory statistics highly recommended.

**GEOG 4640 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 8646, GEOL 4640)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOG 4660 GEOGRAPHIC INFORMATION SYSTEMS II (4 credits)**

An introduction to advanced geographic information systems (GIS) topics. Emphasis will be placed on algorithms and analysis for information extraction. Topics include spatial interpolation, remote sensing GIS integration, software development, spatial analysis, GIS modeling, and future advances in GIS. Formal laboratory instruction will provide students with GIS experience to solve application problems. Usually offered in Fall. (Cross-listed with GEOG 8666).

**Prerequisite(s)/Corequisite(s):** GEOG 4050 / GEOG 8056

**GEOG 4800 INTERNSHIP IN ENVIRONMENTAL REGIONAL PLANNING EARTH SCIENCE (1-6 credits)**

Internships with local agencies or corporations enable students to gain knowledge and experience and apply their learning in comprehensive regional or environmental planning or environmental science.

**Prerequisite(s)/Corequisite(s):** Senior, major or area of concentration in geography or environmental science and permission

**GEOG 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 8826, PA 8826).

**Prerequisite(s)/Corequisite(s):** Junior-senior or permission of the instructor.

## Geology (GEOL)

**GEOL 1010 ENVIRONMENTAL GEOLOGY (3 credits)**

This is an introductory course for non-majors designed to make students aware of their physical environment and those factors that should influence where we site our home and communities. Topics will include hazards associated with volcanoes, earthquakes, landslides, floodplains and the problems associated with toxic waste disposal.

**Distribution:** Natural/Physical Science General Education course

**GEOL 1100 EARTH SYSTEM SCIENCE (3 credits)**

This course is an introduction to system science as applied to the earth. Students learn about simple earth system models, focusing on the hydrologic, rock and carbon cycles and energy flow through and linkages among them. Students also learn how short and long term global changes result from system interactions.

**Distribution:** Natural/Physical Sci General Education lecture

**GEOL 1104 EARTH SYSTEM SCIENCE LAB (1 credit)**

This laboratory course is an optional companion to GEOL 1100, Earth System Science, but can be taken alone. Computer and web based exercises lead students through scientific investigation of Earth components, processes and systems. Topics include: scientific visualization and methodology, energy flow in the earth environment, convection in fluids, population dynamics, plate tectonics, river systems, coastal systems, biodiversity and Earth system history.

**Distribution:** Natural/Physical Sci General Education lab course

**GEOL 1170 INTRODUCTION TO PHYSICAL GEOLOGY (4 credits)**

Fundamentals of geology. The study of the internal geologic processes and external and erosional and depositional processes which create the subsurface and surface features of the earth. Fundamentals of contour mapping, topographic map interpretation and identification of common minerals and rocks will be covered in a required laboratory period. One field trip required.

**Distribution:** Natural/Physical Sci General Education lecture&lab

**GEOL 1180 INTRODUCTION TO HISTORICAL GEOLOGY (4 credits)**

Basic fundamentals for interpretation of earth history. Deduction of history of earth-moon system through interpretation of geologic phenomena using principles of stratigraphy, sedimentation, structure and fossil content. Global tectonics, encompassing theories of sea-floor spreading and continental drift are presented. Fundamentals and interpretation of geologic environments and geologic maps, coupled with identification of fossils will be covered in a required laboratory period. One Saturday field trip required.

**Prerequisite(s)/Corequisite(s):** GEOL 1170 or GEOL 1070 or permission of Geography-Geology Department.

**GEOL 2014 ENVIRONMENTAL GEOLOGY LAB (1 credit)**

Basic topics such as geohydrology, water quality, waste management (including landfill siting and design), flood frequency, slope stability and earthquake hazards are covered via labs and field trips at a detailed introductory level. Local sites and associated data are used where possible to illustrate fundamental principles and commonly used analytic techniques.

**Prerequisite(s)/Corequisite(s):** GEOL 1010 or GEOG 1170 or GEOG 1030 or permission of instructor.

**GEOL 2100 GEOLOGY OF NEBRASKA (3 credits)**

An introduction to the geologic features of Nebraska, and how the evidence they provide can be used to scientifically interpret the ancient history of the region. A review of the geologic history of Nebraska as it is currently understood will place the events documented in the larger context of Earth history.

**Distribution:** Natural/Physical Science General Education course

**GEOL 2300 GEOSCIENCE DATA ANALYSIS AND MODELING (3 credits)**

Introduction to foundation geoscience analysis and modeling techniques and conceptual frameworks. Topics covered include: describing and comparing populations, geologic map construction, fractals, surface contouring and modeling, non-linear behavior, GIS, graphic representation, photogrammetry, and computer modeling. Examples and exercises work with actual geoscience data. Students also gain experience with data retrieval from geoscience databases.

**Prerequisite(s)/Corequisite(s):** GEOL 1010 or GEOL 1170, or GEOG 1030 or GEOG 1060 or GEOG 1070, or permission of instructor.

**GEOL 2500 SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY (1 credit)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Various classes will be offered as sections of GEOL 2500, but will be separate from one another. Students may repeat GEOL 2500 as often as they like as long as no specific subject is duplicated.

**Distribution:** Natural/Physical Science General Education course

**GEOL 2600 GEOHYDROLOGY (3 credits)**

A course dealing with geology, chemistry and hydraulics of groundwater. Designed mainly for Geology majors but can be helpful to other disciplines where ground water is involved.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, MATH 1320 or higher, or permission of instructor

**GEOL 2750 MINERALOGY (3 credits)**

Introduction to crystallography and mineralogy. Crystallography section is a study of crystal structure, symmetry and crystal systems. Mineralogy section is devoted to the description, identification and classification of minerals based on their crystal forms, physical properties, chemical composition and occurrence in nature. Must be taken concurrently with GEOL 2754.

**Prerequisite(s)/Corequisite(s):** GEOL 1170. Must be taken concurrently with GEOL 2754.

**GEOL 2754 MINERALOGY LABORATORY (1 credit)**

A systematic investigation of minerals and the techniques of studying minerals to be taken concurrently with GEOL 2750. (Fall)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in GEOL 2750

**GEOL 2760 IGNEOUS AND METAMORPHIC PETROLOGY (3 credits)**

A study of the nature, origin, and significance of igneous and metamorphic rocks. Topics include genesis and crystallization of magmas, phase equilibria of mineral assemblages, and pressure and temperature conditions of metamorphism. One weekend field trip will be required. Must be taken concurrently with GEOL 2764.

**Prerequisite(s)/Corequisite(s):** GEOL 2750. Must be taken concurrently with GEOL 2764.

**GEOL 2764 IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY (1 credit)**

Petrology Laboratory is an introduction to the methods of petrology with emphasis on hand specimen identification and use of the petrographic microscope. Must be taken concurrently with GEOL 2760. (Spring)

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in GEOL 2760

**GEOL 3100 INVERTEBRATE PALEONTOLOGY (3 credits)**

An introduction to the development of life through the study of the morphology, evolution and geological distribution of fossils. Must be taken concurrently with GEOL 3104/BIOL 3104. (Cross-listed with BIOL 3100).

**Prerequisite(s)/Corequisite(s):** GEOL 1180. Must be taken concurrently with GEOL 3104/BIOL 3104.

**GEOL 3104 INVERTEBRATE PALEONTOLOGY LABORATORY (1 credit)**

An examination of representative specimens of groups of organisms important in the fossil record and an introduction to analytical techniques in paleontology. Must be taken concurrently with GEOL 3100.

**Prerequisite(s)/Corequisite(s):** GEOL 1180 or permission; Concurrent enrollment in GEOL 3100

**GEOL 3300 STRUCTURAL GEOLOGY (3 credits)**

A study of the deformation of rocks in the earth's crust. Recognition of structural features such as types of fractures, folds, faults and foliations. Analysis of stress and strain in rocks under physical conditions occurring in the earth's crust that form structural features. Knowledge of structural associations for crustal shortening, extension and other kinematic regimes.

**Prerequisite(s)/Corequisite(s):** GEOL 2750

**GEOL 3310 STRUCTURAL GEOLOGY FIELD METHODS (1 credit)**

A lab course to accompany GEOL 3300. Field trip is included. Emphasis will be on collection, interpretation and presentation of field and lab data. Must be taken concurrently with GEOL 3300.

**Prerequisite(s)/Corequisite(s):** GEOL 2750, concurrent enrollment in GEOL 3300.

**GEOL 3400 INTRODUCTION TO SEDIMENTARY GEOLOGY (3 credits)**

An introduction to the basic principles and concepts of sedimentology and stratigraphy. It will include a review of sedimentary processes and depositional environments and principles and techniques of stratigraphy, such as biostratigraphy and radiometric dating.

**Prerequisite(s)/Corequisite(s):** GEOL 2750 and GEOL 2754

**GEOL 3700 PLATE TECTONICS (3 credits)**

An introduction to and analysis of the paradigm that has revolutionized the Earth Sciences, the theory of plate tectonics; includes polar wandering and magnetic reversals, structure and life cycle of the oceanic crust, origin of major topographic and structural features of the earth, arc volcanism, continental collisions, mineral deposits, supercontinent cycles and mantle convection.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, GEOL 1180 and upper division standing.

**GEOL 4040 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOG 4040, GEOG 8046).

**Prerequisite(s)/Corequisite(s):** Major in geology or geography; or major in anthropology, philosophy, or religion with GEOG 1030, GEOG 1060 or GEOG 1070; or GEOL 1170 or GEOL 1010; or permission.

**GEOL 4100 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with GEOL 8106, BIOL 4100, BIOL 8106, GEOG 4100, GEOG 8106).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**GEOL 4260 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 8266, GEOG 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOL 4330 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOG 4330, GEOG 8336)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOL 4400 GEOPHYSICS (3 credits)**

A study of geophysical techniques used to understand the earth, study environmental problems, and in resource exploration. Seismic, gravity, heat flow, magnetic and other methods will be presented. The insights from these methods into earthquake events, stress distributions, rock rheology and plate tectonics will also be addressed. Interpretive skills will be emphasized.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, PHYS 1110 or higher, or permission of instructor

**GEOL 4540 GEOCHEMISTRY (3 credits)**

This course will cover the application of chemical principles to geologic systems. Specific topics covered will include the origin of elements and their distribution in the earth, geochronology, stable isotope systems, aqueous geochemistry and crystal chemistry. These topics will be integrated to the study of soils, igneous, metamorphic and sedimentary rocks and ore deposits. (Every third semester).

**Prerequisite(s)/Corequisite(s):** GEOL 1170, CHEM 1140 or CHEM 1180, and either GEOL 2750 or CHEM 2500, or permission of Instructor

**GEOL 4600 INDEPENDENT RESEARCH (1-3 credits)**

Advanced study in the form of a major paper to give the senior student knowledge of and experience in using government documents, professional, and/or primary materials on a topic. Must be under the supervision of the instructor who is particularly qualified for the topic chosen. (Cross-listed with GEOG 4600).

**Prerequisite(s)/Corequisite(s):** Permission of department chair.

**GEOL 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOG 4610, GEOG 8616, GEOL 8616).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOL 4620 ADVANCED FIELD COURSE (6 credits)**

Six weeks of advanced study on selected field problems. Conducted in a geologically classic area where all the major rock types and structures may be studied in a variety of geological situations. Reports, which integrate the geology, surface processes and literature of the studied areas, is required. Recommended to follow the junior year.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, GEOL 1180, GEOL 2750, GEOL 2760, GEOL 3300: GEOL 3450 recommended.

**GEOL 4640 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 4640, GEOG 8646)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOL 4800 INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/EARTH SCIENCE (1-6 credits)**

Internship with local agencies or corporations enabling students to gain knowledge and experience in comprehensive regional or environmental planning or environmental science.

**Prerequisite(s)/Corequisite(s):** Senior, major or area of concentration in geography or environmental science and permission.

**GEOL 4950 SENIOR THESIS (3 credits)**

An independent research project undertaken by all geology majors during their final year. Topics will be selected in consultation with appropriate faculty and researched through field work, laboratory work and/or library sources.

**Prerequisite(s)/Corequisite(s):** Senior, ENGL 1150/ENGL 1154 and ENGL 1160/ENGL 1164

**Distribution:** Writing in the Discipline Single Course

## German (GERM)

**GERM 1110 ELEMENTARY GERMAN I (5 credits)**

Elementary German I emphasizes the mastery of all four language skills (speaking, listening, reading, and writing) and introduces cultural issues from the German-speaking world.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**GERM 1120 ELEMENTARY GERMAN II (5 credits)**

German 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It also includes a cultural component.

**Prerequisite(s)/Corequisite(s):** GERM 1110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 2110 INTERMEDIATE GERMAN I (3 credits)**

German 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It also includes a cultural component.

**Prerequisite(s)/Corequisite(s):** GERM 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 2120 INTERMEDIATE GERMAN II (3 credits)**

German 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. It includes a culture component.

**Prerequisite(s)/Corequisite(s):** GERM 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**GERM 3030 GERMAN CONVERSATION (3 credits)**

This course focuses on improving students' oral production of German including improvements to pronunciation, fluidity, and vocabulary.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement by Department of Foreign Languages diagnostic examination, or permission from instructor.

**GERM 3040 GERMAN GRAMMAR & COMPOSITION (3 credits)**

The course will review previously studied grammar topics in the German language, as well as cover more advanced grammar points that are essential for expressing complex ideas. It will focus on writing strategies for writing in a foreign language, for developing a descriptive essay and a narrative.

**Prerequisite(s)/Corequisite(s):** GERM 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission.

**GERM 3060 READINGS IN GERMAN (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** GERM 2120; Not open to non-degree graduate students

**GERM 3190 LISTENING COMPREHENSION (3 credits)**

Students will strengthen their listening comprehension skills in a wide variety of genres.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement into the 3000-level in German or permission from the instructor

**GERM 3250 CONTEMPORARY CULTURE IN GERMAN SPEAKING COUNTRIES (3 credits)**

In this course students will learn about the political, social, economic, and aesthetic life in German-speaking countries.

**Prerequisite(s)/Corequisite(s):** GERM 2120 with a grade of C- or better, placement by department diagnostic exam, or instructor permission. Department permission is needed for transfer credit.

**GERM 3370 GERMAN HISTORY FROM THE BEGINNINGS UNTIL THE EARLY MODERN PERIOD (3 credits)**

This course covers history, art, architecture, customs, and philosophy of central Europe and the German-speaking world from prehistory until the early 18th century.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or permission.

**GERM 3380 GERMAN HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT (3 credits)**

This course will cover the history, art, architecture, customs, and philosophy of central Europe and the German-speaking world from the Enlightenment until the present.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or permission.

**GERM 3580 GERMAN FOR PROFESSIONAL LIFE (3 credits)**

This course focuses upon the development of German language skills and concomitant cultural awareness that can be utilized to conduct oneself appropriately in professional situations in German-speaking countries.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or the equivalent.

**GERM 3650 INTRODUCTION TO GERMAN FILM (3 credits)**

This course introduces students to seminal works in the history of German film.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or by permission.

**GERM 4040 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics.

**Prerequisite(s)/Corequisite(s):** Last two semesters of the major or permission of the department. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**GERM 4150 INTRODUCTION TO GERMAN LITERATURE (3 credits)**

Introduction to the history of literature of Germany, Austria, and German-speaking Switzerland. Students will read selections from the 18th, 19th and 20th centuries.

**Prerequisite(s)/Corequisite(s):** GERM 3060 or instructor permission.

**GERM 4210 TRANSLATING GERMAN (3 credits)**

Students learn basic translation theory and techniques from the German to the English language.

**Prerequisite(s)/Corequisite(s):** GERM 3030 and GERM 3040 or by permission

**GERM 4220 THE STRUCTURE OF GERMAN (3 credits)**

A survey of the linguistic structure of modern German, including phonology, morphology, and syntax. (Cross-listed with GERM 8226).

**Prerequisite(s)/Corequisite(s):** GERM 3040 and GERM 4610, or permission of instructor.

**GERM 4900 INDEPENDENT STUDY (1-3 credits)**

This is a course in which an individual student or a small group of students complete specially planned readings in a well-defined field of study, carried out under the supervision of a member of the foreign language faculty.

Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** GERM 2120 or placement by Department of Foreign Languages diagnostic examination, or permission from instructor.

**GERM 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the German-speaking world. (Cross-listed with GERM 8956).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

**GERM 4960 PRO-SEMINAR: SOCIETY AND CULTURE (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the German-speaking world. (Cross-listed with GERM 8966).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

**GERM 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the German-speaking world. (Cross-listed with GERM 8976).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060.

## Gerontology (GERO)

**GERO 2000 INTRODUCTION TO GERONTOLOGY (3 credits)**

An introduction to social gerontology and human development in later life; emphasis is on important elements of aging, such as socialization, family interaction, retirement, physical and psychological aging, and perceptions of older persons in contemporary society.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**GERO 3000 COMMUNITY RESOURCES FOR OLDER ADULTS (3 credits)**

This course is designed to introduce the student to community resources for older adults, to identify the organizations and individuals in the public and private sectors that help support aging in place, and to examine the impact of the efforts on older adults at the national, state and local levels.

**Prerequisite(s)/Corequisite(s):** Completion of GERO 2000. Not open to non-degree graduate students.

**GERO 3070 DEATH AND DYING (3 credits)**

An interdisciplinary survey of literature in the field of thanatology, with an emphasis on working with the older patient and his or her family. (Cross-listed with PHHB 3070).

**GERO 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with BIOL 3500, NEUR 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

**GERO 4050 ADVANCED BIOLOGY OF AGING (3 credits)**

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 8056, NEUR 4050).

**GERO 4100 EDUCATIONAL GERONTOLOGY (3 credits)**

An introduction to the field of education for and about the aging. The institutions and processes of education will be analyzed to determine their relationships and value to persons who are now old and those who are aging. (Cross-listed with GERO 8106).

**Prerequisite(s)/Corequisite(s):** Students must have a junior, senior or graduate student status.

**GERO 4200 VOLUNTEER MANAGEMENT (3 credits)**

The purpose of this course is to equip managers of volunteers in aging services to develop, maintain, assess impact and evaluate a sustainable volunteer program that will provide reliable and necessary services to older adults and further to be embraced as a valuable asset by professionals working in the field of aging. (Cross-listed with GERO 8206).

**Prerequisite(s)/Corequisite(s):** Junior or Senior Standing

**GERO 4350 ISSUES IN AGING (3 credits)**

This course is intended for students in gerontology and in other fields who are interested in a humanistic approach to understanding significant issues which affect the lives of older people. (Cross-listed with GERO 8356).

**GERO 4420 RECREATION FOR THE AGING (3 credits)**

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with GERO 8426, RLS 4420, RLS 8426).

**GERO 4460 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)**

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with PSYC 4460, GERO 8466).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**GERO 4470 MENTAL HEALTH & AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with GERO 8476, PSYC 4470, PSYC 8476).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**GERO 4480 GLOBAL AGING (3 credits)**

The study of aging around the world by a comparative method in a cross-cultural and cross-national framework. An explanation of some practical experiences and developments in Europe, Asia and Africa will be examined. (Cross-listed with GERO 8486).

**GERO 4500 LEGAL ASPECTS OF AGING (3 credits)**

This course centers on the legal concerns likely to arise as people age. We will discuss the American legal system with an emphasis on underlying legal concepts and issues of special importance to older persons. Some of the topics include guardianship, finances in retirement, abuse and neglect, Social Security, and Medicare and Medicaid. Consideration of the legal concerns which are likely to arise as people age. Includes introduction to American legal system, and emphasis on underlying legal concepts and issues of special importance to older persons. (Cross-listed with GERO 8506).

**GERO 4510 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 8516, PA 4510, PA 8516).

**GERO 4520 SENIOR HOUSING (3 credits)**

The senior housing course is designed to provide students with an in-depth understanding of the various housing options available to older adults including aging in place to hospice. At the end of the course students will have a working knowledge of the needs of older adults and how this is used in making decisions about housing. (Cross-listed with GERO 8526).

**Prerequisite(s)/Corequisite(s):** Junior/Senior Standing

**GERO 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 8556, PHHB 4550, PHHB 8556, WGST 4550).

**GERO 4560 NUTRITION AND AGING (3 credits)**

The goal of this course is to provide an understanding of the relationship between nutrition and successful or usual aging. This course will review the basics of good nutrition and relate them to the usual food intake of older adults. It will identify the impact of poor nutrition. This course will also look at the role nutrition plays in various disease processes that are associated with aging. It will provide information about support services that are available to assure good nutrition into old age for those living independently. (Cross-listed with GERO 8566).

**Prerequisite(s)/Corequisite(s):** Junior Standing.

**GERO 4670 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student an historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 8676, PA 8676).

**Prerequisite(s)/Corequisite(s):** Junior or senior. Not open to non-degree graduate students.

**GERO 4690 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 8696, SOWK 4040, SOWK 8046).

**GERO 4720 BABY BOOMERS AND THE 21ST CENTURY (3 credits)**

Marketing decisions and strategies apply to all businesses and are influenced by the target market. The economic realities and the character of America will change due to shifting demographics of baby boomers. Businesses that understand the power of the baby boomers will succeed; failure to understand that power may lead to economic consequences. Students from many disciplines will benefit from this cross-referenced course blending the realities of gerontology with the predictions of baby boomer behavior and the resulting impact to all businesses. (Cross-listed with GERO 8726).

**Prerequisite(s)/Corequisite(s):** Junior, Senior or Graduate Level Standing.

**GERO 4750 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with COUN 8756, GERO 8756).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 4850 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 8856, SOWK 4850, SOWK 8856.)

**GERO 4920 SPECIAL STUDIES IN GERONTOLOGY (1-3 credits)**

Special studies designed around the interests and needs of the individual student in such areas as the psychology, sociology, economics or politics of aging, as well as operation of various service systems. The studies may be either a literature review project or a field project in which experience is gained in the community identifying and analyzing needs and services related to older people.

**Prerequisite(s)/Corequisite(s):** Six hours in gerontology or permission.

**GERO 4940 PRACTICUM (3 credits)**

This course provides the opportunity to students to share field experiences; to obtain guidance concerning various relationships with agency, staff and clients; and to develop a broadly based perspective of the field of aging.

**Prerequisite(s)/Corequisite(s):** Nine hours in gerontology and permission. Students must be enrolled in the GERO program and have a minimum GPA of 2.5. Not open to non-degree graduate students.

**GERO 4950 PALLIATIVE CARE: MENTORING A HEALTHCARE APPROACH OF PATIENT-CENTERED CARE WITH FOCUS ON WELL-BEING (3 credits)**

This course provides a foundation for the recognition of the need to implement palliative medical care. Using current texts and literature, video and podcast lectures by colleagues, and review of cases and topics, a student will understand the definitions, purposes, and benefits of palliative medical care. The student will learn the avenues and ways to implement palliative care to provide care that promotes well-being. (Cross-listed with GERO 8956).

**Prerequisite(s)/Corequisite(s):** Junior, senior, graduate standing

**GERO 4970 SENIOR HONORS PROJECT/THESIS (3 credits)**

An independent research project supervised by gerontology department/school faculty. The senior honors project must be approved by the University Honors Program.

**Prerequisite(s)/Corequisite(s):** Senior in the University Honors Program.

**GERO 4980 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with COUN 8986, GERO 8986).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## Goodrich Program (GDRH)

**GDRH 1210 LEARNING THEORY AND STRATEGIES (3 credits)**

This course focuses on the acquisition of specific learning strategies designed to improve students' ability to manage and monitor learning in a variety of college contexts. Emphasis is given to investigation of students' individual learning orientations as part of their development of strategic learning systems.

**Prerequisite(s)/Corequisite(s):** Goodrich Student

**GDRH 2110 CORE TOPICS IN THE SOCIAL SCIENCES: LIFESPAN DEVELOPMENT (3 credits)**

This course surveys the growth and development of humans from the prenatal stage through the end of life. Emphasis is on physical, cognitive, and socio-emotional processes with special attention given to the cultural contexts of development and the rich diversity that is produced. Key elements of the course include the importance of the scientific methods, socio-cultural comparisons, and critical thinking considerations.

**Prerequisite(s)/Corequisite(s):** Acceptance into the Goodrich Scholarship Program and typically completion of the freshmen curriculum. Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**GDRH 2120 CORE TOPICS IN SOCIAL SCIENCES: SOCIAL ISSUES (3 credits)**

This course uses the methods of the social sciences to help students understand social issues facing our society such as health care, aging, poverty, crime, the environment, racial and ethnic diversity, the economy, and education. Students are challenged to think critically and imaginatively about social problems and how the issues affect local, national, and global communities.

**Prerequisite(s)/Corequisite(s):** Students are expected to be accepted into the Goodrich Scholarship Program. Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**GDRH 3010 SPECIAL TOPICS SEMINAR (1-3 credits)**

The content of this topical seminar varies each semester. May be repeated as long as the topic is not the same.

**Prerequisite(s)/Corequisite(s):** May vary with each offering.

## Health & Kinesiology (HEKI)

**HEKI 2000 MEDICAL TERMINOLOGY (1 credit)**

This course provides students the foundation for understanding medical language and terminology used in health-related careers. Students will gain an understanding of the basic elements used to build and analyze medical terms used to describe the human body. Utilizing the body systems approach, students will learn correct pronunciation, definitions, and spelling used to describe the human body, pathological processes, procedures, as well as conditions and diseases that affect it.

**HEKI 2100 STATISTICS IN HEALTH AND KINESIOLOGY (3 credits)**

This class is designed to present an introduction to statistical evaluation of testing and measurement techniques commonly used in health and kinesiology. Appropriate test selection, administration, and the interpretation of results with fundamental statistical methods will be emphasized.

**Prerequisite(s)/Corequisite(s):** MATH 1220, or ACT Math sub score of at least 23, or Accuplacer score of at least 4, or Math SAT score of at least 540

**HEKI 2400 HEALTH ED. & PHYSICAL ED. FOR THE ELEMENTARY SCHOOL TEACHER (3 credits)**

This course is designed to aid the classroom teacher in developing and implementing health education and physical education programs in the elementary school curriculum.

**Prerequisite(s)/Corequisite(s):** TED 2300

**HEKI 3090 APPLIED NUTRITION (3 credits)**

The purpose of this course is to provide candidates with information from which to make informed decisions about their own personal nutrition and to apply nutritional concepts to the design of interventions in health, exercise science, physical education, and athletic training.

# History (HIST)

## **HIST 1000 WORLD CIVILIZATIONS I (3 credits)**

An examination of selected traditional and pre-industrial civilizations in the context of their regional, cultural and historical roots.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

## **HIST 1010 WORLD CIVILIZATIONS II (3 credits)**

An examination of selected societies since the beginning of the modern era.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

## **HIST 1050 CLASSICAL AFRICAN CIVILIZATIONS (3 credits)**

Classical African Civilization is an introductory survey of the civilizations of Africa and African people prior to 1500 C.E., with emphasis on the evolution of the peoples and nations, their civilizations, and the rise and fall of indigenous states. In particular, this course will cover the classical civilizations of Kemet (Ancient Egypt), Nubia, Axum, Carthage, Ghana, Mali, and Songhay. (Cross-listed with BLST 1050).

**Distribution:** Global Diversity General Education course

## **HIST 1110 AMERICAN HISTORY TO 1865 (3 credits)**

A survey of North American history from the Indigenous and pre-contact era to the end of the Civil War.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

## **HIST 1120 AMERICAN HISTORY SINCE 1865 (3 credits)**

A general survey of American history since the Civil War, emphasizing social and political change and the emergence of the United States as a global power.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

## **HIST 2040 AFRICAN AMERICAN HISTORY I: TO 1865 (3 credits)**

The course examines the history of the earliest Africans in the Americas and briefly examines traditional African societies. It covers the transatlantic slave trade and its effects on Europe, Africa and the Americas, and analyzes the development of Afro-American culture and the struggle for freedom. (Cross-listed with BLST 2410)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

## **HIST 2050 AFRICAN-AMERICAN HISTORY II: EMANCIPATION TO BROWN (3 credits)**

A survey of Afro-American history from the Civil War to the present. Covers Reconstruction and its overthrow, including the new methods of control which replaced slavery. Discusses the development of black ideologies and institutions. Traces urban migration and its impact on black society and culture. Follows black progress through World War II, the 1954 Supreme Court Decision, and rising militancy. (Cross-listed with BLST 2420)

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

## **HIST 2060 AFRICAN AMERICAN HISTORY III: FROM CIVIL RIGHTS TO MODERN DAY (3 credits)**

This course is divided into three main parts: the Civil Rights Phase (1954-1963), during which the dominant mood was optimism over the possibilities of integration; the Black Power Phase (1963-1974), and the Pragmatist Phase (1972-present), characterized by attempts to preserve and maintain gains already won. (Cross-listed with BLST 2430)

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

## **HIST 2190 THE MODERN MIDDLE EAST (3 credits)**

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with RELI 2190, SOC 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

## **HIST 2480 HISTORY OF LATIN AMERICA: PRECONQUEST TO THE PRESENT (3 credits)**

A history of the nations of Latin America from the pre-Columbian indigenous cultures to the present time. Among the topics included will be the nature of indigenous cultures, the various European incursions, regional revolutions against European empires, nation-building, and the place of Latin America in global history.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

## **HIST 2510 ANCIENT GREECE: BRONZE AGE TO CLASSICAL ERAS (3 credits)**

A study of cultures in the Aegean/Eastern Mediterranean, from the Bronze Age through Classical-era Greece, to better appreciate their influence on later cultures, especially those of Rome, Europe, and North America.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

## **HIST 2520 ANCIENT HISTORY - ROME (3 credits)**

A survey of Roman history including Rome's wars of expansion, the rise and fall of the Republican government, the reorganization of the state under the emperors, and the nature of Rome's Empire and its peoples. The course will also examine aspects of Roman society, including living conditions, family organization, religion, and the diversity of Roman culture, including in the visual arts.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

## **HIST 2620 MODERN BRITAIN (3 credits)**

This course will provide an overview of some of the major events in modern British history, considering both national and global perspectives. Topics covered will include empire, war, industrialization, technology, welfare, decolonization, gender, and pop culture along with a myriad of other subjects.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Global Diversity General Education course

## **HIST 2710 RUSSIA TO 1855 (3 credits)**

An interpretative analysis of the development of Russian culture and society from their Kievan beginnings through the establishment of autocracy and serfdom to the end of the reign of Nicholas I.

## **HIST 2720 RUSSIA: FROM THE CRIMEAN WAR TO THE PRESENT (3 credits)**

This course examines Russian history from the great reforms ushered in under Alexandr II to the present day. Among the topics covered are the crisis of Imperial Russia, the Bolshevik Revolution, life in the USSR, the USSR in the Second World War, the USSR in the Cold War, the collapse of communism, and the changes in Russian society since 1991.

**Distribution:** Global Diversity General Education course

**HIST 2810 HISTORY OF CHINA: FROM THE MANCHU CONQUEST TO THE PRESENT (3 credits)**

This course examines Chinese history from the seventeenth-century Manchu conquests to the present. Topics covered will include the nature of the Manchu-Qing Dynasty, the destabilization which began in the nineteenth century, growing pressure exerted by other powers, and the rise and rule of the Chinese Communist Party.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**HIST 2820 JAPAN: FROM WARRING STATES TO THE MODERN DAY (3 credits)**

This course will examine the course of Japanese history beginning with the Warring States (Sengoku) era of fifteenth and sixteenth centuries. It will then continue by assessing unified Japan under the Tokugawa bakufu, the initial stability of this period, then the growing tensions which led to the collapse of the bakufu state in the 1860s. From there, the course will analyze the emergence of modern Japan during the Meiji Restoration, its evolution to a military state, and then conclude with an assessment of Japan's transformation in the post-World War II era.

**Distribution:** Global Diversity General Education course

**HIST 2900 AFRICAN CIVILIZATION - THE MIDDLE PERIOD (3 credits)**

This course traces the development of African history from the beginning of the Civilization of Ghana (800 B.C.) to the period of European exploration of Africa (Mid 15th C.) It examines the main achievements, events and individuals in the Empires of Ghana, Mali, Songhay, Zimbabwe and other states. (Cross-listed with BLST 2900).

**HIST 2920 HISTORY OF MODERN AFRICA (3 credits)**

This course covers the era of the beginning, development and decline of European colonialism in Africa. The movement for decolonization, the emergence of independent sovereign nations and the strategic role that Africa plays in the forum of industrialized and developed nations is investigated. It examines the impact of alien cultures on traditional Africa, and the struggle for a resolution of the conflict between the three major traditions on the continent - the Islamic, Western and Indigenous. (Cross-listed with BLST 2120).

**HIST 2980 HISTORICAL METHODOLOGY (3 credits)**

The critical method in collecting, organizing, and presenting historical material. Required for history majors. Students are encouraged to enroll in this course as soon as possible after declaring their major.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and permission of department chair or chair's designee. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**HIST 2990 PEOPLE AND ISSUES IN HISTORY (3 credits)**

An in-depth investigation of a topic as announced in the course subtitle. Students may enroll for different sections as long as no specific subject is duplicated.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**HIST 3520 HISTORY OF ROMAN EMPIRE (3 credits)**

This course examines the Roman Empire (30 BC to AD 476), also known as the Principate, with the class's main focus on its first three centuries. The course covers the rise of the Imperial government, its development, and the challenges it faced in the reigns of different emperors. Included will be discussion of Rome's relationship with neighboring kingdoms, with the peoples in its own provinces, and with religious minority groups such as the Jews and Christians.

**Prerequisite(s)/Corequisite(s):** Junior status or permission of instructor. Students must have written permission from the course instructor to apply the course to the requirements of the Ancient Mediterranean Studies Minor.

**HIST 4010 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 8016, RELI 4050).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Not open to non-degree graduate students.

**HIST 4040 HOMESCAPES: THE MATERIAL CULTURE OF EVERYDAY LIFE IN AMERICA, 1600-1860 (3 credits)**

This course examines the culture and technologies of house forms and work landscapes in North America, 1600-1860. (Cross-listed with HIST 8046).

**Prerequisite(s)/Corequisite(s):** 60 hours. Not open to non-degree graduate students.

**HIST 4050 HISTORY OF WOMEN IN AMERICA TO 1875 (3 credits)**

This course examines the history of women in what is now the United States from the seventeenth century to 1875. Topics include law, work, sexuality and reproduction, slavery, cross-cultural encounters, religion, political activism, and the transformation of gender by the market and industrial revolutions. (Cross-listed with HIST 8056).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor. Not open to non-degree graduate students.

**HIST 4060 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1992 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with WGST 4060, WGST 8066, and HIST 8066).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor; Not open to non-degree graduate students.

**HIST 4070 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 4650, BLST 8656, HIST 8076, LLS 8656).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing

**Distribution:** U.S. Diversity General Education course

**HIST 4140 COLONIAL AMERICAN HISTORY (3 credits)**

This course provides a study of the settlement and development of North America to c. 1763 with an emphasis on the British colonies. (Cross-listed with HIST 8146).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor

**HIST 4150 THE AMERICAN REVOLUTIONARY ERA, 1763-89 (3 credits)**

This course examines the period of the American Revolution beginning with the changed circumstances in the British North American colonies following the end of the French and Indian War and concluding with the ratification of the United States Constitution. The course analyses social, political, and military themes from this period. (Cross-listed with HIST 8156).

**Prerequisite(s)/Corequisite(s):** junior standing or permission of instructor.

**HIST 4160 THE EARLY AMERICAN REPUBLIC: FROM THE CONSTITUTION TO THE SECOND PARTY SYSTEM (3 credits)**

This course covers an important period of American history beginning with the first federal government and ending with an analysis of the consolidation of the Second American Party system. Topics to be covered include the earliest debates over the nature of the federal government, foreign relations, the emergence of political parties, and the rise of the Jacksonian democracy. (Cross-listed with HIST 8166).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4170 HISTORY OF THE AMERICAN WEST (3 credits)**

An examination of the unique aspects of the region of the United States known as "the west." Students will learn about the multiple peoples, cultures, and environments which combined to form this region. Content will also include an examination of how the myths of the west were created. (Cross-listed with HIST 8176).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4180 THE AMERICAN CIVIL WAR PERIOD: FROM THE TEXAS REVOLUTION THROUGH RECONSTRUCTION (3 credits)**

This course focuses on the period of the American Civil War. It will begin with the background to, and events of the Texas Revolution. It will then consider the growing national tensions over slavery, particularly as a consequence of the Mexican-American War before examining the immediate causes of the civil war. The course will then examine the war itself before concluding with analysis of Reconstruction. (Cross-listed with HIST 8186).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4240 EMERGENCE OF MODERN AMERICA (3 credits)**

This course examines American history from the end of Reconstruction to the end of World War II. Among the topics covered are western expansion, industrialization, immigration, and the expanding international footprint of the United States. (Cross-listed with HIST 8246).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4330 U.S. CONSTITUTIONAL HISTORY TO 1860 (3 credits)**

This course will examine the history of the United States constitution from its promulgation in 1787 through the end of the Civil War. This will include consideration of both English and colonial precedents. The course will analyze the process of writing and ratifying the document in the late 1780s and will then look at some of the key legal decisions between 1790 and 1860. (Cross-listed with HIST 8336).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4340 U.S. CONSTITUTIONAL HISTORY SINCE 1860 (3 credits)**

This course examine the increasingly important role played by competing interpretations of the United States constitution since the outbreak of the Civil War. This will include the emergence of the idea of a "living constitution," the extension of constitutional guarantees to the states, and examination of critical Supreme Court cases. (Cross-listed with HIST 8346).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4360 THE U.S. IN THE COLD WAR (3 credits)**

This course will examine the impact of the Cold War in modern American history on two levels. First it will seek to understand how the Cold War influenced American foreign policy decisions since the end of World War II and examine the long term consequences of those policies for both the U.S. and the world. Secondly, this course will examine how the Cold War impacted or shaped American culture, domestic politics, and social movements in the postwar period. (Cross-listed with HIST 8366).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor

**HIST 4400 HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES (3 credits)**

A survey of traditional North American Indigenous cultures, their interaction with the environment, with one another, and with other people groups. This course covers indigenous societies to the present day. (Cross-listed with HIST 8406).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4410 HISTORY OF NEBRASKA (3 credits)**

An examination of the history of Nebraska from Native American occupation to the present, with emphasis on environmental factors that have shaped the region and its people. (Cross-listed with HIST 8416).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4420 THE SIOUX TRIBE (3 credits)**

A cultural and historical study of the Sioux tribes emphasizing the earliest historic period to the present. (Cross-listed with HIST 8426).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**HIST 4450 NATIVE AMERICAN ENVIRONMENTALISM (3 credits)**

This course studies North American tribal subsistence and natural resource use practices from the early historic period to the present, Native Americans as environmentalists, and modern tribal environmentalism. (Cross-listed with HIST 8456).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**HIST 4460 AMERICAN IMMIGRATION HISTORY (3 credits)**

A study of American immigration from the colonial era to the present. Topics covered include Old World origins of migration, the old immigrants from western Europe, the new immigrants from southern and eastern Europe, non-European immigrants, native-born American responses to immigrants, the periods of immigrant adjustment in the new physical environment, and the contemporary revival of ethnicity. (Cross-listed with HIST 8466).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4480 THE UNITED STATES IN THE 1960S (3 credits)**

This course is a review of the economic, social, cultural, and political changes that marked the United States in the 1960s. (Cross-listed with HIST 8486).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4530 EUROPE: RENAISSANCE & REFORMATION (3 credits)**

This course will examine European history from the fifteenth through the seventeenth centuries. Among the topics which will be covered are the Renaissance, the Protestant Reformation, the Catholic Reformation, Wars of Religion, the beginning of European overseas expansion, and the Scientific Revolution. In addition to examining the religious ideas and revolutions of the period, there will also be analysis of economic, social, and political change. (Cross-listed with HIST 8536).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4540 MEDIEVAL EUROPE (3 credits)**

A dive into the history of medieval Europe through the stories of men and women, their beliefs, struggles, contradictions and achievements. (Cross-listed with HIST 8546).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4610 TUDOR AND STUART ENGLAND (3 credits)**

English history from the end of the Wars of the Roses in 1485 to the death of Queen Anne in 1714. The course will examine the efforts of the Tudors and Stuarts to establish dynasties, the religious upheavals in the sixteenth and seventeenth centuries, changes in the role of Parliament, the Civil Wars, and the beginning of English overseas expansion. (Cross-listed with HIST 8616).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4650 HISTORY OF MODERN IRELAND (3 credits)**

A survey of Irish history from the Act of Union of 1801 through the civil rights movement of "Troubles" of Northern Ireland in the 1970s. (Cross-listed with HIST 8656).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4720 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with RELI 4160, RELI 8166, HIST 8726).

**Prerequisite(s)/Corequisite(s):** Junior or instructor permission.

**HIST 4730 ISRAEL AND PALESTINE (3 credits)**

This course will outline the history of the conflict over Palestine/Israel, examine its present status, and explore its likely unfolding in the future. It seeks to provide a broad and concise understanding of the historical events which have shaped the relations between Israelis and Palestinians, as well as a keen awareness of the challenges and prospects related to their future. (Cross-listed with HIST 8736).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor.

**HIST 4740 COMPARATIVE GENOCIDE (3 credits)**

This course explores genocide and its many forms throughout history. It begins by considering the varied elements and definitions of the term. Next it looks at what makes people kill before going on to examine many different genocides throughout history. Finally, the course addresses the prosecution and prevention of genocide. (Cross-listed with HIST 8746)

**Prerequisite(s)/Corequisite(s):** Junior. Not open to non-degree graduate students.

**HIST 4800 U.S. AND THE MIDDLE EAST (3 credits)**

This course focuses on the evolution of US relations with and Foreign Policy vis-a-vis the Middle East over the last six decades. It seeks to illuminate the constant features in contrast to the changes in direction, examining the agendas of varying administrations as well as the treatment by the media of this region. It follows a chronological framework with particular emphasis on key thematic topics. While emphasizing the political dimensions of international relations, the class will also explore cultural and social aspects of the ties between the US and the peoples of the Middle East. (Cross-listed with HIST 8806).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**HIST 4820 MESOPOTAMIA AND PRE-ISLAMIC PERSIA (3 credits)**

Examination of the Ancient Near East from the emergence of its earliest civilizations—Sumer, Akkad and Babylonia—through the Bronze and Iron Ages, concluding with Persia in the Common Era (CE) just before the rise of Islam. (Cross-listed with HIST 8826).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 4830 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 8836, RELI 4830, RELI 8836).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4840 ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN (3 credits)**

Examination of the conquests of Alexander the Great, as well as controversies in Alexander studies. Includes discussion of both the Macedonian culture that produced him and the career of his father, Philip II. (Cross-listed with HIST 8846).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4850 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 8856, RELI 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 4900 PROBLEMS IN HISTORY (1-3 credits)**

Project arranged individually with undergraduate students. May be repeated as long as the subject differs, to a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Written permission of instructor.

**HIST 4910 TOPICS IN HISTORY (3 credits)**

This course introduces students to specialized subject matter not available in existing History courses. Course may be repeated as long as the topic is substantially different each time. Course may be cross-listed with other programs e.g. Native American Studies (NAMS), Women's and Gender Studies (WGST) when topics are appropriate. (Cross-listed with HIST 8916).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 4920 INTERNSHIP IN HISTORICAL STUDIES (1-3 credits)**

The undergraduate student is supervised by a member of the faculty in a project involving part-time employment or service with a museum, historic site, historical society or other institution. Work hours, activities, reporting requirements, and responsibilities must be specified in written agreement between employer, student, and/or History Intern Program Coordinator.

This course is normally taken for 3 hours. If a hosting institution cannot commit to a supervised workload which the departmental advisor believes to be equivalent to 3 hours, course may be taken for fewer hours. In such circumstances, students may repeat the course up to a total of 3 hours.

**Prerequisite(s)/Corequisite(s):** Student must have completed or enrolled in at least 6 hours of upper-division history courses (3000-4000). Student must have approval of History Intern Program Coordinator before enrolling. Not open to non-degree graduate students.

**HIST 4990 SENIOR SEMINAR (3 credits)**

Capstone research course for history majors. Students will be required to produce an original research paper. Each section of this course will be offered with a specific subject or theme.

**Prerequisite(s)/Corequisite(s):** HIST 2980 and permission of department chair or chair's designee. Not open to non-degree graduate students.

## Honors Program (HONR)

**HONR 2120 HONORS IDENTITY (1 credit)**

Course designed to heighten students' self awareness in University and global contexts.

**Prerequisite(s)/Corequisite(s):** Must be a current Honors Program student. Not open to non-degree graduate students.

**HONR 3000 HONORS COLLOQUIUM (3 credits)**

The Honors Colloquium is an interdisciplinary seminar offered each semester under the auspices of one of the University's seven colleges. The content matter changes each semester and includes all disciplines from the fine arts through business.

**Prerequisite(s)/Corequisite(s):** Member of the University Honors Program or permission of instructor. Not open to non-degree graduate students.

**HONR 3010 HONORS TUTORING (0 credits)**

Honors Tutoring is available to qualified Honors students in good standing in the program who wish to provide tutoring in a specific course or courses in order to serve the University community throughout the semester.

**Prerequisite(s)/Corequisite(s):** Active status in the University Honors Program; A or better in and completion of the course for which tutoring will be provided; documentation from professor of student's ability to tutor in the nominated course. Not open to non-degree graduate students.

**HONR 3020 HONORS COLLOQUIUM - HUMANITIES (3 credits)**

Honors colloquium—Humanities is an interdisciplinary course for University Honors Program students. Drawing from multiple disciplines, it provides students insight into cross-disciplinary study of the humanities, centered around changing themes and/or concepts.

**Prerequisite(s)/Corequisite(s):** University Honors Program Student status. Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**HONR 3030 HONORS COLLOQUIUM-SOCIAL SCIENCES (3 credits)**

This course will focus on social science perspectives for the University Honors Program students drawing from multiple disciplines within the social sciences, it provides students with insight into cross-disciplinary study of the theories and methods of the social sciences organized around changing themes and/or concepts.

**Prerequisite(s)/Corequisite(s):** University Honors Program Students only.

**Distribution:** Social Science General Education course

**HONR 3970 HONORS INTERNSHIP (3 credits)**

The Honors Internship is offered to juniors and seniors in the University Honors Program and combines theoretical knowledge with the practical through placement in community businesses and organizations.

**Prerequisite(s)/Corequisite(s):** Junior or senior in the University Honors Program and permission of the University Honors Program.

**HONR 4980 SENIOR HONORS PROJECT/THESIS (3 credits)**

An independent research project supervised by University Faculty. The Senior Honors Project must be approved by the University Honors Program.

**Prerequisite(s)/Corequisite(s):** Junior or senior in the University Honors Program. Permission number needed from Honors prior to enrollment.

## Horticulture (HORT)

**HORT 1300 INTRODUCTION TO HORTICULTURAL SCIENCES (3 credits)**

An introductory course in horticulture that offers a hands-on perspective to science. Students will discuss the scientific factors affecting the growth of vegetables, bedding plants, cut flowers, and woody plants in greenhouse, laboratory and landscape settings.

**Distribution:** Natural/Physical Sci General Education lecture

**HORT 1310 INTRODUCTION TO HORTICULTURAL SCIENCES LABORATORY (1 credit)**

A laboratory designed to enhance basic scientific method skills as applied to propagation of plants using a variety of techniques from seeding and grafting to cloning.

**Prerequisite(s)/Corequisite(s):** HORT 1300, prior or concurrent. Lab fee \$25.

**Distribution:** Natural/Physical Sci General Education lab course

## Humanities (HUMN)

**HUMN 1010 INTRODUCTION TO THE HUMANITIES (5 credits)**

An attempt to see how art, music, literature and the history of ideas in Western culture contribute to the understanding of human existence. The first semester explores classical Greek, medieval and Renaissance views of the meaning of life.

**HUMN 1110 PERSPECTIVES ON USAMERICAN CULTURE (6 credits)**

Perspectives on US American Culture focuses on the imaginative arts in modern and contemporary cultures within the United States as they reflect the beliefs and values of those cultures. This course may include a special focus on one US American culture and that focus may change from instructor to instructor. Generally speaking, European American, Native American, African American, Asian American, Hispanic or Latino American, and Jewish American cultures will be explored with attention to issues of gender, race, ethnicity, and socio-economic class.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and HUMN 1200. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**HUMN 1200 AUTOBIOGRAPHICAL READING AND WRITING (3 credits)**

This course helps students to write effectively by focusing on their own personal experience and by examining a variety of autobiographical writings. Students are exposed to multicultural perspectives throughout the course.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

## IT Innovation (ITIN)

**ITIN 1010 ACTIVATING INNOVATION IN SOCIETY (3 credits)**

This course surveys and applies the use of qualitative methods, especially interview-based research, in order to maximize the insight that informs and activates the innovation process, with emphasis on technological innovation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**ITIN 1110 INTRODUCTION TO IT INNOVATION (3 credits)**

In almost every modern human endeavor, creativity and Information Technology are essential. In the Internet age, information has become a commodity that is available to everyone. Similarly, current technology has largely become commoditized. Therefore, creating new value is becoming the basis for successful professionals. This course introduces students to tools, techniques, and methods for generating innovative information technology ideas and solutions. It teaches them to think about future possibilities and equips them with the ability to critically evaluate proposed innovations and ideas. The goal of the course is to increase students' ability to creatively solve challenging problems in new ways using information technology. This class is inherently interdisciplinary as IT now touches every aspect of modern academic pursuits.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2150 AUDIO FOR MULTIMEDIA (3 credits)**

This course provides an overview of audio production techniques as they pertain to multimedia.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ITIN 2220 APPLIED IT INNOVATION (3 credits)**

The course extends the concepts learned in the Introduction to IT Innovation course and focuses on market dynamics and monetizing innovations. It moves past idea generation and focuses on identifying and gathering resources, innovation implementation, sustainable innovation models and how ideas can be monetized. The goal is for students to take their original ideas from concept to initial implementation with thoughts towards commercialization. Upon completing the course, students will have created at least a rudimentary implementation of an original idea and have a defensible plan for how the idea can be monetized.

**Prerequisite(s)/Corequisite(s):** ITIN 1110 & CIST 1400. Not open to non-degree graduate students.

**ITIN 2990 IT INNOVATION SYMPOSIUM (1 credit)**

The seminar exposes students to information technology innovators from multiple industries and varied backgrounds. It teaches the practical aspects of IT Innovation from those that have done it and are doing it in both research and practice. The purpose is to cause students to reflect on applying innovation to the real-world, connect them to the innovation community and to equip them with best practices and tools to make their innovations a reality.

**Prerequisite(s)/Corequisite(s):** Enrollment in the IT Innovation Major or IT Innovation Minor. Not open to non-degree graduate students.

**ITIN 3100 MUSIC INFORMATICS (3 credits)**

Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with MUS 3100).

**Prerequisite(s)/Corequisite(s):** Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

**ITIN 3180 DIGITAL SYNTHESIS (3 credits)**

An exploration of the potentials of computer music synthesis. Concepts of music synthesis are presented through the use of a computer, keyboard, and appropriate software. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with MUS 3180).

**ITIN 3330 PRODUCT DESIGN AND DEVELOPMENT (3 credits)**

This course will cover elements and principles of excellent product design and development. The history of design will be reviewed and overarching tenets of design will be introduced. The course will particularly focus on innovation and students will be expected to develop an original concept and create quality designs and low-fidelity prototype implementations of their unique idea. The proposed solutions must be novel and meet a real-world market need. This course will be hands-on and will examine developmental models for innovation.

**Prerequisite(s)/Corequisite(s):** ITIN 2220. Not open to non-degree graduate students.

**ITIN 4000 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 8006).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ITIN 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, MGMT 4090).

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**ITIN 4260 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 8266).

**Prerequisite(s)/Corequisite(s):** Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ITIN 3330.

**ITIN 4440 AGILE DEVELOPMENT METHODS (3 credits)**

The course presents an introduction to agile development methods for IT application development. Students will also learn Unified Modeling Techniques as they go through the agile iterations. This course is a foundation course for the IT Innovation capstone course.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or ISQA 3310. Not open to non-degree graduate students.

**ITIN 4500 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Undergraduate Program Committee at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required.

**ITIN 4510 INFORMATION TECHNOLOGY INNOVATION INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the ITIN undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Junior/Senior standing and permission of School of interdisciplinary Informatics Director. Not open to non-degree graduate students.

**ITIN 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ITIN 1110 and junior standing or above or by instructor permission.

**ITIN 4880 SYSTEMS SIMULATION AND MODELING (3 credits)**

The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ISQA 4880).

**Prerequisite(s)/Corequisite(s):** CIST 1400, CIST 2500, or equivalent.

**ITIN 4980 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT I (3 credits)**

This course serves as Part 1 of the capstone project for the Information Technology Innovation program. As such the student will design a prototype of an IT product or service as well as a business case pertaining to what is required to launch their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4440. ITIN 4980 is for seniors who are enrolled in the BS in IT innovation degree. Before enrolling in ITIN 4980, a student must gain approval, from the ITIN Program Committee, of their Area of Emphasis. Not open to non-degree graduate students.

**ITIN 4990 INFORMATION TECHNOLOGY INNOVATION CAPSTONE PROJECT PART II (3 credits)**

This course serves as Part 2 of the capstone project for the Information Technology Innovation program. Following the designs and business plan developed in Part I ITIN 4980, the student will create a prototype of an IT product or service as well as refine and implement the required business aspects involved in launching their project commercially. This effort will be under the guidance of an advisory committee.

**Prerequisite(s)/Corequisite(s):** ITIN 4980. This course is for seniors who are enrolled in the BS in IT Innovation degree. Not open to non-degree graduate students.

# Information Systems & Quantitative Analysis (ISQA)

## ISQA 2000 SPECIAL TOPICS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS (1-5 credits)

The course content and topic will vary. Please contact the ISQA department office for specific course offerings.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

## ISQA 2620 EVALUATING AND CLEANING DATA (1 credit)

Evaluating and cleaning data sets for analysis is a core skill for professionals in data analytics and other technical fields. The course will enable students to assess the state of existing data sets, identify appropriate remediation strategies to prepare data for analysis, and perform common data cleaning procedures.

**Prerequisite(s)/Corequisite(s):** ISQA 2610

## ISQA 3150 PRINCIPLES OF QUANTITATIVE ANALYSIS (3 credits)

An introduction to structuring real-life situations into mathematical models. The class covers four groups of decision making models: decision trees, inventory, linear programming, network planning, and winning strategy. A number of the existing commercial computer software packages will be used in the course.

**Prerequisite(s)/Corequisite(s):** CIST 2500

## ISQA 3310 MANAGING THE DATABASE ENVIRONMENT (3 credits)

Introduction to business database design and management functions. The focus is on the use of current database management systems (DBMS) to support the data management function of an organization. Topics include data modeling, database design, SQL, data management and database administration. Hands-on experience in database design, creation, and use is provided.

**Prerequisite(s)/Corequisite(s):** CIST 2100.

## ISQA 3340 SQL FOR DATA ANALYTICS (1 credit)

Using the Structured Query Language (SQL) to access and manipulate data is a core competency in data management, data analytics, data science, and other data-intensive fields. Starting with an overview of the relational model of database systems, the course will enable students use SQL to create database tables, and store, retrieve, and manipulate data at both basic and advanced levels.

## ISQA 3400 INFORMATION TECHNOLOGY INFRASTRUCTURE (3 credits)

This course provides an introduction to IT infrastructure issues. It covers topics related to both computer and systems architecture and communication networks, with an overall focus on the services and capabilities that IT infrastructure solutions enable in an organizational context.

**Prerequisite(s)/Corequisite(s):** CIST 2100

## ISQA 3420 MANAGING IN A DIGITAL WORLD (3 credits)

This course introduces the fundamentals of information systems/technology (IS/T) management. Students are introduced to the various roles, responsibilities, skills, and concepts essential to successful management of IS/T in the context of a dynamic environment of technology workforce diversity, a global economy, and concern for ethics and social responsibility in the development of systems.

**Prerequisite(s)/Corequisite(s):** CIST 2100

**Distribution:** Global Diversity General Education course

## ISQA 3520 GRAPHICAL USER INTERFACE DESIGN (3 credits)

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 8525)

**Prerequisite(s)/Corequisite(s):** CIST 1300

## ISQA 3900 WEB APPLICATION DEVELOPMENT (3 credits)

This course focuses on contemporary techniques and technologies in the design, development, and integration of web-enabled information systems. Topics include: Multi-tiered systems architecture; agile application development; object-oriented analysis and design; prototyping; testing, verification, and validation; lifecycle models; and component-based development. This is a rapidly moving, hands-on course that mirrors real-world development.

**Prerequisite(s)/Corequisite(s):** CIST 1300 or CSCI 2850, CIST 1400, ISQA 3310 or CSCI 4850 (or concurrent enrollment)

## ISQA 3910 INTRODUCTION TO PROJECT MANAGEMENT (3 credits)

This course will cover the basics of project planning, scheduling and control. Earned value management techniques and project quality will be covered. Risk management will also be covered. The student will be introduced to the IEEE Standards for Project Management. The purpose of the course is to provide students with an introduction to the tools and techniques used to manage projects to achieve successful completion. The project management methods taught are suitable for a wide variety of project types such as software development or engineering projects (e.g. construction).

**Prerequisite(s)/Corequisite(s):** CIST 2100; or equivalent.

## ISQA 4000 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 8086)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

## ISQA 4010 BUSINESS INTELLIGENCE (3 credits)

The course focuses on the various topics on knowledge management by utilizing both behavioral approaches and information technology tools. It includes data collection and analysis, intelligent agents, business concerns on data warehousing and data mining, customer relationship management. The course will also cover information overload, human expert systems vs. artificial intelligent systems and intelligent decision making.

**Prerequisite(s)/Corequisite(s):** CIST 1400; CIST 2500

## ISQA 4100 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 8106)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 4110 INFORMATION SYSTEMS ANALYSIS (3 credits)**

This course examines and applies the principles of information systems analysis, following a structured systems development methodology. It surveys project management, feasibility and analysis and systems requirement definition using modern systems analysis techniques and automated tools. Course utilizes a case approach where students initiate the analysis and logical design of a limited-scope information system.

**Prerequisite(s)/Corequisite(s):** CIST 2100, ISQA 3910, and ISQA 3310; only ISQA 3310 can be taken concurrently.

**ISQA 4120 SYSTEM DESIGN AND IMPLEMENTATION (3 credits)**

This is the second course in a sequence in computer information systems analysis, design, and implementation. This course extends the basic foundations of systems development started in ISQA 4110 and examines the activities comprising the design, construction and implementation of information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 3310 and ISQA 4110

**ISQA 4130 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 8136)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background : CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 4150 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 8156)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 4160 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 8166, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 4180 ELECTRONIC COMMERCE (3 credits)**

Critical examination of the issues, technologies, standards and business and social implications of electronic commerce in Cyberspace.

**Prerequisite(s)/Corequisite(s):** ISQA 3400 or equivalent.

**ISQA 4190 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 8196.)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 4200 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 8206)

**Prerequisite(s)/Corequisite(s):** CIST 2500 and CIST 2100.

**ISQA 4300 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 8306)

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 4380 DISTRIBUTED TECHNOLOGIES AND SYSTEMS (3 credits)**

The course introduces students to concepts, issues and tools needed to develop distributed computing systems. Topics include distributed systems architecture, middleware, Internet-based systems development, security and performance. Hands-on systems development using current technologies is provided.

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or equivalent and knowledge of database design and SQL.

**ISQA 4500 SPECIAL PROBLEMS IN INFORMATION SYSTEMS AND QUANTITATIVE ANALYSIS (2-3 credits)**

Individual investigation of specific problems in information systems and quantitative analysis and related areas.

**Prerequisite(s)/Corequisite(s):** Senior standing and permission of program chair.

**ISQA 4510 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application of their academic studies in the business world to help prepare them for their professional career and to provide a view of the challenges they will face.

**Prerequisite(s)/Corequisite(s):** Junior/senior standing and permission of department.

**ISQA 4590 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 8596)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 4730 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 8736)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 4880 SYSTEMS SIMULATION AND MODELING (3 credits)**

The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ITIN 4880)

**Prerequisite(s)/Corequisite(s):** CIST 1400 and CIST 2500 or equivalent

**ISQA 4890 DATA WAREHOUSING AND DATA MINING (3 credits)**

This course provides students with a theoretical foundation and practical methods for designing and constructing data warehouse and implementing data mining. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course gives students an opportunity to undertake a real-life data analysis project. (Cross-listed with CSCI 4890).

**Prerequisite(s)/Corequisite(s):** ISQA 3310 or CSCI 4850

**ISQA 4900 FULL STACK DEVELOPMENT (3 credits)**

Full stack development is the development of both client side and server side portions of web applications. Most organizations go beyond simply using HTML web pages with a small amount of JavaScript in applications and have moved to developing modern web applications with backend APIs and frontend JavaScript frameworks such as Vue.js. Students will learn how to build a backend application and REST APIs. Students will take that backend framework knowledge and learn to securely integrate these backend APIs with frontend JavaScript frameworks to build single page apps and hybrid mobile applications.

**Prerequisite(s)/Corequisite(s):** CIST 1300 - Web Development or CSCI 2850 Programming on the Internet ISQA 3310 Managing the Database Environment or CSCI 4850 Database Management ISQA 3900 Web Application Development or equivalent

## Interdisciplinary Studies (INDS)

**INDS 1000 INTRODUCTION TO INTERDISCIPLINARY STUDIES (3 credits)**

This course introduces students to the differences between disciplinary and interdisciplinary approaches to learning and research, and how to create/critique interdisciplinary arguments, understand interdisciplinary processes, and assess the quality of their own work. Students gain the opportunity to engage in the study of thinking, reading, writing, and problem-solving through an interdisciplinary lens across the natural and physical sciences, social sciences, and humanities. This course fosters intellectual curiosity by examining personal, social, cultural, and scientific challenges, and asking students to consider interdisciplinary solutions. Open to all majors interested in learning how interdisciplinarity can both contextualize and enrich individual disciplines. For those majoring or considering majoring in Interdisciplinary Studies, this course will also offer the opportunity to craft an intentional plan of study by connecting with faculty and peers across various disciplines.

**Prerequisite(s)/Corequisite(s):** Students majoring in Interdisciplinary Studies should take EXPL 1000 or INDS 1000. Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

## International Studies (INST)

**INST 2130 GLOBAL CHALLENGES (3 credits)**

An interdisciplinary, team-taught course which examines the seven global challenges - population, resources, technology, information, economies, conflict, governance - facing the world in the 21st century. The class introduces students to a range of interdependent factors and forces that influence international affairs.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**INST 3000 PERSPECTIVES IN INTERNATIONAL STUDIES (1-6 credits)**

Topical and or general analysis of selected countries and regions offered in conjunction with possible study tours in those areas under investigation. Internships and/or study abroad experiences usually form the basis for the course. Can be repeated up to 12 hours. This course may be taken for honors credit.

**INST 4140 TOPICS IN INTERNATIONAL STUDIES (3 credits)**

This course examines a topic involving a wide range of international studies theories, methods, and fields to provide international studies majors a sense of how the elements of international studies fit together to form a coherent interdiscipline. A student may take the course more than once as topics will change each semester.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, junior or above

**INST 4990 SENIOR E-PORTFOLIO (0 credits)**

This E-Portfolio course is part of International Studies' Student Outcomes effort. It is designed to help monitor the success of the program through monitoring students' performance in the program. Graduating seniors must register for and complete INST 4990 - Senior E-Portfolio in the term in which they plan to graduate.

**Prerequisite(s)/Corequisite(s):** Students must register for INST 4990 in the term in which they plan to graduate. Not open to non-degree graduate students.

## Japanese (JAPN)

**JAPN 1110 ELEMENTARY JAPANESE I (5 credits)**

Elementary Japanese I emphasizes the mastery of all four language skills (speaking, listening, reading, and writing) and introduces cultural issues in Japan.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**JAPN 1120 ELEMENTARY JAPANESE II (5 credits)**

Pronunciation, listening comprehension, speaking, and reading.

**Prerequisite(s)/Corequisite(s):** JAPN 1110

**JAPN 2110 INTERMEDIATE JAPANESE (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** JAPN 1120

**JAPN 2120 INTERMEDIATE JAPANESE II (3 credits)**

Grammar review, continued oral practice, and introduction to literary readings.

**Prerequisite(s)/Corequisite(s):** JAPN 2110

## Journalism and Media Communication (JMC)

**JMC 1050 FILM HISTORY AND APPRECIATION (3 credits)**

A journey through one of many different possible worlds of film. Students will learn about various dimensions of filmmaking—historical development, cinematography, editing, screenwriting, and so much more. Exposure to critical perspectives on the genre(s) under consideration. Includes regular viewing of excerpts and full-length films. (Cross-listed with THEA 1050).

**Distribution:** Humanities and Fine Arts General Education course

**JMC 1500 INTRODUCTION TO JOURNALISM AND MEDIA COMMUNICATION (3 credits)**

A survey of the history, organization and social significance of the mass media, including newspapers, radio, television, books, magazines, advertising, public relations and films.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**JMC 2000 INFORMATION LITERACY FOR COMMUNICATION PROFESSIONALS (3 credits)**

This course adapts information literacy to the specific needs of communication professionals, focusing on subject matter that is often in the news, in areas (such as geography, mathematics, various methods of professional practice, and concepts in natural sciences) that have been identified as shortcomings by faculty.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**JMC 2100 MEDIA WRITING LABORATORY (3 credits)**

This class will teach students to gather information and write for all areas of mass communication, including print, broadcast, online media, public relations and advertising.

**Prerequisite(s)/Corequisite(s):** ENGL 1150; concurrent registration with JMC 2104

**Distribution:** Writing in the Discipline Single Course

**JMC 2104 MEDIA WRITING LECTURE (1 credit)**

Media Writing Lecture will help students master grammar, punctuation, spelling, Associated Press style and other language skills required for working in communication fields.

**Prerequisite(s)/Corequisite(s):** ENGL 1150; concurrent registration with JMC 2100

**JMC 2150 NEWS WRITING AND REPORTING (3 credits)**

The class addresses the theory and practice of writing and reporting for media audiences, with an emphasis on print and online media. Some of the assignments in the class will focus on covering public affairs and analyzing media coverage of public affairs.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum cumulative GPA of 2.25.

**JMC 2160 EDITING PRINCIPLES (3 credits)**

This class encompasses the evaluation, editing and production of content for the print and online media, as well as public relations. It also includes writing headlines and captions, as well as learning layout and design principles.

**Prerequisite(s)/Corequisite(s):** JMC 2150 and minimum overall GPA of 2.25

**JMC 2200 MEDIA STORYTELLING (3 credits)**

Media Storytelling applies the skills learned in JOUR 2100 and JOUR 2104, Media Writing Lab and Lecture. Writing will remain a central focus of the class. Students will create online spaces and manage the content of those spaces. The class will provide a survey of skills in photography, videography, audio production and social media.

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 2320 VIDEO FIELD PRODUCTION (3 credits)**

The class provides in-depth, hands-on theory and practice of field production and editing principles and techniques. It expands from single-camera to multi-camera projects. The goal is for students to leave this course with a strong understanding of aesthetic shooting principles, audio and video equipment, and a solid working knowledge of field production and post-production practices.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**JMC 2370 RADIO/AUDIO I (3 credits)**

This course emphasizes the fundamentals of audio production and writing for radio and its online communication venues. On-air delivery, use of video and audio streaming and broadcast industry issues are also covered.

**JMC 3030 ELECTRONIC NEWS WRITING AND REPORTING (3 credits)**

This class offers an overview of writing news stories for radio, television and online venues. Writing style and technique, as well as news judgment, are emphasized. Some of the assignments in the class will focus on covering public affairs and analyzing media coverage of public affairs.

**Prerequisite(s)/Corequisite(s):** JMC 2100 or JMC 2104; and minimum cumulative GPA of 2.25.

**JMC 3110 PHOTOGRAPHY (3 credits)**

The theory, techniques and application of basic photographic operations of exposure, development and printing.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and minimum overall GPA of 2.25

**JMC 3220 CRITICAL WRITING FOR THE MASS MEDIA (3 credits)**

This course is an introduction into journalistic opinion writing covering editorials, columns and popular entertainment reviews.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104; and minimum cumulative GPA of 2.25.

**JMC 3230 PRINCIPLES OF PUBLIC RELATIONS (3 credits)**

This course will focus primarily on techniques to garner and sustain public understanding, acceptance and support for an organization. This course will explain the merits of these techniques through theory and application, and will offer constant reminders of the relationship between theory and practice. Understanding theory can result in more efficient and effective use of techniques. (Cross-listed with JMC 8235).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum GPA of 2.25

**JMC 3270 PUBLIC AFFAIRS REPORTING (3 credits)**

The class is designed to help students build and refine their researching, interviewing, reporting and writing skills through the coverage of a public affairs news beat for print, broadcast and online formats.

**Prerequisite(s)/Corequisite(s):** JMC 2150 or JMC 3030; minimum cumulative GPA of 2.25.

**JMC 3300 SOCIAL MEDIA METRICS (3 credits)**

Social Media Metrics applies quantitative literacy methods and online media skills to current measurement of social media. Students will experiment with currently available measurement tools to identify and learn to use best practices.

**Prerequisite(s)/Corequisite(s):** JMC 2200; and minimum cumulative GPA of 2.25

**JMC 3320 VIDEO FIELD AND STUDIO PRODUCTION (3 credits)**

The class introduces the student to the studio-production environment, equipment, and best practices. It applies single- and multi-camera field-production concepts to a multi-camera live switched environment. It provides reinforcement of field production and editing principles by integrating pre-produced elements into a live production. The goal is for students to leave this course with a strong understanding of live-production principles, studio-production equipment, and a solid working knowledge of studio-production and field-production practices.

**Prerequisite(s)/Corequisite(s):** JMC 2320 and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 3330 TELEVISION NEWS VIDEO (3 credits)**

Theories and techniques of shooting and editing TV news video.

**Prerequisite(s)/Corequisite(s):** JMC 3030 and minimum cumulative GPA of 2.25. Concurrent registration with JMC 3030 is permissible.

**JMC 3350 MEDIA COMMUNICATION RESEARCH (3 credits)**

Comprehensive overview of mass communication research focusing on planning, designing, conducting, analyzing, interpreting and applying research to address communication issues and problems.

**Prerequisite(s)/Corequisite(s):** Junior standing, and 2.25 cumulative GPA

**JMC 3370 RADIO/AUDIO II (3 credits)**

This course emphasizes the use of audio-editing techniques in multimedia digital production. The course uses computer-based audio production systems to create interactive media.

**Prerequisite(s)/Corequisite(s):** JMC 2370; and cumulative GPA of 2.25.

**JMC 3400 MAGAZINE ARTICLE WRITING (3 credits)**

This course is an introduction to news and feature writing for magazines.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104, and minimum cumulative GPA of 2.25.

**JMC 3410 MAGAZINE EDITING, DESIGN AND PRODUCTION (3 credits)**

A hands-on approach to magazines as an area of specialization involving development of editorial objectives and content, planning, writing articles, design and layout for magazine production and management. Students will work individually and as a part of the team to produce a magazine for print and digital publishing.

**Prerequisite(s)/Corequisite(s):** Minimum overall GPA of 2.25, JMC 2100, 2104

**JMC 3500 PR AND ADVERTISING DESIGN (3 credits)**

This is a course concerned with the principles of print and electronic public relations and advertising design using applied digital methods and skills. Students will learn the principles of design in a variety of print and interactive formats relating to public relations and advertising. Concepts will be taught in a lecture setting, and skills will be demonstrated in a lab setting. An advertising and public relations design campaign will be completed.

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum cumulative GPA of 2.25.

**JMC 3620 PRINCIPLES OF CREATIVE ADVERTISING (3 credits)**

This is an introduction to advertising principles in all media, including the psychology of advertising; the creative, production and marketing aspects; and practical exercises in print, broadcast and social media. The course is organized in a way to take students through the process of creating relevant solutions to solve client advertising problems/opportunities.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25.

**JMC 3700 INTRODUCTION TO VISUAL COMMUNICATION AND CULTURE (3 credits)**

This course will introduce students to 'the visual,' both in production and critique. This course provides students the opportunity to further their own understanding of what "visual culture" is and how they both can critically create and consume the various products of that culture. In addition, this course will help students create, develop, and cultivate the knowledge base they will need to successfully complete the Visual Communication and Culture minor.

**Distribution:** Humanities and Fine Arts General Education course

**JMC 3970 APPLIED JOURNALISM/BROADCASTING (1 credit)**

For work on the campus student newspaper or radio or TV station.

**Prerequisite(s)/Corequisite(s):** Permission of instructor; minimum overall GPA of 2.25.

**JMC 4010 HISTORY OF MASS COMMUNICATION (3 credits)**

This class covers development of the U.S. media from 1690 to present day, including newspapers, magazines, radio, television, the new media of the Internet, advertising and public relations. A special emphasis is placed on freedom of the press.(Cross-listed with JMC 8016).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4040 SOCIAL MEDIA MEASUREMENT AND MANAGEMENT (3 credits)**

Social Media Measurement and Management explores the dynamic development of social media platforms within a journalism and media communication context. Students of journalism, broadcasting, public relations, advertising and marketing will examine theories and best practices of social media interaction and engagement. (Cross-listed with JMC 8046)

**Prerequisite(s)/Corequisite(s):** JMC 2200; JMC 3350 taken previously or concurrently; and minimum cumulative GPA of 2.25.

**JMC 4100 ROLE OF THE PRODUCER (3 credits)**

Students will develop and refine skills in understanding the planning process behind various types of media production. Students will utilize information gathering, strategic thinking, writing, storyboarding, site surveys, analysis of lighting requirements, audio requirements, selecting and working with voiceover or on-camera talent, with the goal of taking these elements through various projects. Students will shoot, edit, and post-produce finished projects reflecting an understanding of professional requirements and the necessity for planning and troubleshooting.

**Prerequisite(s)/Corequisite(s):** JMC 3320; sophomore status; and cumulative GPA of 2.25.

**JMC 4110 RADIO/AUDIO III (3 credits)**

This course builds on skills, techniques and theory introduced in Radio/Audio I and Radio/Audio II. It will emphasize the management of college, public and commercial radio stations. Students will learn the administrative, program, production, news and sales aspects of a station. Because of the rapid growth of online media, students will also be expected to write online content for the university's radio and television stations. In addition to advanced production projects and managerial duties, students will research, write and produce an audio documentary.

**Prerequisite(s)/Corequisite(s):** JMC 3370 and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4200 VISUAL COMMUNICATION AND CULTURE CAPSTONE (3 credits)**

This course is meant for those students who have declared the Visual Communication and Culture minor (VCC), housed within the School of Communication (CFAM). This course allows completion of the minor through an independent, juried research project that is conducted by the student under the direct supervision of the instructor of record for the course.

**Prerequisite(s)/Corequisite(s):** Junior-standing is required for registration; Declaration of VCC Minor; Completion of JMC 3700; Completion of other courses declared for Minor

**JMC 4220 LITERARY JOURNALISM (3 credits)**

Survey of the journalistic works of pertinent American writers through readings, lectures, discussions, plus creative writing assignments. (Cross-listed with JMC 8226).

**Prerequisite(s)/Corequisite(s):** Junior standing and JMC 2100 or JMC 2150 and minimum overall GPA of 2.25

**JMC 4240 PUBLIC RELATIONS CASE STUDIES (3 credits)**

The course is designed to enable the student: 1) to integrate issue-management and decision-making theoretical models with the communication theory and research techniques presented in JMC 3230/ JMC 8236 and 2) to apply professional judgment to the public relations problem-solving process through the development of structured analysis of historical cases. (Cross-listed with JMC 8246).

**Prerequisite(s)/Corequisite(s):** JMC 3230; JMC 3350; and minimum overall GPA of 2.25

**JMC 4250 STRATEGIC WRITING FOR PUBLIC RELATIONS AND ADVERTISING (3 credits)**

This is an advanced skills course that combines theory and practical application in writing for public relations and advertising. Students will plan and execute strategy and tactics to craft and deliver a persuasive message to a variety of audiences.

**Prerequisite(s)/Corequisite(s):** JMC 3500 & JMC 3230, minimum overall GPA of 2.25 Not open to non-degree graduate students.

**JMC 4260 MEDIA RELATIONS (3 credits)**

This course focuses on the communication tools used in media relations, the nuances of working with reporters from press and various media, news writing, news judgment, strategic planning, and the application of communication theories in understanding the relationship between news organizations and media relations representatives for organizations and corporations. (Cross-listed with JMC 8266).

**Prerequisite(s)/Corequisite(s):** JMC 3230; JMC 3350; junior standing; and minimum cumulative GPA of 2.25.

**JMC 4310 MEDIA & POLITICS (3 credits)**

An in-depth study of the impact of the media on political communication. This course will explore the symbiotic relationship of media and political communication, including the influence of traditional mass media, digital media, and social media on the political communication process. Students will delve into media theories and critically examine the influence of the media on the political communication process. (Cross-listed with JMC 8316).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL 1160 and JMC 3350, and cumulative GPA 2.25

**JMC 4340 SPORTS BROADCASTING AND PRODUCTION (3 credits)**

Students will learn to distinguish between the differences between sports production and sports performance. Students will also learn to broadcast a variety of sports using multiple platforms. Accuracy and immediacy are vital skills that students will be expected to develop. Students will learn and understand the importance and process of preparing for play-by-play and color commentary.

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; JMC 2200; JMC 2300; JMC 2370; sophomore status; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4370 COMMUNICATION WORKSHOP (3 credits)**

A workshop to explore communication theory and processes and to develop skills in their application. (Cross-listed with JMC 8376).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL1160, permission of instructor, and minimum overall GPA of 2.25

**JMC 4380 FILM THEORY AND CRITICISM (3 credits)**

Study of major trends in film criticism and theory in (primarily) Europe and America, with concentrated analysis of selected films. (Cross-listed with JMC 8386).

**Prerequisite(s)/Corequisite(s):** JMC 1050/THEA 1050; ENGL 1160; JMC 3350; junior standing; and minimum overall GPA of 2.25

**JMC 4390 MEDIA ENTREPRENEURSHIP (3 credits)**

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 8396, ENTR 4390).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

**JMC 4400 MASS MEDIA ETHICS (3 credits)**

The course examines ethical standards and practices of the media - print, electronic and online media, as well as advertising, public relations and entertainment media. It includes development of ethical decision-making skills. (Cross-listed with JMC 8406).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4410 COMMUNICATION LAW AND POLICY (3 credits)**

Communication practitioners need to understand legal protections and constraints. This course explores legal concepts, frameworks and principles to understand constitutional, statutory, regulatory and case law and policies. The student must have a basic understanding of government, social studies and human rights principles. The First Amendment and international law provide a framework for exploring current cases and issues. (Cross-listed with JMC 8416).

**Prerequisite(s)/Corequisite(s):** Junior and ENGL1160 and minimum overall GPA of 2.25

**JMC 4420 SPORTS WRITING (3 credits)**

Students will learn all aspects of the specialized aspect of sports media communication. Areas covered will include writing, interviewing, storytelling, using multiple media platforms and the ethics of sports reporting. Various writing experiences across the media spectrum, from traditional media to the new forms of online journalism, will be addressed. (Cross-listed with JMC 8426).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104; JMC 2200; JMC 2300; JMC 2370; sophomore status; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 4430 GLOBAL MEDIA COMMUNICATION (3 credits)**

In-depth study of global media communication systems. This course will examine cultural influence of dominant global media, the changing global media climates, information flow, regulation and censorship of media worldwide. Students will look at the various aspects of mass communication including advertising, public relations, broadcasting, movies and social media. There will be an emphasis on global communication theories and on critical examinations of media systems. (Cross-listed with COMM 8436).

**Prerequisite(s)/Corequisite(s):** Junior standing, ENGL 1160 and permission of instructor; minimum overall GPA of 2.25.

**JMC 4450 JOURNALISM AND MEDIA COMMUNICATION CAPSTONE I (3 credits)**

Students will work in a professional environment to produce content for various School of Communication media outlets. This brings together the skills and theory they have learned throughout their coursework.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25. Senior standing. JMC 2300; instructor permission. A portfolio of work must be submitted for admission to the class, which may not be taken concurrently with JMC 4460. Not open to non-degree graduate students.

**JMC 4460 JOURNALISM AND MEDIA COMMUNICATION CAPSTONE II (3 credits)**

This advanced course provides students with professional development opportunities to polish their skills. Students will continue to create content for the School of Communication's media outlets and will assume mentoring and leadership roles under the supervision of instructors of the capstone classes.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA of 2.25. JMC 4450; This class may not be taken concurrently with JMC 4450. Not open to non-degree graduate students.

**JMC 4500 MASS COMMUNICATION AND PUBLIC OPINION (3 credits)**

This class represents a study of the philosophy, process and effects of mass communication; the relationship between the mass media and public opinion and propaganda; and the nature, function and measurement of public opinion. (Cross-listed with JMC 8506).

**Prerequisite(s)/Corequisite(s):** Junior standing; ENGL 1160; JMC 3350; and minimum overall GPA of 2.25

**JMC 4810 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, ENGL 8816, JMC 8816).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 or permission of instructor.

**JMC 4820 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with PSCI 4820, JMC 8826, PSCI 8826).

**JMC 4830 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, ENGL 8836, JMC 8836).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110 and minimum overall GPA of 2.25

**JMC 4850 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, ENGL 8856, JMC 8856).

**Prerequisite(s)/Corequisite(s):** JMC 4810 or JMC 4830 or permission of instructor

**JMC 4870 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, ENGL 8876, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**JMC 4890 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, ENGL 8896, JMC 8896).

**Prerequisite(s)/Corequisite(s):** JMC 4810, JMC 4830, JMC 4870, JMC 4850 or permission of instructor

**JMC 4900 SEMINAR MASS COMMUNICATION (3 credits)**

A senior seminar applying historical and theoretical perspective to current issues and developments in mass communications. (Cross-listed with JMC 8906).

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies or Journalism and Media Communication major) and ENGL 1160 and minimum overall GPA of 2.25

**JMC 4920 MEDIA LITERACY (3 credits)**

An advanced seminar on the study of media and information literacy through deconstruction of mass communication content, meaning construction, framing analyses and critical/cultural approaches. (Cross-listed with JMC 8926).

**Prerequisite(s)/Corequisite(s):** Junior standing; JMC 3350; and minimum GPA of 2.25

**JMC 4960 INTERNSHIP AND CAREER PREPARATION SEMINAR (1 credit)**

This course will prepare students for doing an internship in a communication-related field by addressing such topics as writing resumes and cover letters, interviewing for jobs, and organizing a professional portfolio of their work. The topics covered also will assist with general career preparation. (Cross-listed with CMST 4960).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; School of Communication major or minor; and minimum cumulative GPA of 2.25.

**JMC 4970 INTERNSHIP EXPERIENCE (1 credit)**

This course will provide students professional communication-related experience in an internship approved and supervised by the School of Communication. (Cross-listed with CMST 4970).

**Prerequisite(s)/Corequisite(s):** JMC 4960, CMST 4960; junior standing; School of Communication major or minor; instructor permission; and minimum cumulative GPA of 2.25.

**JMC 4980 INDEPENDENT STUDY IN COMMUNICATION (1-3 credits)**

Specialized studies in communication supplementing regular courses: readings; research; tutorial.

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies or Journalism and Media Communication major) and minimum overall GPA of 2.25

**JMC 4990 ADVANCED COMMUNICATION PRACTICUM (1-3 credits)**

Special practicum experience in an area of communication.

**Prerequisite(s)/Corequisite(s):** Junior standing and (Communication Studies major or Journalism and Media Communication major)

## Kinesiology (KINS)

**KINS 1010 INTRODUCTION TO SPORTS MEDICINE (1 credit)**

The primary purpose of this course is to allow students to explore a variety of professions related to the field of sports medicine and how they work together to ensure safe participation in physical activity. Topics such as basic injury pathology, safe participation in sports, communication, and legal and ethical issues will be reviewed.

**KINS 1500 FUNDAMENTALS OF GROUP EXERCISE (1 credit)**

This course is designed to provide students with the knowledge and skills to perform fundamental exercises associated with a variety of group exercise formats (e.g. bootcamp, kickboxing, yoga, indoor cycling, step, etc.). Students will also learn proper technique, transitions, progressions/regressions, modification, and sequencing to create a safe and inclusive class environment.

**Prerequisite(s)/Corequisite(s):** Kinesiology majors, Pre-AT, Exploratory H&K, or PE Teaching majors

**KINS 1600 FUNDAMENTALS OF RESISTANCE TRAINING (1 credit)**

This class is designed to provide each student with the knowledge needed to understand how to properly perform basic weight training movements for each muscle group. Students will understand and learn the importance of keeping good body positioning, technique, spotting, breathing and safety procedures with free weights and machine weights as well learning to developing basic weight-training programs and understanding basic training principles.

**Prerequisite(s)/Corequisite(s):** Kinesiology majors, Pre-AT, Exploratory H&K, or PE Teaching majors. Not open to non-degree graduate students.

**KINS 1800 FITNESS FOR LIVING (3 credits)**

This course is aimed at exploring the values of physical activity, assessing fitness needs and prescribing appropriate activities. The course will be taught as a lecture lab.

**KINS 2130 LIFEGUARDING (3 credits)**

This course is designed to prepare candidates in assuming the duties and responsibilities of a lifeguard. The main focus will be accident prevention in and around the water. Also stressed will be the recognition of a person in distress and a drowning victim. The development of an emergency plan and the articulation with the emergency rescue service will also be key elements in this course.

**KINS 2140 WATER SAFETY INSTRUCTORS COURSE (3 credits)**

This is a course in water safety instruction. The purpose of this course is to teach those enrolled how to teach the various swimming skills. This would include teaching beginning swimming through emergency water safety. Candidates who satisfactorily complete the course will be issued a Water Safety Instructor Certificate.

**Prerequisite(s)/Corequisite(s):** Seventeen years of age and possession of current Advanced Lifesaving or Emergency Water Safety Certificate

**KINS 2210 GROUP EXERCISE LEADERSHIP (2 credits)**

This course is designed to provide students with competencies in the theory, concepts, and skills related to group exercise instruction and leadership. Students will explore both the dynamics of group participation and instructions across various modalities including; step, hi-low aerobics, cardio kickboxing, water aerobics, dance fitness, sports conditioning, indoor cycling, yoga, Pilates, and barre.

**Prerequisite(s)/Corequisite(s):** PE 1800 or KINS 1800 with a grade of C- or better, School of H&K majors, Secondary Education majors with endorsements in Health/PE 7-12, and PE Pk-6th and 7-12

**KINS 2220 THEORY AND PRACTICE OF TEACHING RESISTANCE TRAINING (2 credits)**

This course is designed for the college student majoring in Exercise Science, Physical Education and related degrees to develop leadership skills necessary to teach safe and effective resistance training programs.

**Prerequisite(s)/Corequisite(s):** PE 1800 or KINS 1800 with a grade of C- or better, School of H&K majors, Secondary Education majors with endorsements in Health/PE 7-12, and PE Pk-6th and 7-12

**KINS 2310 TEACHING GAMES 1 (3 credits)**

The purpose of this course is to help preservice physical education teachers facilitate enhanced performance, analysis, and tactical understanding of invasion games and field run/score games (e.g. basketball, soccer, team handball, football, speedball, ultimate Frisbee, hockey, softball, cricket, and modified kickball).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 2320 TEACHING GAMES 2 (3 credits)**

The purpose of this course is to help preservice physical education teachers facilitate enhanced performance, analysis, and tactical understanding of net/wall games and lifetime activities (e.g. volleyball, badminton, tennis, racquetball, golf, archery, pickleball, table tennis).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 2330 OUTDOOR/ADVENTURE ACTIVITIES (3 credits)**

The course will address the basic requirements for living comfortably and traveling in wilderness areas. Basic orienteering skills, team building activities, identifying and minimizing risks associated with outdoor pursuits, and environmental safety issues will be included.

**Prerequisite(s)/Corequisite(s):** SED or ELED major, HED 3030 or PHHB 3030. Not open to non-degree graduate students.

**KINS 2430 FOUNDATIONS IN KINESIOLOGY (3 credits)**

This is an introductory course in kinesiology that includes an orientation to the profession and a consideration of current trends, problems and issues and their implications for the field of kinesiology. The course also examines the relationship of kinesiology to other cultures, general education, and global perspective.

**Distribution:** Social Science General Education course

**KINS 2700 FUNDAMENTALS OF ATHLETIC TRAINING (3 credits)**

An introduction to the field of athletic training as well as injury prevention and basic athletic training skills in wound care, taping/bracing, evaluation, and treatment.

**Prerequisite(s)/Corequisite(s):** PE 1010 or KINS 1010, BMCH 2400, BMCH 2500 and admission into the Athletic Training Program. Not open to non-degree graduate students.

**KINS 2800 MOTOR LEARNING (3 credits)**

This course is the study of motor development, and the conditions and factors that influence the normal development and the learning of motor skills. Emphasis is placed upon normal developmental patterns and behaviors and learning principles throughout the life-span as it relates to a diverse American culture.

**Prerequisite(s)/Corequisite(s):** PE 2430/KINS 2430 with a grade of C- or better, or ATHT majors, or permission of instructor

**KINS 3000 SPECIAL PROJECTS (1-3 credits)**

Conducted as short course, seminar, workshop or special project.

**Prerequisite(s)/Corequisite(s):** The prerequisite for the special project will be determined by the instructor.

**KINS 3010 SCIENTIFIC PRINCIPLES OF COACHING (3 credits)**

Designed for coaches and potential coaches who are not physical education majors. Covers basic information to include kinesiology, physiology of exercise and behavioral aspects of coaching.

**Prerequisite(s)/Corequisite(s):** For non physical education majors.

**KINS 3040 PREVENTION AND CARE OF ATHLETIC INJURIES (3 credits)**

This course covers selected topics related to the prevention and care of athletic related injuries. Emphasis will be placed on injury prevention through proper training, conditioning, nutrition and hydration strategies. Basic evaluation and treatment of athletic related injuries and legal aspects will also be covered.

**Prerequisite(s)/Corequisite(s):** PE3010/KINS 3010, or BMCH 2400 or BIOL 2740, and HED3030/PHHB 3030 or current CPR certification and First Aid certification.

**KINS 3060 METHODS OF PRESCHOOL AND PRIMARY SCHOOL PHYSICAL EDUCATION (3 credits)**

The study of current methodology in developmentally appropriate preschool and primary school physical education. Candidates will use the assessment, planning, implementation and evaluation model in developing physical education programs for this age group.

**Prerequisite(s)/Corequisite(s):** KINS 2800, EDUC 2510 or EDUC 2520 or TED 2400, 2.75 NU GPA and must have passed Praxis Core (Math, Reading, and Writing)

**KINS 3110 INTRODUCTION TO DANCE (3 credits)**

This course provides an introduction to dance as a performing art focusing on the choreographer, the dancer, the audience, the different dance genres and dance as a means of communication and expression.

**KINS 3120 DANCE SOMATICS: AN INTEGRATED APPROACH TO UNDERSTANDING THE BODY IN MOTION (3 credits)**

This course explores the body in motion through the lenses of various dance and movement theories, as well as self-reflection. Students will learn to move in an embodied way and understand the physiological, developmental, and psychological foundation of movement for dance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 3130 CHOREOGRAPHY 1: INTRODUCTION TO CHOREOGRAPHIC TOOLS, ARTISTIC AESTHETICS, & PERFORMANCE ELEMENTS (3 credits)**

This course explores the act of choreography as a medium for artist expression through improvisation, choreographic constructs, and content themes. Students will learn how to build ideas into choreographic dances through experimentation, structured frameworks, and feedback. Students will also present their work in a small performance at the conclusion of the semester.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 3140 SPORTS OFFICIATING (3 credits)**

The general principles, basic guidelines, philosophy, mechanics and rules of officiating several team and individual sports will be covered.

**KINS 3300 TEACHING DANCE IN THE SCHOOLS (3 credits)**

The course is designed for physical education pedagogy majors, elementary teachers, and recreation leaders who are interested in obtaining the fundamentals of a variety of rhythmic and creative dance activities and their teaching methods for preschool through twelfth grade.

**Prerequisite(s)/Corequisite(s):** EDUC 2010 or TED 2300 or permission of instructor

**KINS 3350 TEACHING & CURRICULUM DEVELOPMENT IN ELEMENTARY PHYSICAL EDUCATION (3 credits)**

The study of teaching methodology and curriculum development in the elementary schools. Particular attention will be given to meeting the motor needs and interests of children aged 9-12. Assessing children's motor performance, prescribing activities, and evaluating the program effectiveness will be addressed.

**Prerequisite(s)/Corequisite(s):** KINS 3060, KINS 3300, KINS 2310, TED 2400, 2.75 NU GPA

**KINS 3480 ORGANIZATION AND ADMINISTRATION OF ATHLETICS (3 credits)**

A study of the organization and administration of athletics in the secondary schools.

**Prerequisite(s)/Corequisite(s):** Sophomore

**KINS 3710 SWIMMING COACHING THEORY AND PRACTICE (3 credits)**

This course is designed to develop the competencies essential to the successful coaching of swimming at all levels. The focus is on theory, swimming techniques, rules, safety, and coaching methods of competitive swimming.

**KINS 3720 SOCCER COACHING THEORY & PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of soccer. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection, and modern coaching theories specific to the sport of soccer.

**KINS 3730 SOFTBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of fast pitch softball. The course will encompass the philosophy of coaching, coaching techniques, conditions/training activities and the analysis and correction of skills.

**KINS 3740 VOLLEYBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of volleyball. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories.

**KINS 3750 WRESTLING COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of wrestling. The focus is on conditioning/training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of wrestling.

**KINS 3760 BASEBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop knowledge in all phases of the game. Special focus is on fundamentals, drills, managing and psychology of coaching.

**KINS 3770 FOOTBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of football on all levels. The focus is on theory, history and origin, conditioning, safety techniques, coaching techniques, strategy, equipment selection and modern coaching theories.

**KINS 3780 TRACK AND FIELD COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of track and field. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of track and field.

**KINS 3790 BASKETBALL COACHING THEORY AND PRACTICE (3 credits)**

A course of study designed to develop the competencies essential to the successful coaching of basketball. The focus is on conditioning training activities, coaching techniques, competition strategies, equipment selection and modern coaching theories specific to the sport of basketball.

**KINS 3800 HOCKEY COACHING THEORY (3 credits)**

An introductory course in the developing the desirable attributes of hockey players, rules of the game, fundamental skills and systems of ice hockey as well as the study of key principles in successful players. Basic offensive and defensive strategies will be discussed. Also discussed will be the evolution of the sport and its equipment.

**KINS 3900 MOTIVATION FOR PHYSICAL ACTIVITY (3 credits)**

The central purpose of this course is to examine the psychological basis of exercise and physical activity. The majority of the course will focus on traditional theories principles of psychology as they relate to exercise. Emphasis is placed on understanding the motives underlying involvement in exercise and physical activity and the psychological benefits derived from acute and chronic involvement in an exercise program. Throughout the course, consideration will be given to theoretical models, research findings, and practical application of the concepts to a variety of performance settings.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 with a grade of C- or better.

**KINS 4000 TEACHING & CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION (3 credits)**

This course is designed to develop candidates' competencies in physical education instructional methodology and curriculum development. Analysis of teacher behavior and selection of content and materials will be examined. Candidates will be introduced to and will implement various methods of teaching physical education at the secondary level so as to develop the skills to become an effective teacher.

**Prerequisite(s)/Corequisite(s):** KINS 2310, KINS 2320, KINS 2330, KINS 3300, TED 2400, 2.75 NU GPA, and must have passed Praxis Core (Math, Reading, and Writing)

**KINS 4010 LABORATORY METHODS IN EXERCISE SCIENCE (6 credits)**

This course will provide students an opportunity to achieve competency in operating various pieces of equipment typically used in biomechanics and exercise physiology laboratories. The students will gain experience in interpreting the results of the tests administered, and writing exercise prescriptions based upon those results. Students must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** BMCH 2500 or BIOL 2840, BMCH 4630, PE 4940 or KINS 4940, CPR certification, department consent; must be School of H&K major or ATHT major. Students cannot complete KINS 4010 and KINS 4800 in the same term.

**KINS 4050 EXERCISE AND SPORT NUTRITION (3 credits)**

This course presents an overview of the principles of nutrition and the relationship between nutrition and health, fitness, and sports performance. It is designed to provide students with the knowledge and skills necessary to assess nutritional status, improve overall health, and enhance sports performance. (Cross-listed with KINS 8056).

**Prerequisite(s)/Corequisite(s):** HEKI 3090

**KINS 4070 OPTIMIZING SPORTS PERFORMANCE (3 credits)**

The course is designed for coaches, athletes and physically active people, and allied health professionals. Course content emphasizes integration of several disciplines in sports medicine aimed at preparing one for optimal sports performance. Topics include peaking, detraining, overuse injury, efficiency, special foods and nutritional requirements, genetics and trainability, and designing of multi-year training schedules. (Cross-listed with KINS 8076).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 4080 CLINICAL EXERCISE PHYSIOLOGY (3 credits)**

This course will offer students the knowledge, skills, and abilities to take the American College of Sports Medicine's health fitness instructor certification exam. This course will emphasize health risk assessment, exercise testing, and exercise prescription for healthy and clinical populations. (Cross-listed with KINS 8086).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 4100 APPLIED KINESIOLOGY (3 credits)**

This course will introduce students to the use of basic theories and principles of movement analysis from a kinesiological perspective. Students will apply anatomical knowledge to break down movement from a broad spectrum of activities.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 or PE 2880 or BIOL 2740 or equivalent

**Distribution:** Writing in the Discipline Sequenced Course

**KINS 4150 ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE (3 credits)**

A study of problems as they relate to philosophy, procedures and practices, and organization and administration of physical education & physical activity programs for exceptional students. This course surveys societal issues surrounding adaptive sports and recreation along with movement problems associated with specific disabilities. This course also provides the student with an opportunity to work with an individual who has a disability.

**Prerequisite(s)/Corequisite(s):** PE 2800 or KINS 2800 with a grade of C- or better and Jr Standing and PYED major or Secondary Education major with endorsement codes: 0802S or 0802C or 1913S

**Distribution:** U.S. Diversity General Education course

**KINS 4200 PLANNING WORKSITE WELLNESS PROGRAMS (3 credits)**

This course will focus on the planning of quality worksite wellness programs utilizing standards established by the Association for Worksite Health Promotion. Steps in the planning process such as needs assessment, strategic planning, implementation, and evaluation will be taught with special application to the worksite. Critical issues involving worksite programs will also be addressed such as upper management support, program standards, corporate culture, competencies for worksite health promotion professionals, economic benefits, behavioral theories, legal issues, and the integration of worksite wellness programs and health care. (Cross-listed with KINS 8206).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**KINS 4310 LOWER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the low back, hip, and lower extremities. (Cross-listed with KINS 8316).

**Prerequisite(s)/Corequisite(s):** PE 2700 or KINS 2700 and PE 4710 or KINS 4710. Not open to non-degree graduate students.

**KINS 4320 UPPER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the head, neck, thorax, and upper extremities. (Cross-listed with KINS 8326).

**Prerequisite(s)/Corequisite(s):** PE 4310/KINS 4310, PE 4330/KINS 4330, and PE 4720/KINS 4720. Not open to non-degree graduate students.

**KINS 4330 ATHLETIC THERAPEUTIC MODALITIES (3 credits)**

This course will cover the theory, physiology and application of physical agents used in the treatment of injuries and illness. Students will gain practical experience utilizing selected agents to treat injuries and illnesses. (Cross-listed with KINS 8336).

**Prerequisite(s)/Corequisite(s):** PE 2700 or KINS 2700 and PE 4710 or KINS 4710. Not open to non-degree graduate students.

**KINS 4350 ORGANIZATION AND ADMINISTRATION OF ATHLETIC TRAINING (3 credits)**

Administration of athletic training programs including the use of records and forms, budgets, facility design and legal concerns. (Cross-listed with KINS 8356).

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4320/KINS 4320

**KINS 4360 ORTHOPEDIC AND MEDICAL ASPECTS OF ATHLETIC TRAINING (3 credits)**

This course will enhance the candidate's knowledge of orthopedic and medical aspects of athletic training. Involves directed observation, experiential learning, literature review and hands-on experience under the supervision of local medical professionals in various settings. The student will be exposed to advanced evaluation and treatment skills, including imaging techniques and surgical procedures, rehabilitation and athletic training management.

**Prerequisite(s)/Corequisite(s):** PE 4320/KINS 4320 and PE 4340/KINS 4340

**KINS 4500 BEHAVIORAL ASPECTS OF COACHING (3 credits)**

This course is designed to provide the physical education teacher and athletic coach with an overview of the behavioral aspects of coaching athletes. The course will provide information which will enable the coach to enhance as well as orchestrate performance of elementary, junior high, senior high, college, and post-college athletes. (Cross-listed with KINS 8506).

**KINS 4700 FITNESS MANAGEMENT (3 credits)**

This course is an introduction to management concepts for fitness professionals such as human resource management, financial management, marketing, and facility risk management. Assessment, development, prescription, implementation, and evaluation strategies will be presented for each management concept. Students will develop the knowledge and skills necessary to orchestrate and manage high quality programs in various fitness settings.

**KINS 4710 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (1 credit)**

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Students will demonstrate skills and proficiencies in emergency procedures and the basic therapeutic modalities.

**Prerequisite(s)/Corequisite(s):** Formal admission to the Athletic Training Program, instructor permission, & continued compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 2700/KINS 2700. Not open to non-degree graduate students.

**KINS 4720 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (1 credit)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Students will demonstrate advanced proficiencies in emergency procedures and initial proficiencies in lower extremity evaluation and application of therapeutic modalities.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training Program, PE 4710/KINS 4710, instructor permission, compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4310/KINS 4310 & PE 4330/KINS 4330

**KINS 4730 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (1 credit)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of skills and proficiencies in lower extremity care and initial proficiency in upper extremity evaluation and care.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training, PE 4720/KINS 4720, instructor permission, compliance w/published Athletic Training Technical Standards for Admission. Co-requisite: PE 4320/KINS 4320 & PE 4340/KINS 4340. Not open to non-degree graduate students.

**KINS 4740 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (1 credit)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of upper extremity evaluation and care and skills in medical exam techniques, pharmacology and interviewing.

**Prerequisite(s)/Corequisite(s):** Formal admission to Athletic Training Program, PE 4730/KINS 4730, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4360/KINS 4360. Not open to non-degree graduate students.

**KINS 4750 CLINICAL PRACTICUM IN ATHLETIC TRAINING V (1 credit)**

Clinical Practicum in Athletic Training V is the fifth course in the Clinical Practica series for students admitted to the Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills. Emphasis on mastery of skills in medical examination techniques and administrative tasks.

**Prerequisite(s)/Corequisite(s):** Formal admission to the Athletic Training Program, PE 4740/KINS 4740, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 4350/KINS 4350. Not open to non-degree graduate students.

**KINS 4800 KINESIOLOGY PRACTICUM (3 credits)**

This practicum places the candidate in the role of an exercise leader in a Fitness for Living class. During this experience the candidate will participate in a seminar which will meet three days a week. Responsibilities in the role of an exercise leader will include: direct contact with students enrolled in this class during all lectures and activities and exercise leadership and supervision, fitness testing, and class presentations. During the seminar sessions the candidates will participate in discussions, group activities, and share experiences relative to their exercise leadership roles. Candidates must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** PE 2210/KINS 2210, PE 2220/KINS 2220, BMCH 2500 or BIOL 2840, BMCH 4630, PE 4940/KINS 4940, CPR certification and department consent. Students cannot complete KINS 4010 and KINS 4800 in the same term.

**KINS 4850 CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION (3 credits)**

The purpose of this course is to provide candidates with an introduction to the theories and practices involved in all phases of cardiac rehabilitation. (Cross-listed with KINS 8856).

**Prerequisite(s)/Corequisite(s):** PE 2500/KINS 2500 with a grade of C- or better or BIOL 2840 with a grade of C- or better, PE 4940/KINS 4940 with a grade of C- or better

**KINS 4910 INTERNSHIP IN EXERCISE SCIENCE (6 credits)**

This course is a supervised, educational work experience of at least 300 clock hours over at least a ten week period at an approved worksite offering programs and experiences in fitness development and health promotion.

**Prerequisite(s)/Corequisite(s):** PE 4800 or KINS 4800, 2.5 GPA, CPR Certification, and department consent

**KINS 4930 MEASUREMENT AND EVALUATION IN KINESIOLOGY (3 credits)**

This course is designed to present the theory and application of measurement and evaluation techniques commonly used in physical education, exercise science, physical activity, and health promotion. Appropriate test selection, administration, and the interpretation of results with fundamental statistical methods will be emphasized. Students will participate in selected practical testing and measurement procedures.

**Prerequisite(s)/Corequisite(s):** PE 4940 or KINS 4940 with a grade of C- or better

**KINS 4940 PHYSIOLOGY OF EXERCISE (3 credits)**

A study of the major physiological systems of the human body and its acute and chronic responses to exercise. Includes application of physiological concepts to physical training and conditioning.

**Prerequisite(s)/Corequisite(s):** BMCH 2400 or BIOL 2740 with a grade of C- or better, and School of H&K majors only.

**Distribution:** Writing in the Discipline Sequenced Course

**KINS 4960 TOPICS IN SPORTS MEDICINE (3 credits)**

This course covers selected topics regarding the science and medicine of sports participation. Some areas to be covered include the medical supervision of the athlete, special populations, conditioning, environmental concerns and sports nutrition.

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4350/KINS 4350, and PE 4730/KINS 4370; or instructor permission

**KINS 4970 PROBLEMS OF PHYSICAL EDUCATION (1-3 credits)**

This course is designed to provide an opportunity for individuals or groups to study problems in physical education.

**Prerequisite(s)/Corequisite(s):** Permission of instructor

**KINS 4980 COACHING PRACTICUM (1 credit)**

This course is designed to give the candidate practical experiences in the coaching of specific sports.

**Prerequisite(s)/Corequisite(s):** Junior standing and related coaching methods course. Permission of instructor

**KINS 4990 INTERNSHIP IN ATHLETIC TRAINING (6 credits)**

This course is a supervised, educational work experience of at least 300 clock hours over a minimum of a 10-week period at an approved athletic training worksite.

**Prerequisite(s)/Corequisite(s):** 90 hours completed, 2.5 GPA and department consent

## Latin (LATN)

**LATN 1110 ELEMENTARY LATIN I (5 credits)**

This course will provide opportunities for students to develop a basic reading knowledge of Latin.

**LATN 1120 ELEMENTARY LATIN II (5 credits)**

This is the second semester of a university-oriented two-year Latin course. The course will cover the basics of Latin grammar, which will be instrumental in preparing the student for reading Latin primary sources and making connections between that content and the literatures of Western Europe.

**Prerequisite(s)/Corequisite(s):** LATN 1110 or placement by instructor's diagnostic examination.

**LATN 2110 INTERMEDIATE LATIN I (3 credits)**

This is the third semester of a university-oriented two-year sequence of Latin courses. The course will cover the basics of Latin grammar, which will be instrumental in preparing the students for reading Latin primary sources and making connections between their contents and the literatures of Western Europe.

**Prerequisite(s)/Corequisite(s):** LATN 1120 or placement by instructor's diagnostic examination.

**LATN 2120 INTERMEDIATE LATIN II (3 credits)**

This is the fourth semester of a university-oriented two-year sequence of Latin courses. The course will cover the basics of Latin grammar, which will be instrumental in preparing the students for reading Latin primary sources and making connections between their contents and the literatures of Western Europe.

**Prerequisite(s)/Corequisite(s):** LATN 2110 or placement by instructor's diagnostic examination.

## Latino/Latin American Studies (LLS)

**LLS 1000 LATIN AMERICA: AN INTRODUCTION (3 credits)**

The course introduces the students to the study of Latin America. Its main focus is on contemporary Latin American societies and regional dynamics, but historical forces and the impact of globalization are continuously evaluated. Students will learn about the region's dominant forces and trends associated with development policies, political regimes, population changes, urbanization, and a whole host of social problems, challenges and perspectives. Topics for readings, discussions and assignments include social inequality, gender, race, violence, the environment, food, health, education, social media, religion, emigration and international relations. Students will have opportunities to explore in more depth specific topics as well.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**LLS 1010 INTRO TO CHICANO-LATINO STUDIES: SOCIAL SCIENCES (3 credits)**

The course introduces the students to key social, political, economic, and cultural issues related to the Latino experience in the U.S., and it utilizes conceptual, analytical, and methodological tools from the social sciences in order to promote their understanding.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**LLS 1020 INTRODUCTION TO CHICANO-LATINO STUDIES: HUMANITIES (3 credits)**

The course introduces students to intellectual, artistic, literary, musical, and other cultural traditions and contributions of Chicanos Latinos in the U.S. and in their historical crossing of real and imaginary borders. The unique contributions of different racial, ethnic, gender, and other social groups within the Latino population are discussed.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**LLS 2800 SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES (3 credits)**

An interdisciplinary topical approach that explores various aspects of Latino/Latin American Studies. Selected topics will be suitable for examination from an inter- and multidisciplinary humanities perspective (literature, visual and performance arts, music, religion, history, philosophy). Topics and disciplines will vary from term to term. Course description will be announced in advance. Repeatable up to six credits if content differs.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**LLS 2900 SPECIAL TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES (3 credits)**

The course introduces students to in-depth examinations of novel topics related to Latin American societies, U.S. Latinos and migrants. The courses draw from varying combinations of social sciences (sociology, anthropology, political science, psychology, law, economics and international studies). Topics vary from term to term and examples include: Immigration Laws and Latinos across the Americas, Violence and human security in Central America. Repeatable up to nine credits if content differs

**Distribution:** Global Diversity General Education course and Social Science General Education course

**LLS 3050 LATIN AMERICA IN CONTEXT: HEALTH, BUSINESS, ENVIRONMENT, AND SOCIETY THROUGH ORAL PRACTICE (3 credits)**

This course focuses on the development and intensive practice of oral expression in Spanish, and is intended for students interested in the fields of business, health, education, environmental sciences, social work, and cultural studies, who are either heritage speakers of Spanish or who are completing a major/minor in Spanish. The class provides a broad context of current relevant issues in Latin America, including politics and society; the state of the economy after decades of neoliberalism; racism; indigenous and Afro-descendent identities; domestic and gender violence; health and disabilities; adult, youth, & child immigration; and ecology and the environment. (Cross-listed with SPAN 3050).

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or SPAN 3030 & SPAN 3040

**LLS 3140 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 8145, PSCI 3140, LLS 8145)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**LLS 3420 LATIN AMERICAN CIVILIZATION (3 credits)**

What do we know about Latin American culture, geography, politics and languages? How has Latin America been imagined from the United States? Does it make sense to think of Latin America as one space brought together by a similar history or is it better to imagine it as twenty particular countries with intersecting pasts and futures? This course will attempt to answer these questions by introducing you to a number of key topics and debates common to contemporary Latin American culture, including issues such as democracy, class, race/ethnicity, gender/sexuality, religion, family and globalization. (Cross-listed with SPAN 3420).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060.

**LLS 3680 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with LLS 8685, PSCI 3680, PSCI 8685)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**LLS 3800 TOPICS IN LATINO/LATIN AMERICAN STUDIES: HUMANITIES (3 credits)**

An interdisciplinary topical approach that explores various aspects of Latino/Latin American humanistic expressions. Selected topics will be suitable for examination from an inter and multidisciplinary humanities perspective (literature, visual and performing arts, history, music, religion, and philosophy). Topics and disciplines will vary from term to term. Repeatable up to six credits if content differs.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of the instructor

**LLS 3900 TOPICS IN LATINO/LATIN AMERICAN STUDIES: SOCIAL SCIENCES (3 credits)**

A discussion-led course on current and evolving issues and questions related to Latin American societies, U.S. Latinos, and migrants. The courses draw from varying combinations of social sciences (sociology, anthropology, political science, psychology, law, economics, and international studies). Topics fall within the social sciences and vary from term to term and examples include Immigration Laws and Latinos across the Americas, Violence and human security in Central America, among others. The course may also include service-learning assignments when appropriate.

**Prerequisite(s)/Corequisite(s):** A social science course.

**LLS 4140 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 8146, SPAN 4140).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060

**LLS 4170 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 8176, SPAN 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040; or SPAN 3010, SPAN 3020; SPAN 3060.

**LLS 4240 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 8246, SOC 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4250 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 4250, SOC 8256, LLS 8256).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4280 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with LLS 8286, PSCI 4280, PSCI 8286)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**Distribution:** Global Diversity General Education course

**LLS 4780 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 4780, SOC 8786, LLS 8786).

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above, or permission of the instructor

**Distribution:** Global Diversity General Education course

**LLS 4900 INDEPENDENT STUDY (3 credits)**

This course is designed for those students who are capable of pursuing, independently, an area of Latino/Latin American Studies that is not covered under the existing curriculum. The student will be supervised by a member of the faculty of the LLS department. All course assignments, requirements, and expectations will be clearly indicated in advance. May be repeated for credit, up to six hours, under a different topic.

**Prerequisite(s)/Corequisite(s):** Permission of LLS faculty member required.

**LLS 4910 CONTEMPORARY TOPICS IN LLS: SOCIAL SCIENCES (3 credits)**

This is a discussion-led course on current and evolving issues and questions pertaining to the Latino and Latin American immigrant population in the United States and its transnational ties to Latin America and the Caribbean. Topics fall within the social sciences. The course may also include service-learning assignments when appropriate. (Cross-listed with LLS 8916.)

**Prerequisite(s)/Corequisite(s):** Must have taken at least one social science course as well as a different LLS course, junior standing or above and/or permission of the instructor.

**LLS 4920 CONTEMPORARY TOPICS IN LLS:HUMANITIES (3 credits)**

This course is an interdisciplinary topical approach that explores various aspects of Latino/Latin American Studies. Selected topics will be suitable for examination from the perspective of the humanities (literature, art, dance, music, theatre, and philosophy topics). Topics and disciplines will vary from term to term. Course description will be announced in advance. Repeatable up to nine credits if content differs. (Cross-listed with LLS 8926.)

**Prerequisite(s)/Corequisite(s):** One humanities and one LLS course and junior standing or permission of the instructor.

**LLS 4950 LATIN AMERICAN STUDY ABROAD (1-3 credits)**

This course is designed as an international study abroad course that will introduce undergraduate and graduate students to the dynamism of socio-cultural, economic and political changes taking place across Latin America. Note: International travel and special fees required. (Cross-listed with LLS 8956)

**Prerequisite(s)/Corequisite(s):** Senior standing or Junior standing with permission of the department. LLS 1000 or LLS 1010 or equivalent and departmental permission.

**LLS 4990 LATINO/LATIN AMERICAN STUDIES CAPSTONE (3 credits)**

This is the final course in the LLS major. As such it is a writing-intensive course for students majoring in Latino/Latin American Studies. The purpose of this course is to allow students to integrate their course experiences into an activity that reflects the cumulative knowledge gained from their class instruction. Students will have to complete three activities: 1. Develop an e-portfolio. 2. Participate in an internship 3. Write a report and prepare a poster presentation in direct relation to the internship.

**Prerequisite(s)/Corequisite(s):** Senior standing (or students in junior standing with permission from the instructor) and LLS 1000, LLS 1010 or 1020, and a research methods course approved for LLS credit, and ENGL 1160 or equivalent. Not open to non-degree graduate students.

# Law and Society (LAWS)

**LAWS 2000 SPECIAL TOPICS IN LAW AND SOCIETY (1-5 credits)**

The course content and topic will vary. Please contact the CBA for specific course offerings.

**LAWS 3170 ETHICS IN BUSINESS (3 credits)**

Application of ethical concepts and principles to moral issues in business including corporate responsibility, discrimination, advertising, competition, whistle-blowing, trade secrets, multinationals, environment, workers' rights, government regulation, investment, bribes, product liability, and consumerism.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**LAWS 3460 REAL ESTATE LAW (3 credits)**

Upper-level survey course in real estate law, which examines estates in land, conveyances, leases, mortgages, easements, zoning, environmental law, contracts, taxes, foreclosures, landlord-tenant relations, agency, Fair Housing, and Nebraska License Law. (Cross-listed with RELU 3460)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**LAWS 3930 BUSINESS LAW FUNDAMENTALS (3 credits)**

LAWS 3930 introduces students to the legal system governing business transactions. This course emphasizes constitutional law, the Common Law, and relevant statutory law. The legal topics covered include litigation and ADR, torts, contracts, Sale of Goods, insurance, international law, and regulation of business.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, CMST 1110, ECON 2200, & MGMT 3200 or MKT 3200 all with 'C'(2.0) or better, 2.5 GPA.

**LAWS 3940 LEGAL AND ETHICAL APPLICATIONS (3 credits)**

LAWS 3940 exposes students to business organization law and ethics. Emphasis is on business organizations (e.g., agency, partnerships, corporations), financial transactions (e.g., checks, liens, securities), and property (e.g., environment, intellectual). Ethics is a discrete subject area studied and its analytical tools are applied to all of these areas of law.

**Prerequisite(s)/Corequisite(s):** LAWS 3930 and ACCT 2020 both with C+ (2.3) or better; 2.5 GPA

**LAWS 4220 LEGAL ISSUES IN MANAGEMENT (3 credits)**

Overview of the general nature of legal knowledge in human resources administration. The course is designed to alert students of the legal considerations when an employer-employee relationship is established. Discusses how human resource practices have been impacted by recent legal developments, anti-discrimination laws, affirmative action and labor relations. (Spring)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, MGMT 3510 or MGMT 4030 with a C(2.0) or better, and a 2.5 GPA

**LAWS 4500 SPECIAL PROBLEMS IN LAW AND SOCIETY (1-6 credits)**

Individual investigation of specific problems in the field of business law. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** Senior and permission of program chair.

**LAWS 4510 LAW AND SOCIETY INTERNSHIP (1-3 credits)**

(maximum of 3 credits) Students engage in part time employment in their area of specialization to gain relevant business experience and to practice the skills and concepts learned in the classroom. Supplemental reports and or reading may be required.

**Prerequisite(s)/Corequisite(s):** Permission of internship coordinator; 'C' (2.0) or better in Laws 3930; 2.5 cumulative gpa; junior or senior standing.

**LAWS 4910 SEMINAR ON BUSINESS LAW (3 credits)**

Contact the instructor since the content will vary from semester to semester, but will have a strong emphasis on current events. The course will focus on one aspect of relationship between government and business, and its related ethical and international law issues. A major student research project is included.

**Prerequisite(s)/Corequisite(s):** LAWS 3930 and ECON 2200, its equivalent, or permission of department chair.

**LAWS 4930 INTERNATIONAL BUSINESS LAW (3 credits)**

This course is designed to inform students interested in international business transactions of the major legal principles governing international law, the major legal systems affecting the conduct of international business transactions, the domestic and foreign policies of the United States which affect business overseas, and foreign business inside American borders.

**Prerequisite(s)/Corequisite(s):** LAWS 3930.

## Management (MGMT)

**MGMT 1500 INTRODUCTION TO BUSINESS (3 credits)**

This course is for students who are interested in gaining foundational knowledge in many aspects of the business world including economics, finance, marketing, management, and accounting.

**Distribution:** Social Science General Education course

**MGMT 3100 MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course covers a broad spectrum of knowledge and techniques in MIS. It presents an overview of the issues and strategies in managing IT resources for organizational effectiveness. Covered topics include but are not limited to IT planning, network computing, functional information systems and their integration, electronic commerce, decision support systems, and data and knowledge management.

**Prerequisite(s)/Corequisite(s):** ACCT 2020, MGMT 3200 or MKT 3200, and MGMT 3490, each with a 'C' (2.0) or better, and a 2.5 GPA. Not open to non-degree graduate students.

**MGMT 3300 STRATEGY: IDENTIFYING AND LEVERAGING YOUR DISTINCTIVE PROFESSIONAL CAPABILITIES (3 credits)**

StrategyU is a course designed to merge strategic thinking with personal and professional growth. The goal of the course is to enable individuals to identify where they are personally and professionally, where they want to be in both areas in the future, and develop strategies for how to get there.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

**MGMT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MKT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MGMT 3490 MANAGEMENT (3 credits)**

In this course, students will develop a clear understanding of management concepts, develop critical thinking skills in applying management concepts to real world problems and begin to develop the technical, interpersonal, communication, conceptual and decision-making skills that are important to success as a manager in modern organizations. Current management trends are emphasized.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and MGMT 3200 or MKT 3200 each with a "C"(2.0) or above, and a 2.5 cumulative GPA.

**MGMT 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MKT 3600)

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of 'C' (2.0). Not open to non-degree graduate students.

**MGMT 3800 CROSS-SECTOR COLLABORATIVE LEADERSHIP (3 credits)**

The goal of PA 3800/MGMT 3800 is to prepare students to serve as collaborative leaders of cross-sector initiatives. Specifically, this course will prepare students for success in working collaboratively across private, nonprofit and public sector organizations while also enhancing their overall development as a leader. Examples of successful and unsuccessful cross-sector collaborations will be explored along with discussions of theories related to cross-sector collaboration. (Cross-listed with PA 3800).

**Prerequisite(s)/Corequisite(s):** Permission from instructor or MGMT 3490 with a grade of C or higher or enrollment in the cross-sector collaborative leadership minor.

**MGMT 4000 SPECIAL TOPICS IN MANAGEMENT (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a management, supply chain management, or human resources management concentration.

**Prerequisite(s)/Corequisite(s):** Permission from the Department of Management chairperson.

**MGMT 4010 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with BSAD 8146).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor

**MGMT 4030 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with BSAD 8136).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4040 ORGANIZATIONAL BEHAVIOR (3 credits)**

In this course students will learn the knowledge and skills necessary to effectively manage and lead others. The discussion and application of topics such as leadership, motivation and attitudes will provide a theoretical grounding in these areas and the opportunity to practice applying these concepts to real-world problems.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor. Not open to non-degree graduate students.

**MGMT 4050 MANAGERIAL DECISION MAKING (3 credits)**

This course will provide students with the opportunity to learn, understand, and apply techniques for effective individual and organizational problem solving. The students will interactively participate in generating, prioritizing and organizing their ideas in order to become better managerial decision-makers/problem solvers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C, or a 2.5 GPA, or permission of instructor

**MGMT 4060 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with BSAD 8066, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 or SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MGMT 4090 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with BSAD 8096, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**MGMT 4100 ORGANIZATION CHANGE AND DESIGN (3 credits)**

This course is designed to increase students' understanding and knowledge of how organizations are designed and structured in order to create value and competitive advantage, and how organizations can operate in an effective and efficient manner in an ever-changing environment.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4110 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with BSAD 8166).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor. Students are encouraged to take MGMT 4220 prior to taking this course.

**MGMT 4120 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with BSAD 8156).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 and MGMT 4030 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4150 INTERNATIONAL MANAGEMENT (3 credits)**

The purpose of this course is to explore management theory and practice from an international or cross-cultural perspective to gain an appreciation for the complexities of managing in diverse cultural, political and economics environments. Specific emphasis is placed on studying the challenges of management and organization in multinational corporations.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4220 EMPLOYMENT LAW (3 credits)**

This course is a comprehensive review of the legal framework in human resource management practice. The course is designed to prepare future managers and human resource professionals for the myriad legal issues involved in the employer-employee relationship and what is required for effective compliance. (Spring)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, MGMT 3510 or MGMT 4030 with a C(2.0) or better, and a 2.5 GPA; or permission of instructor.

**MGMT 4230 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices. Students are given a background into systematic decision-making processes, and then are introduced to cases of how actual leaders think and solve problems. Building on these foundational models, students learn how to perform problem solving requirements they will experience as managers. Finally, it concludes with a look at psychological biases and traps that may affect decision-makers.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a minimum cumulative GPA of 2.5, or permission of instructor. Not open to non-degree graduate students.

**MGMT 4330 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with SCMT 4330, BSAD 8336)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of the instructor. Not open to non-degree graduate students.

**MGMT 4440 MANAGEMENT OF QUALITY AND PROCESS IMPROVEMENT (3 credits)**

Major topics in this course include TQM, reengineering, process improvement, and tools and techniques to formulate, change and implement these concepts in organizations. Students can develop their knowledge and skills to apply these concepts in organizations through the applied orientation of this course.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better and a 2.5 GPA; or permission of instructor.

**MGMT 4450 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with SMCT 4450, BSAD 8456)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor.

**MGMT 4480 CORPORATE AND BUSINESS STRATEGY (3 credits)**

A comprehensive study of the analytical techniques and managerial tasks associated with developing, executing and monitoring a strategic course of action for medium to large firms. The interrelationships between the functional business areas will be stressed using a combination of contemporary readings, business cases, team projects or computerized situations.

**Prerequisite(s)/Corequisite(s):** Must be a graduating senior, have a declared major in BSBA program, 2.5 cumulative GPA, MGMT 3200 or MKT 3200, MGMT 3490, MKT 3310, FNBK 3250 with a "C" (2.0) or better.

**MGMT 4500 SPECIAL PROBLEMS IN MANAGEMENT (1-3 credits)**

This is an independent study course in which the student completes a focused project in the field of management, human resource management, international business, supply chain management, or entrepreneurship under faculty supervision.

**Prerequisite(s)/Corequisite(s):** MGMT 3490 C+ or better, 2.5 GPA; permission of program chair; junior/senior standing; must obtain agreement from a faculty member to supervise; submit completed Special Problems contract to MGMT Dept chairperson. Forms in CBA advising office.

**MGMT 4510 MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general management or a specialization within the domain (i.e. strategy, production/operations, project management, planning, organizing, leading, or controlling).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4520 HUMAN RESOURCES MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part time employment in the human resource management discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general human resource management or a specialization within the domain (i.e. staffing, training, employee relations).

**Prerequisite(s)/Corequisite(s):** MGMT 4030 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MGMT 4610 APPLIED LEADERSHIP FOR MANAGERS (3 credits)**

The course provides an introduction to applied leadership concepts and practices by providing students with the knowledge and skills necessary to solve problems and make decisions as leaders.

**Prerequisite(s)/Corequisite(s):** Completion of at least 30 credit hours and a minimum 3.3 GPA. Not open to non-degree graduate students.

**MGMT 4690 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, BSAD 8696).

**Prerequisite(s)/Corequisite(s):** Junior standing or higher; 2.75 minimum GPA; or permission of instructor

**MGMT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MGMT 4960 CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE (3 credits)**

This is a capstone course that prepares students to be effective leaders in the 21st century. This course is the final leadership course in the Cross-Sector Collaborative Leadership minor. This minor requires a capstone project that encompasses the student's knowledge and training. It is designed to provide an applied service-learning opportunity for students. (Cross-listed with PA 4960).

**Prerequisite(s)/Corequisite(s):** Must be completing Cross-Sector Collaborative Leadership Minor. Not open to non-degree graduate students.

## Marketing (MKT)

**MKT 2210 SURVEY OF MARKETING (3 credits)**

This course is designed for any student who has an interest in marketing and focuses on basic product and services marketing as well as digital and social media marketing.

**MKT 3100 PROFESSIONAL SELLING (3 credits)**

This course focuses on professional selling and relationship marketing principles and practices. A variety of personal and direct sales techniques, psychology, and application of personal communication theory will be applied. Role-plays and presentations will be utilized to help students learn and execute the sales process model.

**Prerequisite(s)/Corequisite(s):** ECON 2220 and ENGL 1160 both with 'C' (2.0) or better and GPA of 2.3 or better; or permission of instructor.

**MKT 3200 BUSINESS COMMUNICATIONS (3 credits)**

This course develops business communication skills such as selecting and using appropriate technologies for reaching intended audiences. Students will practice effective explanatory, narrative, persuasive, and investigative writing in the context of business communication.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and CMST 1110, each with a grade of "C" (2.0) or better; 2.5 GPA.

**Distribution:** Writing in the Discipline Single Course

**MKT 3310 PRINCIPLES OF MARKETING (3 credits)**

An examination of marketing functions and the institutions which perform them, choice of criteria for marketing strategy decisions, marketing structural relationships, and the role of marketing in society.

**Prerequisite(s)/Corequisite(s):** ECON 2200, MATH 1310 or MATH 1220, ENGL 1160, and MGMT 3200 or MKT 3200 all with 'C'(2.0) or better, and 2.5 GPA.

**MKT 3320 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with BSAD 8345).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor.

**MKT 3340 CHANNELS OF DISTRIBUTION (3 credits)**

Channels management focuses on the associations of businesses and the performance of required functions making products and services available to end users when and where buyers demand them. Attention is paid to how intermediaries (e.g. wholesalers and retailers) interact and organize an efficient system to ensure that products and services are available in proper quantities and on time for consumers.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; and GPA of 2.5 or better; or permission of instructor.

**MKT 3350 MARKETING SERVICE PRODUCTS (3 credits)**

This elective explores how intangibility forces customers to evaluate service products differently, creating more challenges for marketers. The course is based on the premise that financial benefits reward services that provide value to customers, and develops strategies for creating value.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 3360 DIGITAL MARKETING COMMUNICATIONS (3 credits)**

This course considers the functions and resources necessary to place effective digital marketing communications before target audiences and thus help to achieve marketing objectives for both business and non-business organizations. Specifically, it includes leveraging the digital media in communicating, connecting, and engaging with various stakeholders such as customers, partners, government, and public institutions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better and GPA of 2.5 or better; or permission of instructor.

**MKT 3370 SOCIAL MEDIA MARKETING (3 credits)**

The students will become familiar with the full range of promotional media, techniques and methodologies, understand the structuring of a promotional campaign according to the strategic objectives, be able to effectively integrate promotions into a composite marketing program, and be able to design and present a complex promotional strategy employing a diverse array of techniques and methods according to the specific objectives.

**Prerequisite(s)/Corequisite(s):** Completion of MKT 3310 with a C+ or better.

**MKT 3380 INTERNATIONAL MARKETING (3 credits)**

A study of the processes, procedures, characteristics and environments for goods and services in foreign market places. Reference is drawn to the theories and concepts of domestic marketing to appraise their applicability to international markets. Considerable attention is given to the features of the foreign market environments which both facilitate the marketing processes, inhibit them, and require strategies and tactics of accommodation.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better.

**MKT 3390 GRAPHIC DESIGN FOR MARKETERS (3 credits)**

The course provides a hands-on introduction to the concepts and tools used in graphic design to create marketing communications. Material and assignments will focus on how design supports marketing communication strategy. Students will learn the principles and vocabulary of design, how to critique graphic design, and how to create basic print materials. Students will learn and practice the skills necessary to communicate with graphic designers and advertising professionals in order to successfully implement marketing strategies.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better.

**MKT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with SCMT 3410, MGMT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 3600 BUSINESS ETHICS (3 credits)**

Students will learn about the factors, opportunities and pressures that lead to ethical dilemmas, and will develop their understanding of foundations and processes that encourage and reward ethical decision making and behaviors. Lots of examples, sourced from case studies and current events will be provided. (Cross-listed with BSAD 3600, MGMT 3600).

**Prerequisite(s)/Corequisite(s):** Junior classification (minimum of 58 earned credit hours) with a minimum 2.5 cumulative GPA. Completion of MGMT 3200 or MKT 3200 with a minimum grade of 'C' (2.0). Not open to non-degree graduate students.

**MKT 3610 BUSINESS TO BUSINESS MARKETING (3 credits)**

This course examines the decisions involved in marketing goods and services to the industrial buyer as opposed to the consumer buyer. Buyer motivation, promotion decisions, channel decisions, product development and pricing policies involved in the marketing of industrial goods are considered.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; 2.5 GPA or better; or permission of instructor

**MKT 4000 SPECIAL TOPICS IN MARKETING (3 credits)**

This special topics course will address specific topics which will vary by semester and is intended primarily for upper division students who are pursuing a marketing or sales concentration.

**Prerequisite(s)/Corequisite(s):** MKT 3310 plus 6 hours of Marketing, all with 'C+' or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4200 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with BSAD 8206)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4210 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with BSAD 8216, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better grade and 2.5 GPA. Not open to non-degree graduate students.

**MKT 4220 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers. (Cross-listed with BSAD 8226)

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**MKT 4300 MARKETING MANAGEMENT (3 credits)**

This case study course examines product, price, promotion and channel of distribution policies. Major emphasis is placed on analysis of marketing problems and the facets of making marketing decisions.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with grade of 'C+' or better plus 6 hours of marketing, all with 'C' (2.0) or better, senior standing; GPA of 2.5 or better; or permission of instructor.

**MKT 4320 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with BSAD 8326).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4340 MARKETING RESEARCH (3 credits)**

Application of analytical tools to marketing problems including markets, products, distribution channels, sales efforts and advertising. Emphasis on planning, investigation, collection, interpretation of data and presentation of results.

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor.

**MKT 4360 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with BSAD 8366).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4370 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with BSAD 8396).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; BSAD 2130 or BSAD 3140 or BSAD 3160 with 'C' (2.0) or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4380 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with SCMT 4380, BSAD 8386.)

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**MKT 4420 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with BSAD 8426).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; GPA 2.5 or better, Junior Standing; or permission of instructor. Not open to non-degree graduate students.

**MKT 4500 SPECIAL PROBLEMS IN MARKETING (1-3 credits)**

This course consists of an individual investigation of specific marketing topics under the supervision of a faculty member and could include readings, independent research, and a written research paper.

**Prerequisite(s)/Corequisite(s):** Principles of Marketing (MKT 3310) with minimum C+ or permission of instructor.

**MKT 4510 MARKETING INTERNSHIP (1-3 credits)**

Students engage in part time employment in the marketing discipline to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to general marketing or a specialization within the domain (i.e. selling, social media, advertising, market research).

**Prerequisite(s)/Corequisite(s):** MKT 3310 with a C+ or better, a 2.5 GPA, and junior level standing; and permission of instructor.

**MKT 4540 SUPPLY CHAIN MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part-time employment in supply chain management to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to the field of supply chain management (i.e., purchasing, scheduling, supplier relations, materials management, or logistics). (Cross-listed with SCMT 4540)

**Prerequisite(s)/Corequisite(s):** MKT-MGMT 3410 Sustainable Supply Chain Management and GPA of 2.5 or better; or by permission of the instructor. Not open to non-degree graduate students.

**MKT 4720 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ITIN 4720, ITIN 8256, ENTR 4720, MGMT 4720).

**Prerequisite(s)/Corequisite(s):** ENTR 3710 and junior standing or above or by instructor permission

**MKT 4760 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, BSAD 8766)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**MKT 4800 HONORS STUDIES IN MARKETING (3 credits)**

A comprehensive examination of marketing as it is practiced among firms representing different industrial sectors. Course objectives include individual inquiry, theoretical applications and limitations, and an increased academic understanding of the discipline of marketing. Only grades 'B' and above will be awarded. Students exhibiting performance below the 'B' level will receive an 'F' for the course. Admission to this course is by invitation only.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Senior standing, 3.2 GPA or above, declared business college specialization in MKT or BFIN or MGMT or communications (journalism, PR or broadcasting). Not open to non-degree graduate students.

## Materials Engineering (MATL)

**MATL 2600 ELEMENTS OF MATERIAL SCIENCE (3 credits)**

Relation of atomic, molecular, and crystal structure to the physical, mechanical, and chemical properties of metals, alloys, polymers, and ceramics.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and PHYS 2120: and MENG 2230 or EMEC 2230 coreq. Not open to non-degree graduate students.

**MATL 2620 MATERIALS LABORATORY I (1 credit)**

Engineering behavior of materials with emphasis on macroscopic properties; relationship between these properties, processing history, composition and microstructure. Introduction to the use of metallographic tools used in interpretation.

**Prerequisite(s)/Corequisite(s):** MATL 2600 coreq. Not open to non-degree graduate students.

**MATL 3600 ELEMENTS OF MATERIAL SCIENCE (4 credits)**

Relation of atomic, molecular and crystal structure to the physics, mechanical and chemical properties of metals, alloys, polymers and ceramics. Experience in investigation of properties of engineering material.  
**Prerequisite(s)/Corequisite(s):** CHEM 1180 and PHYS 2120; and MENG 2230 or EMEC 2230 coreq. Not open to non-degree graduate students.

**MATL 4600 MECHANICAL ASPECTS OF MATERIALS (3 credits)**

Emphasizes those principles at the atomistic or molecular level that relate mechanical properties and behavior of different classes of materials to their structure and environment.

**Prerequisite(s)/Corequisite(s):** MATL 3600; and MENG 3250 or EMEC 3250. Not open to non-degree graduate students.

**MATL 4610 MATERIALS LABORATORY II (3 credits)**

Application of scientific principles in the laboratory to the analysis of materials problems and selection of engineering materials. (Cross-listed with MATL 8616)

**Prerequisite(s)/Corequisite(s):** MATL 3600. Not open to non-degree graduate students.

**MATL 4620 X-RAY DIFFRACTION (3 credits)**

Principles of crystallography. Production and properties of X-rays. Interaction of X-rays with atoms and the nature of diffraction (direction and the intensities of diffracted beams). Diffraction patterns and intensity measurements.

**Prerequisite(s)/Corequisite(s):** PHYS 2120, not open to nondegree students

**MATL 4650 APPLIED PHYSICAL METALLURGY AND DESIGN (3 credits)**

Principles of alloying; alloy selection; modification of the physical properties of structural alloys by thermal, mechanical, and chemical treatment; solidification and joining phenomena. (Cross-listed with MATL 8656)

**Prerequisite(s)/Corequisite(s):** MATL 3600. Not open to non-degree graduate students.

**MATL 4660 MATERIALS SELECTION FOR MECHANICAL DESIGN (3 credits)**

Rational selection procedure for the most suitable materials for each particular mechanical design. Introduction of materials selection charts and the concept of materials performance indices. Case studies in mechanical design, taking materials selections, shape and process into account. Projects on materials selection at the design concept and the design embodiment stages.

**Prerequisite(s)/Corequisite(s):** MATL 3600; and MENG 3250 or EMEC 3250. Not open to non-degree graduate students.

**MATL 4670 PRINCIPLES OF POWDER METALLURGY (3 credits)**

Basic principles of powder metallurgy, with emphasis on methods of producing metal powders, determination of their characteristics; the mechanics of powder compaction; sintering methods and effects; and engineering applications.

**Prerequisite(s)/Corequisite(s):** MENG 2000 and MATL 3600; and MENG 3250 or EMEC 3250. Not open to non-degree graduate students.

**MATL 4680 FAILURE ANALYSIS: PREVENTION AND CONTROL (3 credits)**

Metallurgical tools for analysis of failures; types and modes of failure; sources of design and manufacturing defects. Case histories utilized to illustrate modes of failures and principles and practices for analysis. Design concepts and remedial design emphasized with these case studies. Several projects involving case analyses and design by students included.

**Prerequisite(s)/Corequisite(s):** MENG 3250 or EMEC 3250; and MATL 3600. Not open to non-degree graduate students.

**MATL 4690 PHYSICAL MATERIALS SYSTEMS (3 credits)**

The principles controlling the formation of the structure of engineering materials. Phase diagrams, diffusion, interfaces and microstructures, solidification and diffusional transformation and diffusionless transformations.

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and MATL 3600. Not open to non-degree graduate students.

**MATL 4700 THERMODYNAMICS OF ALLOYS (3 credits)**

Materials thermodynamics of closed systems, introduction to liquid and solid solution alloys, relationship to gas phase, application to binary systems.

**Prerequisite(s)/Corequisite(s):** MENG 2000 and MATL 3600; and MATH 1970 coreq. Not open to non-degree graduate students.

**MATL 4710 ELECTRON MICROSCOPY OF MATERIALS (3 credits)**

Introduction to electron beam instruments. Electron interaction with materials. Basic aspects of electron diffraction, image formation and spectrum generation by materials. Acquisition and analysis of images, diffraction patterns and spectral data. Resolution and sensitivity limits of electron probe methods. Practical experience in the use of electron microscopes for characterization of materials.

**Prerequisite(s)/Corequisite(s):** PHYS 2120, not open to nondegree students

**MATL 4720 KINETICS OF ALLOYS (3 credits)**

Kinetics of gas-liquid-solid reactions in alloy systems; analysis of diffusion models applicable to such systems.

**Prerequisite(s)/Corequisite(s):** MATL 3600 and MATH 2350. Not open to non-degree graduate students.

**MATL 4730 CORROSION (3 credits)**

Fundamentals of corrosion engineering, underlying principles, corrosion control, and materials selection and environmental control.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and CHEM 1184, not open to nondegree students

**MATL 4740 EXTRACTIVE METALLURGY (3 credits)**

Unit operations and processes utilized in production of ferrous, nonferrous, and refractory metals. Examples of production techniques for metal bearing ores, scrap metals, and domestic waste. Control of impurity and alloy content and their relationship to physical properties.

**Prerequisite(s)/Corequisite(s):** MENG 2000 and MATL 3600. Not open to non-degree graduate students.

**MATL 4980 LAB & ANALYTICAL INVESTIGATION (1-6 credits)**

Investigation and written report of research into specific problems in any major area of materials engineering.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

## Mathematics (MATH)

**MATH 1120 INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (3 credits)**

This course embraces the visual arts to introduce students to the foundational elements of mathematical and computational thinking. Visual patterns form the basis for explorations in arithmetic and geometric sequences, from which algebraic functions and corresponding functions in computer programs are reasoned.

**Distribution:** Math

**MATH 1130 QUANTITATIVE LITERACY (3 credits)**

Designed to equip students with the mathematical, statistical, and computational skills necessary to explore real-life situations. Students will learn and practice critical-thinking and problem-solving skills needed to use quantitative information to make responsible decisions in a variety of areas such as finance, health, and the environment.

**Distribution:** Math

**MATH 1210 INTERMEDIATE ALGEBRA (3 credits)**

This course is designed to prepare students to be successful in MATH 1220. Topics include simplifying mathematical expressions, the properties of equality, solving linear equations in one variable, using linear equations to solve problems, fractions, ratios and proportions, graphing and the rectangular coordinate system, relations and functions, systems of linear equations and inequalities in two variables, polynomial expressions and functions, factoring and solving polynomial equations. Credit earned in MATH 1210 will not count toward degree requirements.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of 1 or 2, ACT Math sub score of 18 or less, Math SAT sub score at least 220, Math SAT2016 sub score at least 230, Accuplacer score of 1 or 2, or MATH 1210.

**MATH 1220 COLLEGE ALGEBRA (3 credits)**

This course presents properties of real numbers, linear equations and graphing, systems of equations, linear inequalities, polynomials, algebraic fractions, exponents, logarithms, and an Introduction to Statistics. This course is designed to prepare students to be successful in MATH 1320 or MATH 1370. Students who have passed MATH 1310 with a C- or better should not take this course.

**Prerequisite(s)/Corequisite(s):** Within the last two years: ALEKS score at least 3, ACT Math at least 19, SAT Math at least 460, SAT2016 Math at least 500, Accuplacer at least 3, MATH 1210 C- or better or MATH 1220. Students who passed MATH 1310 (C- or better) should not take MATH 1220.

**Distribution:** Math

**MATH 1320 PRE-CALCULUS ALGEBRA (3 credits)**

An advanced algebra course that teaches the following topics: algebraic operations, functions, graphs, linear and quadratic equations and inequalities, polynomial and rational functions, systems of equations, binomial theorem, complex numbers, exponentials, logarithms, sequences, series, and combinatorics.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math at least 23, Math SAT at least 540, Math SAT2016 at least 570, Accuplacer score at least 4, MATH 1220 or MATH 1310 each with C- or better, or MATH 1320

**MATH 1330 TRIGONOMETRY (3 credits)**

This course introduces elements of plane trigonometry, including trigonometric and circular functions, inverse trigonometric functions, solutions of triangles, identities and conditional equations, vectors, and conic sections.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math at least 25, Math SAT at least 570, Math SAT2016 at least 590, Accuplacer at least 5, MATH 1320 with C- or better, or MATH 1330

**MATH 1340 ALGEBRA AND TRIGONOMETRY FOR CALCULUS (5 credits)**

A combined algebra and trigonometry course for science and engineering students planning to enroll in MATH 1950. Topics include: systems of equations, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions and their inverses, trigonometric identities and applications, conic sections, and complex numbers. Credit for both MATH 1320/MATH 1324 and MATH 1340, or both MATH 1330 and MATH 1340 will not be given.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math at least 23, Math SAT at least 540, Math SAT2016 at least 570, Accuplacer at least 5, MATH 1310 or MATH 1220 C- or better, or MATH 1340

**MATH 1370 APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS (4 credits)**

This is an applied algebra course with optimization, teaching the following topics with an emphasis on data analysis and application: algebraic, exponential, and logarithmic functions; derivatives and applications thereof; and statistics. The course will emphasize data analysis and applications of covered topics in order to demonstrate the relevance of mathematics to solving real-world problems.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 4, ACT Math sub score at least 23, SAT Math at least 540, SAT2016 Math at least 570, Accuplacer at least 4, MATH 1310 or MATH 1220 with C- or better, or MATH 1370

**MATH 1930 CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (3 credits)**

Topics covered include functions, limits, derivatives, integrals, and applications. Trigonometry is not required. May not be used as a prerequisite for MATH 1960. Credit will not be granted for both MATH 1930 and 1950.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math sub score at least 25, Math SAT at least 570, or Math SAT2016 at least 590, Accuplacer score at least 6, MATH 1320 with C- or better, or MATH 1930

**MATH 1940 CALCULUS FOR BIOMEDICINE (5 credits)**

Introductory calculus with an emphasis on dynamical systems analysis applied to biological systems. Topics include differential and integral calculus, elementary chaos theory, discrete modeling, neural networks, and elementary differential equations, population dynamics, and biochemical signal transduction.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 5, ACT Math sub score at least 25, Math SAT at least 570, Math SAT2016 at least 590, Accuplacer score at least 6, MATH 1320 with C- or better; or permission of instructor

**MATH 1950 CALCULUS I (5 credits)**

This is a course in plane analytic geometry emphasizing the study of functions, limits, derivatives and applications, and an introduction to integration.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 6, ACT Math at least 26, Math SAT at least 590, Math SAT2016 at least 610, Accuplacer score of 7, MATH 1320 and MATH 1330 or MATH 1340 with C- or better; or permission of instructor

**MATH 1960 CALCULUS II (5 credits)**

This course introduces applications of integration, techniques of integration, infinite sequences and series, vectors in the plane, and polar functions. A mathematical software package is introduced, with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1950 with a grade of C- or better or permission of instructor.

**MATH 1970 CALCULUS III (4 credits)**

This course presents vector functions, parametric equations, solid analytic geometry, partial differentiation, multiple integration, and an introduction to vector calculus. A mathematical software package is introduced with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a grade of C- or better, or MATH 1970 with a grade of F or better, or permission of instructor.

**MATH 2030 DISCRETE MATHEMATICS (3 credits)**

A foundations course in discrete mathematics for applied disciplines, including computer science and computer engineering. Topics include: logic, sets, relations, functions, complexity functions and big congruences, induction and recursive definitions, elementary combinatorics, discrete probability, graphs and trees.

**Prerequisite(s)/Corequisite(s):** MATH 1950 or MATH 1930.

**MATH 2050 APPLIED LINEAR ALGEBRA (3 credits)**

This course presents Matrix algebra, simultaneous equations, vector spaces, with applications of linear algebra and computational considerations. Mathematical software is utilized, with required assignments.

**Prerequisite(s)/Corequisite(s):** MATH 1940 or MATH 1950 with a grade of C- or better

**MATH 2200 MATHEMATICAL COMPUTING I (3 credits)**

This is a first course in mathematical computing. It covers the basic elements of scientific programming in both a computer algebra system and a high-level programming language. Explored are implementation issues, problem description, model building, method development, and solution assessment.

**Prerequisite(s)/Corequisite(s):** MATH 1950

**MATH 2230 INTRODUCTION TO ABSTRACT MATH (3 credits)**

This course provides a transition from the calculus to more abstract mathematics. Topics include logic, sets and functions, an introduction to mathematical proof, mathematical induction, relations. Important prerequisite material for a number of more advanced mathematics courses is studied. Credit will not be given for both MATH 2030 (or MATH 2040) and MATH 2230.

**Prerequisite(s)/Corequisite(s):** MATH 1960 or permission

**MATH 2350 DIFFERENTIAL EQUATIONS (3 credits)**

Topics include solutions of linear and first-order nonlinear differential equations with applications, higher-order linear differential equations with applications, power series solutions, and Laplace transform methods.

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a grade of C- or better or permission of instructor.

**MATH 3100 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, CSCI 3100, CSCI 8105).

**Prerequisite(s)/Corequisite(s):** MATH 2030, MATH 2040, MATH 2230, or CSCI 2030 all with a C- or better. Mathematical logic; Set theory; Relations; Functions; Congruences; Inductive and recursive definitions; Discrete probability; sets, graphs, trees, & matrices

**MATH 3200 MATHEMATICAL COMPUTING II (3 credits)**

This course is a second course in mathematical computing. It covers the design and development of algorithms and more advanced elements of programming in a mathematical context. The programming language Python will be used. The programming assignments are primarily based on data science and calculus concepts and are designed to reinforce and deepen the understanding of these concepts.

**Prerequisite(s)/Corequisite(s):** CIST 1400 or MATH 2200, and MATH 1970 (the latter may be taken concurrently)

**MATH 3230 INTRODUCTION TO ANALYSIS (3 credits)**

This course provides a theoretical foundation for the concepts of elementary calculus. Topics include real number system, topology of the real line, limits, functions of one variable, continuity, differentiation. (Cross-listed with MATH 8235).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2230 each with a grade of C- or better.

**MATH 3300 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with MATH 8305, CSCI 3300, CSCI 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**MATH 3400 THEORY OF INTEREST (3 credits)**

A study of the measurement of interest, annuities, amortization schedules and other financial mathematics topics.

**Prerequisite(s)/Corequisite(s):** MATH 1970

**MATH 3640 MODERN GEOMETRY (3 credits)**

This course will study the modern foundations of Euclidean and Non-Euclidean Geometry. Included will be a study of the principles of axiomatic systems. Euclidean Geometry will be investigated using Hilbert's axioms for Euclidean geometry (or another equivalent Euclidean geometry axiom set). Hyperbolic geometry will be encountered through the models of Klein and Poincare. Neutral geometry with Lambert and Saccheri quadrilaterals will be studied. Finite geometries and projective geometries will also be explored. (Cross-listed with MATH 8645).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a grade of C- or better.

**MATH 3850 HISTORY OF MATHEMATICS (3 credits)**

An overview of the history of mathematics and famous mathematicians via studying and solving famous mathematical problems, exploring famous mathematical theorems, and studying the biographies of famous mathematicians. (Cross-listed with MATH 8855).

**Prerequisite(s)/Corequisite(s):** Students who enroll in this course should have completed MATH 1970 and MATH 2230 in order to have the minimum amount of mathematical background needed to appreciate the mathematical content of the course.

**MATH 4010 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with CSCI 4010, CSCI 8016, MATH 8016).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**MATH 4030 MODERN ALGEBRA (3 credits)**

Algebra is the study of mathematical manipulations that preserve something (like equality - when solving equations). The areas in which Algebra finds application are quite diverse, from Ancient Greek Geometry through to Modern Information Protection and Security (error correcting codes, data compression, and cryptography). This course begins with topics that should be familiar (such as ruler-and-compass constructions, and modular arithmetic) and builds upon this foundation through polynomial rings up to finite fields and basic group theory. (Cross-listed with MATH 8036).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better

**MATH 4050 LINEAR ALGEBRA (3 credits)**

Linear algebra is extensively utilized in the mathematical modeling of many natural phenomena. Many scientific and engineering disciplines, such as data science, chemical engineering and biology, make extensive use of the theory and techniques commonly present in basic to advanced linear algebra courses. The goal of this course is to help students to grasp a solid theoretical understanding of vectors, vector spaces, inner product spaces, linear transformations, eigenvalues, canonical forms, complex vectors, matrices, and orthogonality. By going through the materials in a mathematically rigorous way, students will develop deeper and more accurate intuitions of the basic concepts in linear algebra. Consequently, the applications of linear algebra will become much more transparent. (Cross-listed with MATH 8056).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a grade of C- or better; MATH 2030 or MATH 2230 or equivalent with a grade of C- or better; or permission

**MATH 4110 ABSTRACT ALGEBRA I (3 credits)**

An introduction to group theory. Various classes of group are studied: symmetric groups, abelian, cyclic, and permutation groups. Basic tools are developed and used: subgroups, normal subgroups, cosets, the Lagrange theorem, group homomorphisms, quotient groups, direct products, and group actions on a set. The course culminates with the Sylow theorems in finite group theory. The theory is illustrated with examples from geometry, linear algebra, number theory, crystallography, and combinatorics. (Cross-listed with MATH 8116).

**Prerequisite(s)/Corequisite(s):** MATH 4050/MATH 8056 with a C- or better or MATH 4560/MATH 8566 with a C- or better or permission of instructor

**MATH 4120 ABSTRACT ALGEBRA II (3 credits)**

An introduction to ring and field theory. Various classes of commutative rings are considered including polynomial rings, and the Gaussian integers. Examples of fields include finite fields and various extensions of the rational numbers. Concepts such as that of an ideal, integral domain, characteristic and extension field are studied. The course culminates with an introduction to Galois theory. Applications include the resolution of two classical problems: the impossibility of angle-trisection and the general insolubility of polynomial equations of degree 5 or higher. (Cross-listed with MATH 8126).

**Prerequisite(s)/Corequisite(s):** MATH 4110/MATH 8116 with a C- or better or permission of instructor

**MATH 4150 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with MATH 8156, CSCI 4150, CSCI 8156).

**Prerequisite(s)/Corequisite(s):** CSCI 2030 with a C- or better, or MATH 2030 with a C- or better, or MATH 2230 with a C- or better, or permission of instructor.

**MATH 4230 MATHEMATICAL ANALYSIS I (3 credits)**

Provides a theoretical foundation for the concepts of elementary calculus. Topics include ordered fields and the real number system, basic properties of complex numbers, metric space topology, sequences and series in  $\mathbb{R}^k$ , limits and continuity in a metric space, monotonic functions. (Cross-listed with MATH 8236).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235

**MATH 4240 MATHEMATICAL ANALYSIS II (3 credits)**

Provides a theoretical foundation for the concepts of classical Calculus (vector calculus included). Topics include sequences and series of functions, uniform convergence, power series, Fourier series, multivariable real differential and integral calculus, the Implicit Function Theorem, integration of different forms, and the important formulas, connecting those integrals, due to: Green, Gauss, Riemann, and Ostrogradski. (Cross-listed with MATH 8246).

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236

**MATH 4270 COMPLEX ANALYSIS (3 credits)**

This course is an introduction to the theory of functions of a complex variable, a fundamental area of mathematics with multiple applications to science and engineering. Topics include the field of complex numbers, complex differentiation, the complex contour integral and Cauchy's integral formula, Taylor expansions and analytic functions, conformal mapping and Riemann's conformal equivalence theorem, residue theory and Laurent series, harmonic functions, and applications. (Cross-listed with MATH 8276).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or permission of the instructor.

**MATH 4300 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, CSCI 8306, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**MATH 4310 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, CSCI 8316, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**MATH 4320 COMPUTATIONAL OPERATIONS RESEARCH (3 credits)**

Survey of computational methods used in the solution of operations research problems. Topics include scripting to guide optimization software, metaheuristics for optimization, and basic machine learning algorithms. (Cross-listed with MATH 8326).

**Prerequisite(s)/Corequisite(s):** MATH 3200 and MATH 4300 each with a grade of C- or better or permission of instructor.

**MATH 4330 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

This course introduces the basic methods of PDEs guided by applications in physics and engineering. The main topics to be covered include The Linear First order PDEs, Transport equations, Characteristics, Classification of PDEs, Separation of variables, Heat conduction, vibrating membranes, boundary value problems, Maximum principle, Sturm-Liouville problems, Fourier series, Fourier integrals, Harmonic functions, Legendre polynomials, Distributions, Green's functions. (Cross-listed with MATH 8336).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better and MATH 2350 with a C- or better, or permission of instructor; MATH 2050 recommended, not required.

**MATH 4350 ORDINARY DIFFERENTIAL EQUATIONS (3 credits)**

This course covers the theory of initial-, boundary-, and eigenvalue problems, existence theorems, real and complex linear systems of differential equations, and stability theory. There will be a strong emphasis on methods for finding solutions of initial and boundary value problems and analyzing properties of these solutions for various ordinary differential equations. (Cross-listed with MATH 8356).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better, MATH 2050 with a C- or better, and MATH 2350 with a C-, or better or instructor's permission.

**MATH 4400 THE FINITE ELEMENT METHOD (3 credits)**

Introduction to finite elements methods for solving ordinary and partial differential equations. Theoretical foundations of finite element methods for boundary value problems, approximation by piecewise polynomial functions, variation formulation of partial differential equations, basic error estimates. The Rayleigh-Ritz-Galerkin method, convergence of approximations, time-dependent problems, error analysis, discretization and computer implementation, applications to problems in elasticity, heat transfer, and fluid mechanics. (Cross-listed with MATH 8406).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2050 and MATH 2350 all with a C- or better or instructor permission. MATH 3300/MATH 8305 and MATH 4330/MATH 8336 recommended. Students should be able to use a programming language (ie MATLAB) to complete computational assignments

**MATH 4450 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 8456, STAT 4450, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**MATH 4560 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with MATH 8566, CSCI 4560, CSCI 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**MATH 4610 INTRODUCTION TO TOPOLOGY (3 credits)**

This is a proof-oriented course presenting the foundations of topology. Metric spaces and general topological spaces are introduced. The course explores the properties of connectedness, compactness and completeness, and operations of Tychonoff product and hyperspace. (Cross-listed with MATH 8616).

**Prerequisite(s)/Corequisite(s):** MATH 3230 with a C- or better or permission of instructor.

**MATH 4620 ITERATED FUNCTION SYSTEMS AND FRACTALS (3 credits)**

This is a proof-oriented course presenting the foundations of fractal geometry. It introduces students to the beauty, magic, and applications of fractals and iterated function systems, with emphasis on the mathematics behind it all. Topics range from contractions on hyperspaces and their fixed points to fractal dimensions to Julia and Mandelbrot sets. (Cross-listed with MATH 8626).

**Prerequisite(s)/Corequisite(s):** MATH 4610 with a C- or better or permission of instructor.

**MATH 4660 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, CSCI 8666, MATH 8666)

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**MATH 4740 INTRODUCTION TO PROBABILITY AND STATISTICS I (3 credits)**

A mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments; specific discrete and continuous distributions; and transformations of random variables. (Cross-listed with MATH 8746).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and either MATH 2230 or MATH 2030 or permission of instructor.

**MATH 4750 INTRODUCTION TO PROBABILITY AND STATISTICS II (3 credits)**

Theory and methods of statistical inference including sampling distributions, estimators, estimation, and statistical hypotheses. (Cross-listed with MATH 8756).

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746

**MATH 4760 TOPICS IN APPLIED MATHEMATICS (3 credits)**

Selection of such topics such as dynamical systems and chaos, Boolean networks, modeling of discrete or continuous systems, matrix theory, difference equations, information theory, discrete events simulation and other approved by Upper Curriculum Committee. (Cross-listed with MATH 8766).

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 4900 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the junior or senior who will benefit from independent reading assignments and research-type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the MATH/STAT Undergraduate Curriculum Committee at least one week prior to registration.

**Prerequisite(s)/Corequisite(s):** Junior and permission of the chair

**MATH 4970 SEMINAR IN APPLIED MATHEMATICS (3 credits)**

A seminar in Applied Mathematics, where the students would read and present research in applied math and write their exposition of those topics.

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 4980 SEMINAR (1-3 credits)**

A seminar in mathematics. This course introduces students to an important form of mathematical activity and culture, where a specialized mathematical subject matter (not covered in typical courses) is studied and discussed in a collaborative setting. The course may be repeated for different topics up to a maximum of six credit hours. The specific topics will vary, depending upon when the course is offered. One example of a seminar topic is Current Trends in Set Theory of the Reals.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Mathematics for Teachers (MTCH)

**MTCH 2000 MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS I (3 credits)**

A course for prospective elementary school teachers that involves mathematical reasoning, conjecturing, problem-solving, and connecting mathematical thought to its applications. Topics include fractions, decimals, arithmetic operations, and proportional reasoning.

**Prerequisite(s)/Corequisite(s):** At least C in MATH 1310 or MATH 1120 and TED 2100 (EDUC 2020) or TED 2200 (EDUC 2030); OR at least C in MATH 1310 or MATH 1120 and passing the Praxis I - Core.

**MTCH 2010 MATHEMATICS FOR ELEMENTARY TEACHERS II (3 credits)**

This course represents a collection of topics, developed specifically for elementary school teachers, not covered in other courses.

**Prerequisite(s)/Corequisite(s):** MTCH 2000 with a grade of C or better.

**MTCH 2020 NUMBER SENSE, ALGEBRA, AND GEOMETRY FOR MIDDLE SCHOOL EDUCATION (3 credits)**

The course covers the following major concepts: standard algorithms for Arithmetic with rational numbers, proportional reasoning, number theory topics in K-8, beginning Algebra concepts, and beginning Geometry.

**Prerequisite(s)/Corequisite(s):** TED 2100 (EDUC 2020) or TED 2200 (EDUC 2030) each with a C or better and College of Education major and MATH 1950 with a C or better. Not open to non-degree graduate students.

# Mechanical Engineering (MECH)

## **MECH 1300 INTRODUCTION TO CAD (3 credits)**

Principles and accepted practices of geometric design. Computer generation of 2D and 3D models for mechanical systems. Introduction to engineering design practices such as specifications, dimensioning and tolerancing.

## **MECH 2000 ENGINEERING THERMODYNAMICS (3 credits)**

First and Second Laws of Thermodynamics, properties of gases and vapors. Sources of energy and its conversion to work.

**Prerequisite(s)/Corequisite(s):** PHYS 2120; and MECH 2230, MENG 2230 or EMEC 2230. Not open to non-degree graduate students.

## **MECH 2200 STATICS (3 credits)**

Fundamental concepts, equilibrium of force systems, analysis of simple frames and trusses. Centroid and moments of inertia and friction.

**Prerequisite(s)/Corequisite(s):** MATH 1950

## **MECH 2230 ENGINEERING STATICS (3 credits)**

The action of forces on engineering structures and machines. Force systems, static equilibrium of frames and machines. Friction, center of gravity, moment of inertia, vector algebra.

**Prerequisite(s)/Corequisite(s):** MATH 1960 with grade of C or better and PHYS 2110 with grade of C or better

## **MECH 2500 MECHANICS I (2 credits)**

Force actions in static coplanar systems with applications to engineering structures and machines. Resultants, moments, couples, equivalent force systems, vector algebra. Static equilibrium conditions and equations. (For Electrical Engineering majors.)

**Prerequisite(s)/Corequisite(s):** PHYS 2110 and MATH 1970 coreq. Not open to non-degree graduate students.

## **MECH 3000 THERMAL SYSTEMS AND DESIGN (3 credits)**

Applications of control-volume analysis (mass, energy and momentum), both transient and steady; mixtures of gases and vapors; introduction to combustion; thermodynamic relations and establishment of data banks of thermal properties; applications of computer-aided engineering to processes and cycles; methodologies and case studies for thermal systems design; execution of small-scaled design projects.

**Prerequisite(s)/Corequisite(s):** MECH 2000 or MENG 2000. Not open to non-degree graduate students.

## **MECH 3100 FLUID MECHANICS (3 credits)**

Fluid statics, equations of continuity, momentum and energy; dimensional analysis and dynamic similitude. Applications to: flow meters; fluid pumps and turbines; viscous flow and lubrication; flow in closed conduits and open channels. Two-dimensional potential flow.

**Prerequisite(s)/Corequisite(s):** MECH 3730, MENG 3730 or EMEC 3730; and MATH 2350; MECH 2000 coreq. Not open to non-degree graduate students.

## **MECH 3110 FLUID MECHANICS LABORATORY (1 credit)**

Fluid mechanics experiments and demonstrations. Conservation principles; determination of fluid properties, velocity, pressure, and flow measurements; pipe flow; open channel flow; and instrumentation.

**Prerequisite(s)/Corequisite(s):** MECH 3100 or MENG 3100 preq/coreq or CIVE 310 preq/coreq. Not open to non-degree graduate students.

## **MECH 3210 ENGINEERING STATISTICS AND DATA ANALYSIS (3 credits)**

An application-oriented course for formulating and solving engineering statistical problems. Includes Descriptive statistics, probability distributions, variability, sampling, confidence intervals, tests of significance, basics of statistical process control, and design of experiments.

**Prerequisite(s)/Corequisite(s):** MATH 1970 (MATH 208 UNL)

## **MECH 3240 STRENGTH OF MATERIALS (3 credits)**

Stress and strain analysis in elastic materials. Use of properties of materials in the analysis and design of welded and riveted connections, statically determinate and indeterminate flexure members, columns. Combined stresses, axial, eccentric and torsional loading. Observations of laboratory tests for axially loaded specimens. Introduction to shear and moment diagrams.

**Prerequisite(s)/Corequisite(s):** MECH 2200, MENG 2200 or EMEC 2200

## **MECH 3250 MECHANICS OF ELASTIC BODIES (3 credits)**

Concept of stress and strain considering axial, torsional and bending forces. Shear and moments. Introduction to combined stresses and column theory.

**Prerequisite(s)/Corequisite(s):** MECH 2230, MENG 2230 or EMEC 2230; and MATH 1970

## **MECH 3300 MECHANICAL ENGINEERING ANALYSIS (3 credits)**

Conceptual modeling of mechanical engineering systems. Analytical exploration of engineering behavior of conceptual models. Case studies drawn from mechanical engineering problems.

**Prerequisite(s)/Corequisite(s):** MATH 2350, CSCI 1800, MECH 3250 or MENG 3250, MECH 3730 or MENG 3730 and MECH 2000 or MENG 2000. Not open to non-degree graduate students.

## **MECH 3420 KINEMATICS AND DYNAMICS OF MACHINERY (3 credits)**

Analysis of the motion of linkage and cam mechanisms. Methods of design of linkage and cam mechanisms. Gear theory. Analysis and design of ordinary and planetary gear trains. Determination of static and dynamic forces in machines. Balancing of machines. Flywheel design. Dynamics of cam mechanisms. Vibration of machines.

**Prerequisite(s)/Corequisite(s):** MECH 1300 or MENG 1300 and MECH 3730 or MENG 3730. Not open to non-degree graduate students.

## **MECH 3430 ELEMENTS OF MACHINE DESIGN (3 credits)**

Design of machine elements under different conditions of loading. Design work includes a project of broader scope (done primarily out of class) requiring a breadth of knowledge. Failure theories for static and dynamic loading of bolts, springs, bearings, and shafts.

**Prerequisite(s)/Corequisite(s):** MECH 3250 or MENG 3250, ISMG or CONE 2060, MECH 3420 or MENG 3420, MATL 3600, and ENGL 3980. CoReq: STAT 3800, MECH 3210 or MENG 3210. Not open to non-degree graduate students.

## **MECH 3500 INTRODUCTION TO DYNAMIC AND CONTROL OF ENGINEERING SYSTEMS (3 credits)**

Unified treatment of the dynamics and control of engineering systems. Emphasis on physical aspects, formulation of mathematical models, application of various mathematical methods, and interpretation of results in terms of the synthesis and analysis of real systems. (Strong working knowledge of Matlab required.)

**Prerequisite(s)/Corequisite(s):** MECH 3730 or MENG 3730, and ELEC 2110 or ECEN 2110. Coreq: MATH 2050. Not open to non-degree graduate students.

## **MECH 3510 MECHANICS II (2 credits)**

Applications of Newton's laws to engineering problems involving coplanar kinematics and kinetics of particles. Work, energy, impulse, and momentum. Conservative systems. Periodic motion. (For Electrical Engineering majors.)

**Prerequisite(s)/Corequisite(s):** MECH 2500, MENG 2500 or EMEC 2500. Not open to non-degree graduate students.

## **MECH 3600 ELEMENTS OF MATERIAL SCIENCE (4 credits)**

(Lec 3, lab 2) A four credit-hour lecture-lab class designed to acquaint students with the concepts of atomic, molecular and crystal structure of metals, alloys, polymers and ceramics. These fundamental concepts will be applied to design and optimization problems.

**Prerequisite(s)/Corequisite(s):** CHEM 1180 and MECH 2230, MENG 2230 or EMEC 2230

**MECH 3700 MANUFACTURING METHODS AND PROCESSES (3 credits)**

An introduction to traditional and modern manufacturing processes and methods to include: foundry; forming processes; welding; metal removal theory and practices; modern manufacturing systems and automation; and economics of process selection.

**Prerequisite(s)/Corequisite(s):** MATL 3600 and MECH 3250 or MENG 3250. Not open to non-degree graduate students.

**MECH 3730 ENGINEERING DYNAMICS (3 credits)**

A study of force action related to displacement, velocity and acceleration of rigid bodies. Kinematics of plane motion, kinetics of translation and rotation. Mass moment of inertia, vibration, work, energy and power, impulse and momentum.

**Prerequisite(s)/Corequisite(s):** MECH 2230, MENG 2230 or EMEC 2230; and MATH 1970

**MECH 3800 MECHANICAL ENGINEERING MEASUREMENTS (3 credits)**

Theory, statistics, applications and design of mechanical engineering experiments.

**Prerequisite(s)/Corequisite(s):** ECEN 2310 and ENGL 3980 and (STAT 3800 coreq or MECH 3210 coreq) and (MECH 3500 or MENG 3500) and (MECH 3100 or MENG 3100). Not open to non-degree graduate students.

**MECH 3810 ELEMENTS OF COMPUTER-AIDED DESIGN (3 credits)**

Principles and techniques currently used for the computer aided design (CAD). Applications of interactive graphics devices for drafting, design, and analysis. Modeling and analogy of engineering systems. Elementary finite element, Bode, and numerical analyses. CAD case studies and term project.

**Prerequisite(s)/Corequisite(s):** MATH 2350 and (MECH 1300, MENG 1300 or CSCI 1620). Not open to non-degree graduate students.

**MECH 3990 UNDERGRADUATE RESEARCH AND THESIS (1-5 credits)**

Engineering design or laboratory investigation that an undergraduate is qualified to undertake.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 4010 ELEMENTS OF NUCLEAR ENGINEERING (3 credits)**

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research.

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 2120, and ENGR 3010 or ENGR 3100.

**MECH 4020 TURBOMACHINERY (3 credits)**

Thermodynamic analysis and design of axial and radial flow turbines, compressors, and pumps. Fundamentals of the operating characteristics and performance of turbomachines. Cavitation and blade element theory.

**Prerequisite(s)/Corequisite(s):** (MECH 3000 or MENG 3000) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 4030 INTERNAL COMBUSTION ENGINES (3 credits)**

Basic cycle analysis and engine types, fundamental thermodynamics and operating characteristics of various engines are analyzed, combustion processes for spark and compression-ignition engines, fuels, testing procedures, and lubrication systems are evaluated. Emphasis on the thermodynamic evaluation of the performance and understanding the basic operation of various engine types.

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000. Not open to non-degree graduate students.

**MECH 4040 THEORY OF COMBUSTION (3 credits)**

Stoichiometric analysis of combustion processes. Energy transfer, flame propagation, and transformation velocities during combustion. Combustor applications and design considerations. Emission formation and methods of control.

**Prerequisite(s)/Corequisite(s):** (MECH 3000 or MENG 3000) and (MECH 4200 or MENG 4200). Not open to non-degree graduate students.

**MECH 4060 AIR CONDITIONING SYSTEM DESIGN (3 credits)**

Application of thermodynamic principles to the design of air conditioning systems. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 8066).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 4070 POWER PLANT SYSTEM DESIGN (3 credits)**

Application of the thermodynamic and fluid dynamic principles to the design of power plants. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 8076).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 4080 HEAT EXCHANGER DESIGN (3 credits)**

Design methodology for various heat exchangers employed in mechanical engineering. Introduction to computer-aided design as applied to heat exchangers. Hands-on exercises in actual design tasks. (Cross-listed with MECH 8086).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 4130 AERODYNAMICS (3 credits)**

Subsonic and supersonic air flow theory, dynamics of flight, performance parameters, rotor analysis, and special topics.

**Prerequisite(s)/Corequisite(s):** (MECH 2000 or MENG 2000) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 4140 COMPRESSIBLE FLOW (3 credits)**

Analysis of the flow of compressible fluids by means of the momentum equation, continuity equation, and the laws of thermodynamics and some application of thermodynamic laws to incompressible fluids.

**Prerequisite(s)/Corequisite(s):** (MECH 3000 or MENG 3000) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 4150 TWO-PHASE FLOW (3 credits)**

Transportation phenomena of homogeneous and heterogeneous types of mixtures such as solid-liquid, liquid-liquid, and liquid-gas. Properties of components and mixtures. Flow induced vibrations and parameter distributions. Optimization and design problems in multiphase systems.

**Prerequisite(s)/Corequisite(s):** (MECH 3100, MENG 3100 or CIVE 310) and MECH 3800 coreq. Not open to non-degree graduate students.

**MECH 4160 ENGINEERING ACOUSTICS (3 credits)**

Transverse and longitudinal traveling waves. Acoustic wave equation of fluids. The reflection, transmission, radiation, reception, absorption, and attenuation of sound. Acoustic cavities and waveguides. Sound propagation in pipes, resonators and filters.

**Prerequisite(s)/Corequisite(s):** (MECH 3100 or MENG 3100) and MATH 2350. Not open to non-degree graduate students.

**MECH 4200 HEAT TRANSFER (3 credits)**

Heat Transfer by conduction, convection, and radiation. Correlation of theory with experimental data and engineering design. (Cross-listed with MECH 8206).

**Prerequisite(s)/Corequisite(s):** CIVE 310, MECH 3100 or MENG 3100. Not open to non-degree graduate students.

**MECH 4210 ELEMENTS OF NUCLEAR ENGINEERING (3 credits)**

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research. (Cross-listed with ENGR 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 2120, and (ENGR 3010 or ENGR 3100)

**MECH 4220 INDUSTRIAL QUALITY CONTROL (3 credits)**

Statistical process control and quality assurance techniques in manufacturing. Control charts, acceptance sampling, and analyses and design of quality control systems. (Cross-listed with MECH 8226).

**Prerequisite(s)/Corequisite(s):** MECH 3210, MENG 3210 or STAT 3800

**MECH 4240 LASER MATERIAL PROCESSING WITH COMPRESSIBLE FLOW PERSPECTIVE (3 credits)**

Fundamentals of laser material processing. Laser material interactions from the compressible flow perspective. Analytical, semi-analytical, and numerical approaches.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 4250 SOLAR ENERGY ENGINEERING (3 credits)**

Conservation of solar energy into more useful forms with emphasis on environmental heating and cooling applications. Includes solar energy availability, solar collectors and design, solar systems and their simulation

**Prerequisite(s)/Corequisite(s):** MECH 4200 or MENG 4200. Not open to non-degree graduate students.

**MECH 4260 HEAT TRANSFER AT NANOSCALES (3 credits)**

Heat transfer in nanoscale and nanostructured materials. Heat transfer in ultrafast laser materials processing.

**Prerequisite(s)/Corequisite(s):** MECH 4200 or MENG 4200. Not open to non-degree graduate students.

**MECH 4310 COMPUTATIONAL HEAT TRANSFER AND FLUID FLOW (3 credits)**

Finite difference methods for steady and transient diffusion and convection-diffusion problems. Finite volume technique for the solution of multi-dimensional fluid flow, and heat and mass transfer problems.

**Prerequisite(s)/Corequisite(s):** (MECH 3100 or MENG 3100) and MATH 2050 and (MECH 4200 or MENG 4200 coreq). Not open to non-degree graduate students.

**MECH 4360 INTRODUCTION TO CONTINUUM BIOMECHANICS (3 credits)**

Introduction to biomechanics. Basic anatomy, biomaterials, kinematics, dynamics, Viscoelasticity, bio-fluid mechanics, and bio-heat transfer.

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730) and (MECH 3100 or MENG 3100) and (MECH 4200 or MENG 4200). Not open to non-degree graduate students.

**MECH 4370 BIOMEDICAL DEVICE DESIGN (3 credits)**

Design of devices intended for use in biomedical environments. Introduction to modeling of the bio-environmental, biomaterials, and material selection. Overview of design methodologies and strategies used in biomedical device design from a material properties perspective. Introduction to federal regulation and other pertinent issues.

**Prerequisite(s)/Corequisite(s):** (MECH 2230 or MENG 2230), (MECH 3250 or MENG 3250), and (MECH 3730, MENG 3730 or equivalent).

**MECH 4380 MECHANICS OF BIOMATERIALS (3 credits)**

Theory, application, simulation, and design of biomaterials that apply mechanical principles for solving medical problems (case studies in artery, brain, bone, etc.). Tentative topics include Mechanical characterization of biomaterials; Bio-manufacturing a tissue; Function-structure relationship; Design and analysis of medical implants; Active response of biomaterials; growth and remodeling mechanism; Cellular behavior and measurements, etc. (Cross-listed with MECH 8386).

**Prerequisite(s)/Corequisite(s):** MECH 3430 or MENG 3430. Not open to non-degree graduate students.

**MECH 4420 INTERMEDIATE KINEMATICS (3 credits)**

Analytical can design. Geometry of constrained plane motion and application to the design of mechanisms. Analysis and synthesis of pin-joint linkage mechanisms.

**Prerequisite(s)/Corequisite(s):** MECH 3420 or MENG 3420. Not open to non-degree graduate students.

**MECH 4440 INTERMEDIATE DYNAMICS OF MACHINERY (3 credits)**

Fundamentals of vibration, vibration and impact in machines, balance of rotors, flexible rotor dynamics and instabilities, parametric vibration, advanced dynamics and design of cam mechanisms, and dynamics of flywheel.

**Prerequisite(s)/Corequisite(s):** (MECH 3420 or MENG 3420) and (MECH 3500 or MENG 3500). Not open to non-degree graduate students.

**MECH 4450 MECHANICAL ENGINEERING DESIGN CONCEPTS (3 credits)**

Development of design concepts. Introduction to synthesis techniques and mathematical analysis methods. Application of these techniques to mechanical engineering design projects. (Cross-listed with MECH 8456).

**Prerequisite(s)/Corequisite(s):** (MECH 2000 or MENG 2000) and (MECH 3420 or MENG 3420) and (MECH 3500 or MENG 3500) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 4460 MECHANICAL ENGINEERING DESIGN I (3 credits)**

Synthesis, design, and a written report on two projects, plus a proposal for the student's final design project in MECH 4470. The two projects should span the general areas of mechanical engineering developing breadth, resourcefulness, creativity, and most importantly, the use of the design process. Guest lectures by practicing designers will be a part of the class when appropriate.

**Prerequisite(s)/Corequisite(s):** (MECH 3000 or MENG 3000) and (MECH 3100 or MENG 3100) and (MECH 3430 or MENG 3430) and (MECH 3500 or MENG 3500). Not open to non-degree graduate students.

**MECH 4470 MECHANICAL ENGINEERING DESIGN II (2 credits)**

Definition, scope, analysis, synthesis, and the design for the solution of a comprehensive engineering problem in any major area of mechanical engineering. (Cross-listed with MECH 8476).

**Prerequisite(s)/Corequisite(s):** MECH 4460 or MENG 4460. Not open to non-degree graduate students.

**MECH 4480 ADVANCED MECHANICS OF MATERIALS (3 credits)**

Stresses and strains at a point. Theories of failure. Thick-walled pressure vessels and spinning discs. Torsion of non-circular sections. Torsion of thin-walled sections, open, closed and multicelled. Bending of unsymmetrical sections. Cross shear and shear center. Curved beams. Introduction to elastic energy methods. (Cross-listed with MECH 8486).

**Prerequisite(s)/Corequisite(s):** (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730)

**MECH 4490 ADVANCED DYNAMICS (3 credits)**

Particle dynamics using Newton's laws, energy principles, momentum principles. Rigid body dynamics using Euler's equations and Lagrange's equations. Variable mass systems. Gyroscopic motion. (Cross-listed with MECH 8496).

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730); and MATH 2350. Not open to non-degree graduate students.

**MECH 4500 MECHANICAL ENGINEERING CONTROL SYSTEMS DESIGN (3 credits)**

Applications of control systems analysis and synthesis for mechanical engineering equipment. Control systems for pneumatic, hydraulic, kinematic, electromechanical, and thermal systems. (Cross-listed with MECH 8506).

**Prerequisite(s)/Corequisite(s):** MECH 3500 or MENG 3500. Not open to non-degree graduate students.

**MECH 4510 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. Finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 4520 EXPERIMENTAL STRESS ANALYSIS I (3 credits)**

Investigation of the basic theories and techniques associated with the analysis of stress using mechanical strain gages, electric strain gages, brittle lacquer, photoelasticity and membrane analogy. (Cross-listed with MECH 8526).

**Prerequisite(s)/Corequisite(s):** MECH 3250 or MENG 3250

**MECH 4530 ROBOTICS: KINEMATICS & DESIGN (3 credits)**

Robotics synthesize some aspects of human function by the use of mechanisms, sensors, actuators, and computers.

**Prerequisite(s)/Corequisite(s):** MECH 3500 or MENG 3500. Not open to non-degree graduate students.

**MECH 4540 INTRODUCTION TO CONTINUUM MODELING (3 credits)**

Basic concepts of continuum modeling. Development of models and solutions to various mechanical, thermal and electrical systems. Thermo-mechanical and electro-mechanical coupling effects. Differential equations, dimensional methods and similarity. (Cross-listed with MECH 8546).

**Prerequisite(s)/Corequisite(s):** MATH 2350; and (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730). Not open to non-degree graduate students.

**MECH 4550 VEHICLE DYNAMICS (3 credits)**

Introduction to basic mechanics governing automotive vehicle dynamic acceleration, braking, ride, handling and stability. Analytical methods, including computer simulation, in vehicle dynamics. The different components and subsystems of a vehicle that influence vehicle dynamic performance. (Cross-listed with MECH 8556).

**Prerequisite(s)/Corequisite(s):** (MECH 3430 or MENG 3430) and (MECH 3500 or MENG 3500). Not open to non-degree graduate students.

**MECH 4560 DYNAMICS OF INTERNAL COMBUSTION ENGINES (3 credits)**

basics of design of the internal combustion engines. Design of various engine parts such as pistons, connecting rods, valve trains, crankshafts, and the vibration dampers. Dynamics of the engine. The vibration of the crankshaft assembly and the valve train. Balancing of the engines.

**Prerequisite(s)/Corequisite(s):** (MECH 3420 or MENG 3420) and (MECH 3430 or MENG 3430). Not open to non-degree graduate students.

**MECH 4580 DIGITAL CONTROL OF MECHANICAL SYSTEMS (3 credits)**

Introduction to digital measurement and control of mechanical systems. Applications of analysis and synthesis of discrete time systems. (Cross-listed with MECH 8586).

**Prerequisite(s)/Corequisite(s):** MECH 4500 or MENG 4500. Not open to non-degree graduate students.

**MECH 4700 THEORY AND PRACTICE OF MATERIALS PROCESSING (3 credits)**

Theory, practice and application of conventional machining, forming, and non-traditional machining processes with emphasis on tool life, dynamics of machine tools and adaptive control. (Cross-listed with MECH 8706).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 4740 MANUFACTURING SYSTEMS I (3 credits)**

Principles of automated production lines; analysis of transfer lines; group technology; flexible manufacturing systems; and just-in-time; and optimization strategies for discrete parts manufacturing. (Cross-listed with MECH 8746).

**MECH 4750 INTRODUCTION TO VIBRATIONS AND ACOUSTICS (3 credits)**

Linear response of one and two degrees of freedom systems. Rotating imbalance, vibration isolation. Fundamentals of wave motion, vibrating strings and bars. Acoustic wave equation, acoustic impedances, sound propagation, traveling wave solutions, separation of variables. The Helmholtz resonator. Acoustic waves in pipes. Experiments in mechanical vibrations and acoustics.

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730) and MATH 2350. Not open to non-degree graduate students.

**MECH 4760 MANUFACTURING INFORMATION SYSTEMS (3 credits)**

An exploration of information systems and their impact in a manufacturing environment. Software, hardware, database systems, enterprise resource planning, networking, and the internet. (Cross-listed with MECH 8766).

**Prerequisite(s)/Corequisite(s):** Senior standing, and CIST 1400 or CSCI 1620 or CSCI 2240.

**MECH 4800 NUMERICAL METHODS IN ENGINEERING (3 credits)**

Numerical algorithms and their convergence properties in: solving nonlinear equations; direct and iterative schemes for linear systems of equations; eigenvalue problems; polynomial and spline interpolation; curve fitting; numerical integration and differentiation; initial and boundary value problems for Ordinary Differential Equations (ODE's) and systems of ODE's with applications to engineering; finite difference methods for partial differential equations (potential problems, heat-equation, wave-equation). (Cross-listed with MECH 8806).

**Prerequisite(s)/Corequisite(s):** MATH 2350 or MATH 8355

**MECH 4830 ENGINEERING ANALYSIS WITH FINITE ELEMENTS (3 credits)**

Analysis of engineering systems using finite elements; a critical and challenging task performed during the design process for many engineering systems. Four very distinct domains are studied: Structural stress analysis, heat transfer, fluid flow, and modal analysis. (Cross-listed with MECH 8836).

**Prerequisite(s)/Corequisite(s):** (MECH 3100 or MENG 3100) , (MECH 3430 or MENG 3430) , (MECH 3500 or MENG 3500) and (Prereq/ Coreq: MECH 4200 or MENG 4200). Not open to non-degree graduate students.

**MECH 4870 THERMAL FLUIDS LABORATORY (2 credits)**

Design, execution, and evaluation of physical experiments in the area of thermodynamics, fluid mechanics, and heat transfer.

**Prerequisite(s)/Corequisite(s):** (MECH 3000 or MENG 3000) , (MECH 3800 or MENG 3800) and (MECH 4200 or MENG 4200 coreq).

**MECH 4880 KINEMATICS AND MACHINE DESIGN LABORATORY (2 credits)**

Design projects and physical experiments in the area of machine design and kinematics.

**Prerequisite(s)/Corequisite(s):** (MECH 3420 or MENG 3420) , (MECH 3430 or MENG 3430) and (MECH 3800 or MENG 3800 coreq).

**MECH 4910 SPECIAL TOPICS IN ENGINEERING MECHANICS (1-6 credits)**

Treatment of special topics in engineering mechanics by experimental, computational and/or theoretical methods. Topics will vary from term to term. (Cross-listed with MECH 8916).

**MECH 4980 LABORATORY AND ANALYTICAL INVESTIGATIONS (0-6 credits)**

Investigation and written report of research into specific problem in any major area of mechanical engineering. (Cross-listed with MECH 8986).

**MECH 8066 AIR CONDITIONING SYSTEM DESIGN (3 credits)**

Application of thermodynamic principles to the design of air conditioning systems. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 4060).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8076 POWER PLANT SYSTEM DESIGN (3 credits)**

Application of the thermodynamic and fluid dynamic principles to the design of power plants. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 4070).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8086 HEAT EXCHANGER DESIGN (3 credits)**

Design methodology for various heat exchangers employed in mechanical engineering. Introduction to computer-aided design as applied to heat exchangers. Hands-on exercises in actual design tasks. (Cross-listed with MECH 4080).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8206 HEAT TRANSFER (3 credits)**

Heat Transfer by conduction, convection, and radiation. Correlation of theory with experimental data and engineering design. (Cross-listed with MECH 4200).

**Prerequisite(s)/Corequisite(s):** CIVE 310, MECH 3100 or MENG 3100. Not open to non-degree graduate students.

**MECH 8226 INDUSTRIAL QUALITY CONTROL (3 credits)**

Statistical process control and quality assurance techniques in manufacturing. Control charts, acceptance sampling, and analyses and design of quality control systems. (Cross-listed with MECH 4220).

**Prerequisite(s)/Corequisite(s):** MECH 3210, MENG 3210 or STAT 3800

**MECH 8386 MECHANICS OF BIOMATERIALS (3 credits)**

Theory, application, simulation, and design of biomaterials that apply mechanical principles for solving medical problems (case studies in artery, brain, bone, etc.). Tentative topics include Mechanical characterization of biomaterials; Bio-manufacturing a tissue; Function-structure relationship; Design and analysis of medical implants; Active response of biomaterials; growth and remodeling mechanism; Cellular behavior and measurements, etc. (Cross-listed with MECH 4380).

**Prerequisite(s)/Corequisite(s):** MECH 3430 or MENG 3430. Not open to non-degree graduate students.

**MECH 8456 MECHANICAL ENGINEERING DESIGN CONCEPTS (3 credits)**

Development of design concepts. Introduction to synthesis techniques and mathematical analysis methods. Application of these techniques to mechanical engineering design projects. (Cross-listed with MECH 4450).

**Prerequisite(s)/Corequisite(s):** (MECH 2000 or MENG 2000) and (MECH 3420 or MENG 3420) and (MECH 3500 or MENG 3500) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 8476 MECHANICAL ENGINEERING DESIGN II (2 credits)**

Definition, scope, analysis, synthesis, and the design for the solution of a comprehensive engineering problem in any major area of mechanical engineering. (Cross-listed with MECH 4470).

**Prerequisite(s)/Corequisite(s):** MECH 4460 or MENG 4460. Not open to non-degree graduate students.

**MECH 8486 ADVANCED MECHANICS OF MATERIALS (3 credits)**

Stresses and strains at a point. Theories of failure. Thick-walled pressure vessels and spinning discs. Torsion of non-circular sections. Torsion of thin-walled sections, open, closed and multicelled. Bending of unsymmetrical sections. Cross shear and shear center. Curved beams. Introduction to elastic energy methods. (Cross-listed with MECH 4480).

**Prerequisite(s)/Corequisite(s):** (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730)

**MECH 8496 ADVANCED DYNAMICS (3 credits)**

Particle dynamics using Newton's laws, energy principles, momentum principles. Rigid body dynamics using Euler's equations and Lagrange's equations. Variable mass systems. Gyroscopic motion. (Cross-listed with MECH 4490).

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730); and MATH 2350. Not open to non-degree graduate students.

**MECH 8506 MECHANICAL ENGINEERING CONTROL SYSTEMS DESIGN (3 credits)**

Applications of control systems analysis and synthesis for mechanical engineering equipment. Control systems for pneumatic, hydraulic, kinematic, electromechanical, and thermal systems. (Cross-listed with MECH 4500).

**Prerequisite(s)/Corequisite(s):** MECH 3500 or MENG 3500. Not open to non-degree graduate students.

**MECH 8510 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. The finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow.

**Prerequisite(s)/Corequisite(s):** (MECH 3250 or MENG 3250) and (MECH 8806 or MENG 8806) or permission

**MECH 8526 EXPERIMENTAL STRESS ANALYSIS I (3 credits)**

Investigation of the basic theories and techniques associated with the analysis of stress using mechanical strain gages, electric strain gages, brittle lacquer, photoelasticity and membrane analogy. (Cross-listed with MECH 4520).

**Prerequisite(s)/Corequisite(s):** MECH 3250 or MENG 3250

**MECH 8546 INTRODUCTION TO CONTINUUM MODELING (3 credits)**

Basic concepts of continuum modeling. Development of models and solutions to various mechanical, thermal and electrical systems. Thermo-mechanical and electro-mechanical coupling effects. Differential equations, dimensional methods and similarity. (Cross-listed with MECH 4540).

**Prerequisite(s)/Corequisite(s):** MATH 2350; and (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730). Not open to non-degree graduate students.

**MECH 8556 VEHICLE DYNAMICS (3 credits)**

Introduction to basic mechanics governing automotive vehicle dynamic acceleration, braking, ride, handling and stability. Analytical methods, including computer simulation, in vehicle dynamics. The different components and subsystems of a vehicle that influence vehicle dynamic performance. (Cross-listed with MECH 4550).

**Prerequisite(s)/Corequisite(s):** (MECH 3430 or MENG 3430) and (MECH 3500 or MENG 3500). Not open to non-degree graduate students.

**MECH 8586 DIGITAL CONTROL OF MECHANICAL SYSTEMS (3 credits)**

Introduction to digital measurement and control of mechanical systems. Applications of analysis and synthesis of discrete time systems. (Cross-listed with MECH 4580).

**Prerequisite(s)/Corequisite(s):** MECH 4500 or MENG 4500. Not open to non-degree graduate students.

**MECH 8706 THEORY AND PRACTICE OF MATERIALS PROCESSING (3 credits)**

Theory, practice and application of conventional machining, forming, and non-traditional machining processes with emphasis on tool life, dynamics of machine tools and adaptive control. (Cross-listed with MECH 4700).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 8746 MANUFACTURING SYSTEMS I (3 credits)**

Principles of automated production lines; analysis of transfer lines; group technology; flexible manufacturing systems; and just-in-time; and optimization strategies for discrete parts manufacturing. (Cross-listed with MECH 4740).

**MECH 8750 VIBRATION THEORY AND APPLICATIONS (3 credits)**

Variational principles, Lagrange's Equation. Equations of motion for multi-degree of freedom systems. Free vibrations, eigenvalue problem: modal analysis. Forced vibrations: general solutions, resonance, effect of damping, and superposition. Vibrations of continuous systems: vibrations frequencies and mode shapes for bars, membranes, beams, and plates. Experimental methods and techniques.

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730) and (MATH 2350, 4330 or MATH 8336)

**MECH 8766 MANUFACTURING INFORMATION SYSTEMS (3 credits)**

An exploration of information systems and their impact in a manufacturing environment. Software, hardware, database systems, enterprise resource planning, networking, and the internet. (Cross-listed with MECH 4760).

**Prerequisite(s)/Corequisite(s):** Senior standing, and CIST 1400 or CSCI 1620 or CSCI 2240.

**MECH 8806 NUMERICAL METHODS IN ENGINEERING (3 credits)**

Numerical algorithms and their convergence properties in: solving nonlinear equations; direct and iterative schemes for linear systems of equations; eigenvalue problems; polynomial and spline interpolation; curve fitting; numerical integration and differentiation; initial and boundary value problems for Ordinary Differential Equations (ODE's) and systems of ODE's with applications to engineering; finite difference methods for partial differential equations (potential problems, heat-equation, wave-equation). (Cross-listed with MECH 4800).

**Prerequisite(s)/Corequisite(s):** MATH 2350 or MATH 8355

**MECH 8836 ENGINEERING ANALYSIS WITH FINITE ELEMENTS (3 credits)**

Analysis of engineering systems using finite elements; a critical and challenging task performed during the design process for many engineering systems. Four very distinct domains are studied: Structural stress analysis, heat transfer, fluid flow, and modal analysis. (Cross-listed with MECH 4830).

**Prerequisite(s)/Corequisite(s):** (MECH 3100 or MENG 3100) , (MECH 3430 or MENG 3430) , (MECH 3500 or MENG 3500) and (Prereq/ Coreq: MECH 4200 or MENG 4200). Not open to non-degree graduate students.

**MECH 8916 SPECIAL TOPICS IN ENGINEERING MECHANICS (1-6 credits)**

Treatment of special topics in engineering mechanics by experimental, computational and/or theoretical methods. Topics will vary from term to term. (Cross-listed with MECH 4910).

**MECH 8986 LABORATORY AND ANALYTICAL INVESTIGATIONS (0-6 credits)**

Investigation and written report of research into specific problem in any major area of mechanical engineering. (Cross-listed with MECH 4980).

**MECH 9180 FUNDAMENTALS IN FINITE ELEMENTS (3 credits)**

Theory of finite elements. Displacement versus force method. Formulation of element stiffness matrices. Convergence criteria. Solution methods for large sets of equations. Application to trusses, frames, plates and shells.

**Prerequisite(s)/Corequisite(s):** (MECH 8486 or MENG 8486) , (MECH 8806, MENG 8806, or CIVE 851)

**MECH 9210 QUALITY ENGINEERING: USE OF EXPER DESIGN & TECHNIQUES (3 credits)**

Extension of industrial quality control methods and techniques. Off-line and on-line quality control methods. Development of quality at the design state through planned experiments and analyses. Experimental design methods will include factorial, 2k, 3k, and fractional factorials designs. The course will include an applied project in design of quality.

**MECH 9250 MANUFACTURING AND DYNAMIC SYSTEMS MODELING (3 credits)**

Difference and differential equation models directly from series of observed data. Underlying system analysis including impulse response, stability and feedback interpretation. Forecasting and accuracy of forecasts. Periodic and exponential trends in seasonal series. Modeling two series simultaneously. Minimum mean squared error control and forecasting by leading indicators. Illustrative applications to real life data in science and engineering.

**Prerequisite(s)/Corequisite(s):** MATH 8356.

**MECH 9300 MECHANICS OF COMPOSITE MATERIALS (3 credits)**

Introduction to composite materials. Properties of anisotropic lamina. Laminated composites. Failure theories. Analysis of composite structures.

**Prerequisite(s)/Corequisite(s):** MECH 4480, MENG 4480, MECH 8486 or MENG 8486

**MECH 9330 THEORY OF ELASTICITY I (3 credits)**

Plane stress and strain. Solution of two-dimensional problems by polynomials. Two-dimensional problems in polar coordinates. Triaxial stress and strain. Torsion of noncircular cross section. Bending of prismatical bars. Hydrodynamical analogies.

**Prerequisite(s)/Corequisite(s):** MECH 4480, MENG 4480, MECH 8486 or MENG 8486; MATH 2350.

**MECH 9370 THEORY OF PLATES AND SHELLS (3 credits)**

Basic equations for the bending and stretching of thin plates with small deformations. General theory of deformation of thin shells with small deflections. Large deformation theories of plates and shells. Effect of edge conditions.

**Prerequisite(s)/Corequisite(s):** (MECH 8486 or MENG 8486) and MATH 8336

**MECH 9420 THEORY OF PLASTICITY (3 credits)**

Basic concepts of plasticity. Yield conditions and yield surfaces. Torsion of cylindrical bars and Saint Venant-Mises and Prandtl-Reuss theories. General theory of plane strain and shear lines. Steady and pseudo-steady plastic flow. Extremum principles. Engineering applications.

**Prerequisite(s)/Corequisite(s):** MECH 9330 or MENG 9330

**MECH 9700 ADVANCED MANUFACTURING PROCESSING (3 credits)**

Theory, practice and technology of advanced manufacturing processes, with emphasis on process mechanism, surface integrity, tool and machine design, adaptive control and expert systems.

**Prerequisite(s)/Corequisite(s):** Permission.

## Medical Humanities (MEDH)

**MEDH 1000 INTRODUCTION TO MEDICAL HUMANITIES (3 credits)**

This is an interdisciplinary survey course in Medical Humanities. It focuses on the contributions and perspectives of arts and humanities in providing a broad and culturally diverse understanding of health, illness, healing, and medicine.

**Distribution:** Humanities and Fine Arts General Education course

**MEDH 2060 ART AND SCIENCE OF MEDICAL DECISION-MAKING (3 credits)**

The course explores multiple facets of medical decision-making, including the perspective of the patient, the family, and the healthcare provider. Topics include basic anatomy and medical terminology, which will be used to understand decision-making in the context of the provider. Students use literature and other records to generate and critically evaluate clinical decisions. The course does not satisfy requirements for degree programs in the Department of Biology minor, BA, BS in Biology; BS in Biotechnology. (Cross-listed with BIOL 2060).

**Prerequisite(s)/Corequisite(s):** BIOL 1060 or concurrent.

**MEDH 2300 HUMAN VALUES IN MEDICINE (3 credits)**

Human Values in Medicine examines questions of value and meaning that arise in medical contexts. This course provides an opportunity for philosophy majors, medical humanities majors / minors, and students preparing for health professions to confront ethical and social issues in medicine and biomedical research. (Cross-listed with PHIL 2300).

**MEDH 3000 MEDICAL HUMANITIES COMMONS (3 credits)**

A multidisciplinary study of a health-related topic from the perspective of medical humanities. Each semester the course will focus on a different topic or problem for exploration and inquiry. The course topic or problem is examined using disciplinary perspectives, interdisciplinary intersections, and translational opportunities.

**Prerequisite(s)/Corequisite(s):** MEDH 1000 or Permission of the instructor.

**MEDH 3450 PHILOSOPHY OF MEDICINE (3 credits)**

This course considers a range of philosophical questions raised by and within the practice of medicine. The course begins with a conceptual investigation of the meaning of "health" from "illness." Is the classification of individuals as healthy or ill an objective, scientific matter? Or is it instead a matter of social and ethical values? What follows from answering this question one way, versus another? This introduction forms the backdrop against which we move on to investigate a range of further topics.

Examples of some of the topics that may be covered include: medical and social models of disability; the role morality of doctors and other medical providers; abortion, euthanasia, and conscientious objection in the healthcare professions; health measurement and quality of life; "death panels" and health resource rationing; conditions on appropriately voluntary and informed consent to medical procedures; and the ethics of biomedical research. (Cross-listed with PHIL 3450).

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR permission of the instructor

**MEDH 4000 TOPICS IN MEDICAL HUMANITIES (3 credits)**

This course introduces students to a specialized subject matter in the disciplines of medical humanities not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor

**MEDH 4900 CAPSTONE IN MEDICAL HUMANITIES (3 credits)**

In this capstone course for students majoring in Medical Humanities, students will curate and complete their portfolio of educational experiences in the discipline. To integrate and apply their previous course work and experience, students will participate in a community-focused medical humanities project.

**Prerequisite(s)/Corequisite(s):** Senior standing (or students in junior standing with permission from the instructor) and MEDH 1000, MEDH 3000 and a writing in the discipline course approved for the major. Not open to non-degree graduate students.

**MEDH 4950 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 8956, ENGL 4950).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 prerequisite

**MEDH 4990 INDEPENDENT STUDY IN MEDICAL HUMANITIES (1-3 credits)**

This course is guided reading or independent research in special topics in Medical Humanities under the supervision of a member of the Medical Humanities faculty. This course is designed primarily for the student interested in topics not currently available in the program offerings and who has demonstrated ability to work independently. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

## Military Science (MILS)

**MILS 1000 LEADERSHIP LABORATORY (0 credits)**

Leadership Laboratory provides basic and advanced military leadership experience in military courtesy, drill and ceremonies, and practical application of classroom taught subjects. Functions and responsibilities of leadership positions are developed through cadet staff actions and command positions. Leadership Laboratory meets Mondays through Fridays from 0620-0750 at the Military Science Building or the Kiewit Fitness Center at Creighton University. All military science scholarship students must register for MILS 1000. All other military science students will be required to attend selected Leadership Laboratories.

**MILS 1010 LEADERSHIP AND PERSONAL DEVELOPMENT (1 credit)**

Examines the role of the commissioned officer in the U.S. Army. Discussion focuses on the role and organization of the Army, the military profession, general leadership, role of the non-commissioned officer and officer, customs of the service, military pay and benefits, career opportunities, and personal development.

**MILS 1020 INTRODUCTION TO TACTICAL LEADERSHIP (1 credit)**

Focuses on the relationship between leadership and personal development. Also introduces basic soldier skills, to include land navigation and map reading.

**MILS 2000 LEADERSHIP LABORATORY (0 credits)**

Leadership Laboratory provides basic and advanced military leadership experience in military courtesy, drill and ceremonies, and practical application of classroom taught subjects. Functions and responsibilities of leadership positions are developed through cadet staff actions and command positions. Leadership Laboratory meets Mondays through Fridays from 0620-0750 at the Military Science Building or the Kiewit Fitness Center at Creighton University. All military science scholarship students must register for MILS 2000. All other military science students will be required to attend selected Leadership Laboratories.

**MILS 2010 INNOVATIVE TEAM LEADERSHIP (2 credits)**

Develops student leadership and critical individual skills. Training is basic in nature and includes leadership techniques, written and oral communication, rifle marksmanship, fundamentals of land navigation, and physical fitness.

**Prerequisite(s)/Corequisite(s):** MILS 1010 and MILS 1020.

**MILS 2020 UNITED STATES MILITARY HISTORY (3 credits)**

This course will introduce students to the history of the American Military establishment and its relationships to American society from colonial times to the present. Students will become acquainted with the evolution of warfare, military theory and the military profession, with particular emphasis on the place of military institutions in society, so as to develop a sense of historical awareness.

**MILS 2050 LEADERSHIP TRAINING CAMP (3 credits)**

Five weeks of training at Fort Knox, Kentucky. Travel pay and salary stipend provided through the Department of Military Science. The student is not obligated to any military service as a result of attending Training Camp. Camp graduates are eligible to enroll in Advanced Military Science courses and compete for two-year military science scholarships.

**MILS 2120 FOUNDATIONS OF TACTICAL LEADERSHIP (2 credits)**

Continues the development of student leadership and critical individual military skills. Training focuses on advanced military skills and includes orienteering, field survival skills, operation and training.

**Prerequisite(s)/Corequisite(s):** MILS 2010

**MILS 2130 INNOVATIVE TEAM LEADERSHIP (2 credits)**

Designed to develop leadership and critical individual skills. Training is basic in nature and includes leadership techniques, written and oral communication, rifle marksmanship, fundamentals of land navigation, and physical fitness.

**Prerequisite(s)/Corequisite(s):** MILS 1030. Not open to non-degree graduate students.

**MILS 3000 LEADERSHIP LABORATORY (0 credits)**

Leadership Laboratory provides basic and advanced military leadership experience in military courtesy, drill and ceremonies, and practical application of classroom taught subjects. Functions and responsibilities of leadership positions are developed through cadet staff actions and command positions. Leadership Laboratory meets Mondays through Fridays from 0620-0750 at the Military Science Building or the Kiewit Fitness Center at Creighton University. All military science scholarship students must register for MILS 3000. All other military science students will be required to attend selected Leadership Laboratories.

**MILS 3010 ADAPTIVE TACTICAL LEADERSHIP (3 credits)**

Students learn the fundamentals of land navigation, the role and functions of a military line and staff organization, the role of the non-commissioned officer, training management, how to prepare military correspondence, how to conduct oral presentations, and how to arrange and conduct meetings and conferences. Includes physical training.

**Prerequisite(s)/Corequisite(s):** Department approval and enrollment in MILS 3000.

**MILS 3020 LEADERSHIP IN A CHANGING ENVIRONMENT (3 credits)**

Students learn the fundamentals of small unit leadership skills and tactics, how to conduct personal, performance and discipline counseling, and examine leadership case studies in detail. Includes physical training.

**Prerequisite(s)/Corequisite(s):** Department approval and enrollment in MILS 1000.

**MILS 3070 LEADERSHIP DEVELOPMENT AND ASSESSMENT (3 credits)**

The ROTC cadet attends four weeks of intensive leadership and management training. The training is conducted during the summer months at Fort Lewis, Washington. The student's ability to lead his unit and to plan and conduct small unit operations is thoroughly evaluated. Travel pay and salary stipend are provided through the Army.

**Prerequisite(s)/Corequisite(s):** MILS 3010 and MILS 3020

**MILS 4000 LEADERSHIP LABORATORY (1 credit)**

Leadership Laboratory provides basic and advanced military leadership experience in military courtesy, drill and ceremonies, and practical application of classroom taught subjects. Functions and responsibilities of leadership positions are developed through cadet staff actions and command positions. Leadership Laboratory meets Mondays through Fridays from 0620-0750 at the Military Science Building or the Kiewit Fitness Center at Creighton University. All military science scholarship students must register for MILS 4000. All other military science students will be required to attend selected Leadership Laboratories.

**MILS 4010 DEVELOPING ADAPTIVE LEADERS (2 credits)**

Leadership seminar on military ethics, ethical reasoning, decision making and value clarification. Contemporary problems and ethical issues are discussed using the case study method. Entering a new organization, communications and human relations skills, the importance of power and influence are learned.

**Prerequisite(s)/Corequisite(s):** Department approval and enrollment in MILS 4000.

**MILS 4020 LEADERSHIP IN A COMPLEX WORLD (2 credits)**

Develops military management skills by providing a working knowledge of the Army personnel management system, the military justice system, the Army logistical system and post and installation support agencies. The focus of this course is to provide an understanding of basic leadership and management skills required by newly commissioned officers.

**Prerequisite(s)/Corequisite(s):** Department approval and enrollment in MILS 4000.

**MILS 4030 DIRECTED INDEPENDENT READINGS (1-3 credits)**

A variable topic course in Military Science designed to consider an issue or field of interest that relates to the military establishment. Student will read and report on military related books. Student should contact designated faculty member for specific course requirement prior to registration.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MILS 4040 DIRECTED INDEPENDENT STUDIES (1-3 credits)**

A variable credit course in Military Science designed to consider an issue or field of interest that relates to the military establishment. Student should contact designated faculty member for specific course requirement prior to registration.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Multidisciplinary Studies (MLTI)

**MLTI 3000 MULTIDISCIPLINARY FOUNDATIONS SEMINAR (3 credits)**

A foundational course for the Bachelor of Multidisciplinary Studies degree. Students explore the requirements, goals, and objectives of the program as well as gain an understanding of emotional intelligence capabilities.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MLTI 4000 MULTIDISCIPLINARY CAPSTONE SEMINAR (3 credits)**

This capstone course engages Bachelor of Multidisciplinary Studies (BMS) students with significant themes or topics around a real-world issue or problem. The capstone requires the development of a substantial final project that combines learning from multiple sources and perspectives, including general education courses, BMS degree courses, prior learning in and outside the classroom, as well as co-curricular experiences. As the concluding experience for BMS students, the capstone provides the opportunity for students to reflect, through their Multidisciplinary Learning Portfolio, on how their education informs their future professional, personal, and educational lives.

**Prerequisite(s)/Corequisite(s):** MLTI 3000 and ENGL 1160. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

## Music (MUS)

**MUS 115A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly master classes.

**MUS 115C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on bass. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required. The primary goal of the bass student is to develop the highest level of technical and musical proficiency on his/her instrument. Through weekly applied lessons and personal practice time, it is intended that the student will gain the tools necessary to become a more mature musician.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 115E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Students enrolled in this course must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 and MUS 1000-007.

**MUS 115G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 115I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 115J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 115L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 115M APPLIED PIPE ORGAN (1-2 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 115N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 115O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 115R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 115S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (violin majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 115T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour (non music majors) or two credit hours (voice music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the voice faculty. Students must also enroll in a choral ensemble MUS 2700/MUS 4100 and attend the weekly masterclass. MUS 115T students are also required to attend Freshman Voice Seminar.

**MUS 115U APPLIED CARILLON (1-2 credits)**

This course provides individual weekly instruction on carillon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty.

**MUS 167B APPLIED CLASS - PIANO (1 credit)**

Basic reading of treble and bass clef are a prerequisite for this course. Beginning with learning correct posture, hand position and technique, a deeper understanding of key musical elements such as key signatures, dynamic markings, time signatures, rhythmic values, and musical terminology will begin the coursework. Reading, coordination, rhythm, scales, improvisation, technology, duet and solo repertoire will be used to strengthen both keyboard and overall musical skills. \*This is a sequential course whereby all students must pass the fall semester before enrolling in spring semester.

**MUS 167C APPLIED CLASS - VOICE I (1 credit)**

This course provides class instruction in the development of elementary basic skills in applied voice.

**MUS 169D APPLIED CLASS JAZZ PIANO (1 credit)**

This course will consist of class instruction designed to teach students basic jazz piano skills.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or MUS 2430

**MUS 215A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 215C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double bass and attend the weekly masterclass.

**MUS 215E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition for & approval by the woodwind faculty, OR successful completion of 4 hours of MUS 115F. Students must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 & 1000-007.

**MUS 215G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the string faculty. Must also enroll in an instrumental ensemble. Music majors must attend the weekly masterclasses.

**MUS 215I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 215J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 215L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 215M APPLIED PIPE ORGAN (1-2 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 215N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 215O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 215R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 215S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 115S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 215T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour (non music majors) or two credit hours (voice music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100). All students must attend the weekly masterclass.

**MUS 315A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 315C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double-bass and attend the weekly masterclass.

**MUS 315E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Audition for & approval by woodwind faculty OR successful completion of 4 hrs of MUS 215F and a "PASS" in the Sophomore Continuation Jury. Concurrent enrollment in an instrumental ensemble. Music majors: Concurrent enrollment in MUS 1000-001 & 1000-007.

**MUS 315G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215H. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of guitar and attend the weekly masterclass.

**MUS 315I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 315J APPLIED OBOE (1-3 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 315L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 315M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 315N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 315O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 315R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 315S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 315T APPLIED VOICE (1-2 credits)**

This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100). All students must attend the weekly masterclass.

**MUS 415A APPLIED BASSOON (1-2 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415B APPLIED CELLO (1-2 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315B. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of cello and attend the weekly masterclass.

**MUS 415C APPLIED CLARINET (1-2 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415D APPLIED DOUBLE BASS (1-2 credits)**

This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315D. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of double bass and attend the weekly masterclass.

**MUS 415E APPLIED EUPHONIUM (1-2 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. This level of applied study provides instruction on fundamental brass playing concepts. Weekly assignments can include technical studies, scale exercises, tone and articulation studies, breathing exercises, solo and orchestral repertoire, chamber music, etc.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415F APPLIED FLUTE (1-2 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition for & approval by the woodwind faculty, OR successful completion of 4 credit hours of MUS 315F. Students must also enroll in an instrumental ensemble. Music majors must be concurrently enrolled in MUS 1000-001 & 1000-007.

**MUS 415G APPLIED FRENCH HORN (1-2 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415H APPLIED GUITAR (1-2 credits)**

This course provides individual weekly instruction on the guitar. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315H. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of guitar and attend the weekly masterclass.

**MUS 415I APPLIED HARP (1-2 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315I. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of harp and attend the weekly masterclass.

**MUS 415J APPLIED OBOE (1-2 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415K APPLIED PERCUSSION (1-2 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the percussion faculty. Music majors must attend the weekly masterclass.

**MUS 415L APPLIED PIANO (1-2 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 415M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 415N APPLIED SAXOPHONE (1-2 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 415O APPLIED TROMBONE (1-2 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415P APPLIED TRUMPET (1-2 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415Q APPLIED TUBA (1-2 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 415R APPLIED VIOLA (1-2 credits)**

This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315R. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of viola and attend the weekly masterclass.

**MUS 415S APPLIED VIOLIN (1-2 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for one credit or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 215S. Must also enroll in an instrumental ensemble. Students must be Music Majors in the area of violin and attend the weekly masterclass.

**MUS 415T APPLIED VOICE (1-2 credits)**

This course is a continuation of the applied music sequence of study for music majors. This course provides individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one credit hour or two credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires successful completion of MUS 315T. This course requires an audition performed for and approved by the voice faculty. All enrolled students must also enroll in a choral ensemble (MUS 2700, MUS 4100) and attend the weekly masterclass.

**MUS 1000 APPLIED MUSIC LABORATORY RECITAL (0 credits)**

This course is a weekly meeting of all music majors which provides students with performance opportunities for themselves as well as recitals and lectures by guest artists.

**Prerequisite(s)/Corequisite(s):** Music majors only.

**MUS 1010 MUSIC TECHNOLOGY NOW (0 credits)**

This course is a weekly meeting of all music technology majors. The course includes presentations of ongoing student projects, lectures by resident and visiting music technologists, audio engineering training and practicum opportunities, and critical listening experiences.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MUS 1050 MUSIC OF THE PEOPLE: THE BEATLES (3 credits)**

The Beatles are arguably the most influential and important rock band in history. Their music influenced not only the shape of popular music but youth culture. Course objectives are to learn the history of the music of the Beatles from their early influences and formation to their break-up and legacy; to understand the relationship of this music to larger cultural, political, and economic formations; to become familiar with aspects of the diverse musical structures used in their music; and to become familiar with the advances in sound and recording technology their music spawned and influenced innovation to music today.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 1070 MUSIC OF THE PEOPLE: ROCK AND POP (3 credits)**

The objectives of this course are 1) to learn the history of rock music from its beginnings in earlier forms of popular music to the beginning of the 21st century 2) to understand the relationship of this music to larger cultural, political, and economic formations; and 3) to become familiar with aspects of musical structure which have been used in rock music.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1080 MUSIC OF THE PEOPLE: THE WORLD (3 credits)**

A study of music of various cultures throughout the world practiced primarily by individuals who produce music as a part of their everyday life. Using music as a window into various cultures the course gives students an insight into cultures that may vary from their own.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1090 MUSIC APPRECIATION (3 credits)**

A listening course for the non-music major designed to promote a better understanding of noteworthy compositions from various periods and styles. Lab fee required.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 1100 MUSIC OF THE PEOPLE: JAZZ (3 credits)**

In this course, the history of jazz will be traced from its origins up to the present. Designed primarily for non-music majors, the course will chronicle the development of various stylistic trends which characterize jazz and discuss the prominent musical artists that influenced each style period within the history of jazz. Lab fee required.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**MUS 1170 FOUNDATIONS OF MUSIC TECHNOLOGY (3 credits)**

This course addresses the foundational people, concepts, and terms of music technology. The course covers a broad spectrum of themes including acoustics, psychoacoustics, microphones, Musical Instrument Digital Instrument (MIDI), synthesis, computer music, notation, and sampling. Intended for students pursuing a Bachelor of Arts with a concentration in Music Technology.

**MUS 1390 BASIC MUSICIANSHIP (3 credits)**

This course is designed to develop basic music reading skills through experiential learning that promotes music literacy skills of note reading, rhythmic reading, key signatures, and simple meter. It is designed for students interested in music degree tracks who have limited understanding of music theory.

**Prerequisite(s)/Corequisite(s):** Music major or permission of the instructor. Not open to non-degree graduate students.

**MUS 1400 MUSIC FUNDAMENTALS (3 credits)**

Introduction to Music Studies will cover the basics of music including music reading in multiple clefs, scales, key signatures, meter signatures, rhythm, triads, seventh chords, and elementary aural and singing skills. The primary purpose of the course is to prepare students for further study in music at the college level.

**Prerequisite(s)/Corequisite(s):** Music major or permission of instructor. Not open to non-degree graduate students.

**MUS 1410 MUSIC CORE CURRICULUM I (4 credits)**

The study of basic elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** Music Major or permission from the instructor. Successful completion of 1400 (C or better). Not open to non-degree graduate students.

**MUS 1420 MUSIC CORE CURRICULUM II (4 credits)**

The study of basic elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 1410 with the grade C or better or permission of the instructor. Not open to non-degree graduate students.

**MUS 1430 COMMERCIAL MUSIC THEORY I (3 credits)**

This course will integrate Roman Numeral, Lead Sheet, and Nashville notations through realization and analysis. It will also combine Common Practice Period music theory with Jazz theory in an effort to promote practical usage of theoretical systems in performance and practice.

**Prerequisite(s)/Corequisite(s):** Prerequisites include MUS 1390 and MUS 1400.

**MUS 1600 INTRODUCTION TO MUSIC EDUCATION (1 credit)**

This course is designed to provide an overview of the music education profession. It will focus on the history, philosophy, and fundamentals of music education in the United States.

**MUS 1640 DICTION FOR SINGERS I (1 credit)**

A study of the International Phonetic Alphabet (IPA) and the rules of pronunciation as applied to vocal literature of the English and Italian languages.

**Prerequisite(s)/Corequisite(s):** Music major

**MUS 1660 DICTION FOR SINGERS II (1 credit)**

A study of the rules and guidelines of pronunciation as applied to vocal literature of German and French languages.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 1640

**MUS 1690 KEYBOARD SKILLS I (1 credit)**

Instruction in this course will prepare students for keyboard skills for continued success as a professional musician, teacher or music educator. An emphasis will be placed on the following skills: scales/chords, sight reading, SATB reading, open score reading, improvisation, basic accompaniment, continued development of technical skills through individual piano selections and exciting project using contemporary music. Arrangements of popular music, chord charts and stylistic awareness in regards to the piano will be developed throughout the course. Beginning skills of ensemble playing will be encouraged throughout the semesters. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** MUS 167B (Piano) or equivalent. Permission.

**MUS 2200 AUDIO RECORDING TECHNIQUES I (3 credits)**

This course provides students with basic instruction in analog and digital audio recording. Topics include hardware, software, microphones, and basic production. Upon completion of the course students will have the skills and the knowledge to do basic audio recording such as recording live concerts and simple multi-track recording.

**Prerequisite(s)/Corequisite(s):** MUS 1170 OR permission of the instructor. Not open to non-degree graduate students.

**MUS 2410 MUSIC CORE CURRICULUM III (4 credits)**

The study of intermediate elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or permission. Not open to non-degree graduate students.

**MUS 2420 MUSIC CORE CURRICULUM IV (4 credits)**

The study of advanced elements of music and their application to musical performance, education, and analysis.

**Prerequisite(s)/Corequisite(s):** MUS 2410 or permission. Not open to non-degree graduate students.

**MUS 2430 COMMERCIAL MUSIC THEORY 2 (3 credits)**

As a continuation of MUS 1430, this course will integrate Roman Numeral, Lead Sheet, and Nashville notations through realization and analysis. It will also combine Common Practice Period music theory with Jazz theory in an effort to promote practical usage of theoretical systems in performance and practice.

**Prerequisite(s)/Corequisite(s):** MUS 1390, MUS 1400, and MUS 1430

**MUS 2480 CLASS APPLIED JAZZ IMPROVISATION (2 credits)**

This course is intended for the serious music student who wishes to gain basic knowledge and skills in the area of jazz improvisation. The course will emphasize beginning improvisation skills, basic jazz literature, chord scale relationships, melodic concepts, ear training, and analysis of improvised solos.

**Prerequisite(s)/Corequisite(s):** MUS 1420 or MUS 2430

**MUS 2550 MUSIC HISTORY I (3 credits)**

This course is intended for music majors who wish to undertake a study of music literature and history of the Ancient, Medieval, Renaissance, and Baroque eras. The objective of the course is to illustrate the musical concepts, styles and performance practices through composers, individual works and scores that typify these eras and the cultural context surrounding them. Outside listening, reading, musical analysis and discussion will supplement lectures.

**MUS 2560 MUSIC HISTORY II (3 credits)**

This course is intended for music majors who wish to undertake a study of music literature and history of the Pre-Classical, Classical, Romantic, and Modern eras. The objective of the course is to illustrate the musical concepts, styles and performance practices through composers, individual works and scores that typify these eras and the cultural context surrounding them. Outside listening, reading, musical analysis and discussion will supplement lectures.

**MUS 2600 FUNDAMENTALS OF CONDUCTING (2 credits)**

The purpose of this course is to provide a basic foundation of conducting skills.

**Prerequisite(s)/Corequisite(s):** This course is limited to music majors. Students must have successfully completed MUS 1410, MUS 1420. Not open to non-degree graduate students.

**MUS 2610 ADVANCED PIANO TECHNIQUES I (1 credit)**

Instruction in this course will prepare piano majors with advanced keyboard techniques for continued success as a professional musician or private instructor. An emphasis will be placed on the following skills: sight reading, SATB reading, open score reading, improvisation, intermediate/advanced accompaniment, and continued crafting of personal skill sets. Students will arrange contemporary music. Intermediate to advanced skills of ensemble playing will be cultivated throughout the semesters. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** Piano Major

**MUS 2620 ADVANCED PIANO TECHNIQUES II (1 credit)**

Instruction in this course will prepare piano majors with advanced keyboard techniques for continued success as a professional musician or private instructor. An emphasis will be placed on the following skills: sight reading, SATB reading, open score reading, improvisation, intermediate/advanced accompaniment, and continued crafting of personal skill sets. Students will arrange contemporary music. Advanced skills of ensemble playing will be cultivated throughout the semester. This is a sequential course whereby all students must enroll in fall semester and pass before enrolling in spring semester.

**Prerequisite(s)/Corequisite(s):** Piano Major; Successful completion of MUS 2610. Not open to non-degree graduate students.

**MUS 2690 KEYBOARD SKILLS II (1 credit)**

Continuation of keyboard skills curriculum for continued success and independent thinking allowing students skill level for the following: scales/chords, sight reading, SATB reading, open score reading, improvisation, basic accompaniment, continued development of technical skills through individual piano selections and exciting project using contemporary music. Advanced arrangements of popular music, chord charts and stylistic awareness continue to develop throughout the course. Advanced skills of ensemble playing and experience will be a part of the curriculum. Class instruction in advanced development of keyboard skills including sight reading, harmonization, open score reading, accompaniments and facility.

**Prerequisite(s)/Corequisite(s):** MUS 1690 or equivalent. Permission.

**MUS 2700 UNIVERSITY CHORUS (0-1 credits)**

University Chorus is an ensemble open to all University students, faculty and staff. No audition necessary. All styles of music, including popular. Students wanting humanities/fine arts general education credit must register for 1 credit hour.

**Prerequisite(s)/Corequisite(s):** University Chorus participants need to be aware of the importance of rehearsals and concerts, and commit to those times in their schedule. Student must seek approval from the Director of Choral Activities in order to take this course for 0 credits.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 2730 CHAMBER ORCHESTRA (0-1 credits)**

A string orchestra with selected winds performing symphonic repertoire. Public performance. Open to all students and members of the greater metropolitan community.

**Prerequisite(s)/Corequisite(s):** Audition is required.

**MUS 2740 CHAMBER MUSIC (0-1 credits)**

Specialized chamber music groups from the string, wind, percussion, or technology area. Literature will be chosen from the extensive materials available for these combinations of instruments.

**Prerequisite(s)/Corequisite(s):** Audition and permission.

**MUS 2750 MARCHING BAND (0 credits)**

Open to all full and part-time UNO students during the fall semester only. No audition is required. K-12 instrumental music education majors are required to enroll in Marching Band for two semesters.

**MUS 2760 UNIVERSITY CONCERT BAND (0-1 credits)**

University Band is a performing ensemble that is open to all UNO students, staff, and faculty. The band has varied programming of contemporary and classical works. There is no audition necessary.

**Prerequisite(s)/Corequisite(s):** There are no prerequisites for University Band, but participants need to be aware of the importance of rehearsals and concerts and commit to those times in their schedules.

**Distribution:** Humanities and Fine Arts General Education course

**MUS 2770 JAZZ ENSEMBLE (0-1 credits)**

A select ensemble performing jazz literature from all periods. Open to all full- and part-time UNO students. An audition is required with the director.

**Prerequisite(s)/Corequisite(s):** Acceptance into jazz ensemble is by audition only. Students must demonstrate technical command of their instrument, sightreading skills in multiple jazz styles and ability to demonstrate credible jazz improvisation skills.

**MUS 2790 COLLABORATIVE PIANO (1 credit)**

This course is designed to develop skills useful for pianists to learn to skills to collaborate with vocalists, instrumentalists and ensembles. Individual class times will also accompany rehearsals with designated collaborative partners. The vast repertoire and stylistic knowledge for areas such as musical theater, voice, choral, strings, brass, orchestra and wind ensemble set the beginning of exciting partnerships throughout a musical career.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 167B, MUS 1690, MUS 2690. Permission. Not open to non-degree graduate students.

**MUS 2800 SOUND REINFORCEMENT (3 credits)**

This course provides students with basic instruction in the fundamental knowledge and techniques of live sound production. Topics include equipment, processes, and systems used in a variety of scenarios with emphasis on practical, hands-on production. Upon completion of the course students will have the skills and the knowledge to provide basic sound reinforcement.

**Prerequisite(s)/Corequisite(s):** Activities include on-location sound reinforcement, written live sound observations, in-class practicum, and electronics labs. Not open to non-degree graduate students.

**MUS 3100 MUSIC INFORMATICS (3 credits)**

Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with ITIN 3100)

**Prerequisite(s)/Corequisite(s):** Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

**MUS 3170 EXPLORING MUSIC TECHNOLOGY (3 credits)**

An overview of computers and music. The course will focus on broad themes of people, procedures, data structures, software, hardware, and computer music environments. Intended for students with limited music or computer backgrounds.

**MUS 3180 DIGITAL SYNTHESIS (3 credits)**

An exploration of the potentials of computer music synthesis. Concepts of music synthesis are presented through the use of a computer, keyboard, and appropriate software. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with ITIN 3180)

**MUS 3190 JUNIOR/NON DEGREE RECITAL (1 credit)**

This course is designed for all undergraduate performance music majors performing a junior or any student who wants to perform a non-degree recital.

**Prerequisite(s)/Corequisite(s):** Applied Music (MUS 1150-3150) and/or permission of applied instructor. Payment of Recital Fee (Conductors' fees are automatically waived). Not open to non-degree graduate students.

**MUS 3200 JAZZ PEDAGOGY (1 credit)**

Course includes middle school and high school instrumental jazz literature, basic improvisation, rhythm section techniques and laboratory ensemble experiences.

**Prerequisite(s)/Corequisite(s):** MUS 2410 or MUS 2430

**MUS 3210 AUDIO RECORDING TECHNIQUES II (3 credits)**

This course provides students with advanced instruction in sound recording and digital audio production. Topics include microphone technique, analog audio hardware, digital audio software, and advanced production techniques.

**Prerequisite(s)/Corequisite(s):** MUS 2200

**MUS 3400 FORM AND ANALYSIS (2 credits)**

The study of musical forms and their application to musical arranging for choir, band, and orchestra.

**Prerequisite(s)/Corequisite(s):** MUS 2420

**MUS 3440 COMPOSITION I (1 credit)**

Individualized applied study of the basic craft of musical composition in small media and various styles.

**Prerequisite(s)/Corequisite(s):** MUS 2420 and written permission. Not open to non-degree graduate students.

**MUS 3480 CLASS APPLIED JAZZ IMPROVISATION II (2 credits)**

This course is intended for the serious music student who wishes to gain advanced knowledge and skills in the area of jazz improvisation. This course will emphasize advanced improvisation skills, standard jazz literature, advanced jazz harmony, chord/scale relationships, melodic concepts, ear training, and analysis of improvised solos.

**Prerequisite(s)/Corequisite(s):** MUS 2480

**MUS 3600 MUSIC EDUCATION CORE I - ELEMENTARY (5 credits)**

Methods and materials for teaching elementary (K-6) general, instrumental and choral music.

**Prerequisite(s)/Corequisite(s):** Students must be accepted to the College of Education, Health and Human Sciences (CEHHS) Teacher Preparation Program and have completed MUS 1600 and MUS 1410 with a C or better; Music Education Majors only. Not open to non-degree graduate students.

**MUS 3610 MUSIC EDUCATION CORE II - MIDDLE SCHOOL/JUNIOR HIGH SCHOOL (5 credits)**

Course includes brass and percussion pedagogy, middle school instrumental and choral literature and techniques, general music, conducting, and laboratory ensemble experiences.

**Prerequisite(s)/Corequisite(s):** MUS 3600 or permission.

**MUS 3630 MUSIC EDUCATION CORE III - HIGH SCHOOL METHODS (5 credits)**

This course explores all aspects of administering high school vocal and instrumental music programs as well as prepares the student for clinical teaching and the job search process.

**Prerequisite(s)/Corequisite(s):** MUS 3600 and MUS 3610 or permission, 2.75 NU GPA, Passing Praxis Core scores

**MUS 3640 MUSIC EDUCATION FINAL PRACTICUM (2 credits)**

This course is designed to link theoretical concepts learned in the classroom to the practical application of "real world" situations and to familiarize students with the profession of music education. Hours completed in this course count as the final practicum as specified by the College of Education Teacher Preparation Program and required by the Nebraska Department of Education for teacher certification.

**Prerequisite(s)/Corequisite(s):** MUS 3630, 2.75 NU GPA, Passing Praxis Core scores. Not open to non-degree graduate students.

**MUS 3650 INTERSHIPS IN MUSIC (0-3 credits)**

A course designed to link theoretical concepts learned in the classroom to the practical application of "real world" situations and to familiarize students with attitudes, operations and programs of various musical organizations.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of Music Department Chair. Not open to non-degree graduate students.

**MUS 3660 ADVANCED CONDUCTING (2 credits)**

An advanced course in conducting for music majors. This course will provide a theoretical and practical study of various materials and methods as they relate to conducting score study, gestures, rehearsal strategy and related performance practices.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 2420.

**MUS 4000 SPECIAL STUDIES IN MUSIC (1-3 credits)**

Seminars or workshops in Theory, History, Performance, and Music Education designed to meet specific interests and needs of students. Topics and number of credits for each specific offering will be announced during the prior semester. (Cross-listed with MUS 8006).

**MUS 4100 CONCERT CHOIR (0-1 credits)**

A select choral ensemble specializing in outstanding examples of music of all styles and from all periods. Public performance. Open to all University students.

**Prerequisite(s)/Corequisite(s):** The prerequisite for Concert Choir is an audition. Student must seek approval from the Director of Choral Activities in order to take this course for 0 credit.

**MUS 4120 CHAMBER CHOIR (0-1 credits)**

A select choral ensemble of 20-32 singers, specializing in outstanding examples of a cappella choral music. Preparation and performance of all styles of music. Appearances in concerts throughout the year, on campus; in the metropolitan area; and occasionally, in various other regions of Nebraska and the world.

**Prerequisite(s)/Corequisite(s):** Auditions at start of each semester - solo, sight-sing, range check, & group audition to match voice qualities. Must seek approval from Director of Choral Activities to take course for 0 credits. Not open to non-degree graduate students.

**MUS 4130 UNIVERSITY ORCHESTRA (0-1 credits)**

Heartland Philharmonic Orchestra is a full symphony orchestra performing symphonic repertoire. Public performance. Open to all students and members of the greater metropolitan community. Repertoire is drawn from the four periods of music associated with symphonic literature: Baroque, Classical, Romantic, and Modern.

**Prerequisite(s)/Corequisite(s):** Audition and permission.

**MUS 4160 SYMPHONIC WIND ENSEMBLE (0-1 credits)**

The Symphonic Wind Ensemble performs the finest concert band literature at four campus concerts, professional conferences, and tours. Open to all full- and part-time students.

**Prerequisite(s)/Corequisite(s):** Audition is required for membership in the Symphonic Wind Ensemble.

**MUS 4190 RECITAL (1 credit)**

This course is designed for all undergraduate students performing a senior recital. All recitals are to be one half hour to one hour depending on the student's degree requirements.

**Prerequisite(s)/Corequisite(s):** Recital fee payment (conductor's fees waived) & applied instructor's permission. BM-Education & BA Students: 4 semesters of appropriate Applied Music (MUS 1150-3150). BM-Performance: MUS 3190; 7 semesters of appropriate Applied Music (MUS 1150-3150).

**MUS 4220 AUDIO RECORDING TECHNIQUES III (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering.

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 4240 ADVANCED AUDIO RECORDING TECHNIQUES (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering. (Cross-listed with MUS 8246).

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 4280 ADVANCED TOPICS IN MUSIC TECHNOLOGY (3 credits)**

A seminar in Music Technology on an advanced or emerging topic in the field. The topic for each offering will be announced the prior semester.

**Prerequisite(s)/Corequisite(s):** Permission of department.

**MUS 4290 MUSIC CAPSTONE PROJECT (1 credit)**

This course is to serve as a capstone project for students in the Bachelor of Arts in Music degree. Projects must be approved by the faculty and a member of the faculty will be assigned to advise on the project.

**Prerequisite(s)/Corequisite(s):** Senior standing and successful completion of MUS 1420 or MUS 1430. Not open to non-degree graduate students.

**MUS 4300 BUSINESS OF MUSIC (3 credits)**

An overview of the global music industry as practiced in the United States, this course will provide insights into a number of key areas of business related to music. Students will also explore a diversity of music industry career paths in areas such as arts management, music products & merchandizing, public relations, music production & recording, publishing, and online music distribution.

**Prerequisite(s)/Corequisite(s):** Students must be enrolled as music majors, or by permission of instructor.

**MUS 4400 ADVANCED COMPOSITION (1 credit)**

Individualized applied study of the craft of musical composition in larger media and various styles.

**Prerequisite(s)/Corequisite(s):** MUS 3440 and written permission. Not open to non-degree graduate students.

**MUS 4430 ARRANGING FOR JAZZ ENSEMBLE (3 credits)**

Techniques of writing for jazz ensembles of various combinations of instruments. (Cross-listed with MUS 8436).

**Prerequisite(s)/Corequisite(s):** MUS 2480 or MUS 2420

**MUS 4440 MUSIC SINCE 1945 (3 credits)**

This course covers important developments in music in the United States and Europe since 1945. (Cross-listed with MUS 8446).

**Prerequisite(s)/Corequisite(s):** Completion of MUS 3420 or permission of instructor.

**MUS 4450 ORCHESTRATION (2 credits)**

Basics of instrumentation and scoring for band and orchestra.

**Prerequisite(s)/Corequisite(s):** Completion of MUS 2420 with a C or better. Not open to non-degree graduate students.

**MUS 4530 HISTORY OF WESTERN OPERA (3 credits)**

This course will consist of significant music theater works in the Western world from 1600 to the present. (Cross-listed with MUS 8536).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560, Junior standing.

**MUS 4540 RENAISSANCE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature c. 1350-1600. (Cross-listed with MUS 8546).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560, and MUS 2570. Not open to non-degree graduate students.

**MUS 4550 BAROQUE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1600-1750. (Cross-listed with MUS 8556).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560.

**MUS 4560 CLASSICAL MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1750-1815. (Cross-listed with MUS 8566).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560, and MUS 2570.

**MUS 4570 ROMANTIC MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of Music literature from c. 1815-1912. (Cross-listed with MUS 8576).

**Prerequisite(s)/Corequisite(s):** MUS 2550 and MUS 2560.

**MUS 4580 MUSIC FROM 1900 - 1945 (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from the post-romantic period to 1945. The objective will be to provide the student with a broad overview with special attention given to composers and individual works which typify a style or form. (Cross-listed with MUS 8586).

**Prerequisite(s)/Corequisite(s):** MUS 2560.

**MUS 4590 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 8596, BLST 4590).

**Prerequisite(s)/Corequisite(s):** Junior or Senior standing in the UNO School of Music

**MUS 4600 PIANO PEDAGOGY (3 credits)**

This course is a survey of the art of teaching the piano. Course content will include a survey of beginning and intermediate piano methods, literature for the beginning/intermediate piano student, studio business practice, professional organizations, and group piano instruction pedagogy. (Cross-listed with MUS 8606).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MUS 4610 VOICE PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of the vocal mechanism and of the various techniques used in developing the singing voice. Also, it will apply knowledge acquired about the voice through studio teaching and observations of other voice teachers. (Cross-listed with MUS 8616).

**Prerequisite(s)/Corequisite(s):** Voice Music Major or permission of instructor.

**MUS 4620 INSTRUMENTAL PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of various instruments and of techniques used in developing instrumental technique. Also, it will apply knowledge acquired about the instrument through studio teaching and observations of other instrumental teachers.

**MUS 4660 HEALTH AND WELLNESS FOR MUSICIANS (3 credits)**

Health and Wellness for Musicians gives an overview of the dimensions of wellness and common health/wellness challenges for musicians. The course provides students with a toolbox of ideas and strategies for the development, design, and implementation of a music wellness campaign for non-musicians and individualized wellness plans for specific instruments and voice types. (Cross-listed with MUS 8696).

**MUS 4720 CHORAL LITERATURE (3 credits)**

A survey course in the study of significant choral genre of the various periods of music from plain song to contemporary music. (Cross-listed with MUS 8726).

**Prerequisite(s)/Corequisite(s):** MUS 2570 and MUS 3640. Junior music major standing or permission of the instructor.

**MUS 4730 KEYBOARD LITERATURE (3 credits)**

This course will examine literature written for keyboard (piano) from the 16th century to the present. Emphasis will be placed on solo literature of the Baroque, Classic, Romantic, and Contemporary periods. Included are keyboard concertos with orchestra and works for four hands and two pianos. (Cross-listed with MUS 8736).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MUS 4740 VOICE LITERATURE (3 credits)**

This course is a study of the development of art song in Europe and America. Emphasis will be given to German and French song literature and their influence on English and American song. (Cross-listed with MUS 8746)

**Prerequisite(s)/Corequisite(s):** Junior voice or permission of instructor.

**MUS 4750 INSTRUMENTAL LITERATURE (3 credits)**

This course is a study of the development of instrumental (brass, winds, strings, percussion) literature in Europe and America.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## Native American Studies (NAMS)

**NAMS 1100 INTRODUCTION TO NATIVE AMERICAN STUDIES (3 credits)**

This course will introduce the diverse cultures of Native Americans. Using both historical and contemporary experiences, students will learn about the cultural, historical, social, economic and/or political factors that have shaped Native experience in North America. Students will also acquire new insights about American history and culture by looking through the lens of contemporary native cultures, nations and individuals.

**Distribution:** U.S. Diversity General Education course and Humanities and Fine Arts General Education course

**NAMS 4140 INDIAN GAMING (3 credits)**

This course will be an in depth study of the history and development of Indian Gaming law and policy.

**Prerequisite(s)/Corequisite(s):** NAMS 1100 or permission of the Instructor.

**NAMS 4240 CONTEMPORARY TRIBAL NATION BUILDING (3 credits)**

This course applies traditional North American tribal governance and leadership beliefs and practices in a critical examination of contemporary tribal governments, tribal courts and programs, and tribal leaders. This course challenges students to assess present tribal governments and leaders concerning their effectiveness in meeting the needs of tribal people today.

**Prerequisite(s)/Corequisite(s):** NAMS 1100

**NAMS 4440 FEDERAL INDIAN LAW (3 credits)**

This course provides an overview of tribal legal authority as it exists within federal law. It includes traditional North American tribal governance and leadership practices. Key topics include the federal-tribal trust relationship, Indian treaties, federal Indian policies and case law, and 20th Century establishment of modern tribal governments and courts.

**Prerequisite(s)/Corequisite(s):** NAMS 1100

**NAMS 4900 INDEPENDENT STUDY (1-6 credits)**

An individualized course of study with a member of the Native American Studies faculty. Either independent research or advanced readings may be pursued. May be repeated, for credit, up to six hours, under a different topic.

**Prerequisite(s)/Corequisite(s):** NAMS 1100 and permission of the instructor

**NAMS 4920 SPECIAL TOPICS IN NATIVE AMERICAN STUDIES (3 credits)**

The content of this course varies from semester to semester, giving instructor and students an opportunity to investigate a variety of topics in Native American Studies. May be repeated for credit as long as the topic differs.

**Prerequisite(s)/Corequisite(s):** NAMS 1100 and/or permission of instructor.

## Natural Sciences (NSCI)

**NSCI 1050 SCIENCE AND CRITICAL THINKING (3 credits)**

Introduction to the fundamental laws and principles of science and practice using the scientific method in everyday life to distinguish between scientific evidence and pseudoscientific thinking. Students will examine the science underlying popular pseudoscientific subjects such as ghosts, psychics, Bigfoot and other monsters, and space aliens. Offered every fall semester.

**Distribution:** Natural/Physical Science General Education course

**NSCI 2010 NATURAL SCIENCE I (5 credits)**

An interdisciplinary course designed for students wishing to explore topics in the natural sciences emphasizing an integrated, problem-solving model. Although general themes will vary from semester to semester, the course will provide both theoretical and laboratory experiences exploring fundamental concepts from biology, chemistry, physics and the earth sciences.

**Prerequisite(s)/Corequisite(s):** Recommended: MATH 1310 or MATH 1220 and ENGL 1160.

**NSCI 2020 NATURAL SCIENCE II (5 credits)**

An interdisciplinary course designed for students wishing to explore topics in the natural sciences emphasizing an integrated, problem-solving model. Although general themes will vary from semester to semester, the course will provide both theoretical and laboratory experiences exploring fundamental concepts from biology, chemistry, physics and the earth sciences.

**Prerequisite(s)/Corequisite(s):** Recommended: MATH 1310 or MATH 1220 and ENGL 1160.

**NSCI 3930 CHEMICAL COMMUNICATION (1 credit)**

Instruction in the basic skills in oral and written communication of scientific results to peer and lay communities. Partially fulfills the third writing requirement for the chemistry major.

**Prerequisite(s)/Corequisite(s):** Chemistry major, CHEM 2260, NSCI 2500 and ENGL 1160 or permission. Other majors may enroll with instructor permission.

**NSCI 3940 WRITING IN CHEMISTRY (2 credits)**

Techniques and practices for writing in chemistry. Fulfills 2 credit hours of the third writing course requirement for students with a major in chemistry. (Spring)

**Prerequisite(s)/Corequisite(s):** ENGL 1160, and CHEM 2400 or 2500 with a grade of C- or better.

**Distribution:** Writing in the Discipline Sequenced Course

**NSCI 4060 BASIC LABORATORY CONCEPTS (1 credit)**

This course introduces basic clinical laboratory practices and techniques, principles of laboratory safety and infection control, professional ethics, specimen collection, handling, and processing, laboratory math concepts, and phlebotomy.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program.

**NSCI 4080 CLINICAL IMMUNOLOGY & SEROLOGY (1 credit)**

The course introduces the study of the immune system and the laboratory tests used to identify its disorders with practical application of immunologic and serologic principles to aid in the diagnosis of infectious and autoimmune diseases. The theory and application of basic molecular diagnostic tools are also addressed. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program.

**NSCI 4100 CLINICAL CHEMISTRY I (4 credits)**

This is the first semester of a two semester series on clinical chemistry. This course introduces the theory, technical performance, and evaluation of clinical chemistry laboratory procedures. Basic physiology of organ systems and clinically significant analytes are emphasized. Correlation of clinical laboratory data with the diagnosis and treatment endocrine disorders is also introduced. The course will include instrumentation, methodologies and quality control. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program.

**NSCI 4110 CLINICAL CHEMISTRY II (3 credits)**

This is the second semester of a two semester series on clinical chemistry. This course expands on the theory, technical performance, and evaluation of chemistry laboratory procedures introduced in NSCI 4100 Clinical Chemistry I. Practical application and correlation of clinical laboratory data with disease states and treatment is emphasized, with a thorough examination of methodologies and problem-solving concepts. Advanced analytical skills, improved laboratory testing efficiency, workload management, and the resolution of unexpected laboratory results are covered in this course. Quality management which includes quality control, quality assurance, and instrument maintenance will also be included. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4100.

**NSCI 4120 CLINICAL HEMATOLOGY I (4 credits)**

This is the first semester of a two semester series on clinical hematology and hemostasis. The course involves the study and testing of red blood cells, white blood cells, and blood clotting factors. In addition, the function of blood and the blood-forming organs is taught in this course. The course includes an overview of basic microscopy. Practical application and correlation of clinical laboratory data with disease states is emphasized. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program.

**NSCI 4130 CLINICAL HEMATOLOGY II (3 credits)**

This is the second semester of a two semester series on clinical hematology and hemostasis; the course builds on the material introduced in NSCI 4120 Clinical Hematology I. Theoretical aspects of specialized hematology and coagulation techniques are reviewed, with a thorough examination of testing methodologies and problem-solving concepts. Hematology and coagulation disease states are thoroughly studied and correlated to the clinical laboratory data. Emphasis is placed on advanced analytical skills, improved laboratory testing efficiency, workload management, and the resolution of unexpected laboratory results. Quality management which includes quality control, quality assurance, laboratory techniques, and instrument maintenance will also be included. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4120.

**NSCI 4140 CLINICAL IMMUNOHEMATOLOGY I (3 credits)**

This is the first semester of a two semester series on immunohematology. This course introduces the study of blood group antigens and antibodies as applied to the transfusion of blood and blood components. The course involves the study of the principles, procedures, and clinical significance of transfusion medicine. Included will be a brief overview of genetics, immunology, and regulations governing blood banks. Recognition of unexpected laboratory results will be emphasized. Quality testing which includes quality control, basic transfusion medicine laboratory techniques and procedures, and safety will also be included.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program

**NSCI 4150 CLINICAL IMMUNOHEMATOLOGY II (3 credits)**

This is the second semester of a two semester series on immunohematology. The course continues the study of the principles, procedures, and clinical significance of transfusion medicine introduced in NSCI 4140 Clinical Immunohematology I. Advanced immunohematology theory and laboratory techniques are taught, with a thorough examination of methodologies and problem-solving concepts. These include, but are not limited to: compatibility testing, adverse transfusion events, hemolytic anemia, differentiating multiple blood group antibodies, and the resolution of unexpected laboratory results. Emphasis is placed on advanced analytical skills, improved laboratory testing efficiency, and workload management. Quality management which includes quality control, quality assurance, laboratory techniques, and instrument maintenance will also be included.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4140

**NSCI 4160 CLINICAL MICROBIOLOGY I (4 credits)**

This is the first semester of a two semester series on clinical microbiology. This course introduces the study and laboratory identification of bacteria of clinical significance using culture, biochemical, molecular, and microscopic methods, as well as, the performance and interpretation of bacterial antibiotic susceptibility testing. The course introduces the study of viruses and their detection and identification. Instrumentation and quality control are also included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program

**NSCI 4170 CLINICAL MICROBIOLOGY II (4 credits)**

This is the second semester of a two semester series in clinical microbiology; the course builds on the material introduced in NSCI 4160 Clinical Microbiology I and NSCI 4080 Clinical Immunology and Serology. This course advances the study and laboratory identification of bacteria of clinical significance, with a thorough examination of methodologies and problem-solving concepts, including the resolution of unexpected laboratory results. The course includes the study of viruses, parasites, and fungi, and their detection and identification. The course continues the study of serologic principles and methods to aid in the diagnosis of infectious diseases. Emphasis is placed on advanced analytical skills, improved laboratory testing efficiency, and workload management. Quality management which includes quality control, quality assurance, laboratory techniques, and instrument maintenance will also be included.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4160; NSCI 4080.

**NSCI 4180 CLINICAL MICROSCOPY I (1 credit)**

This is the first semester of a two semester series on clinical urine and body fluid analysis. Study of urine includes physiology of renal function, as well as, the significance of cellular and chemical constituents of urine. Microscopic evaluation of other significant body fluids and clinical diagnoses are introduced. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program

**NSCI 4190 CLINICAL MICROSCOPY II (1 credit)**

This is the second semester of a two semester series on clinical urine and body fluid analysis. This course expands on the theory, technical performance, and evaluation of laboratory procedures introduced in NSCI 4180 Clinical Microscopy I. The physiology of renal function and the significance of cellular and chemical constituents of urine are reviewed, with a thorough examination of methodologies and problem-solving concepts. Practical application and correlation of clinical laboratory data along with patient diagnosis is emphasized. Students develop multi-tasking and trouble-shooting skills to aid in workload management. Quality management which includes quality control, quality assurance, laboratory techniques, and instrument maintenance will also be included. A laboratory component is included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4180

**NSCI 4200 CLINICAL LABORATORY MANAGEMENT I (1 credit)**

This course introduces the study of the basic concepts and principles of the management process with particular emphasis on laboratory operations. Laboratory safety, quality control, professionalism, scope of practice, research applications, and educational methodologies are topics included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program

**NSCI 4210 CLINICAL LABORATORY MANAGEMENT II (1 credit)**

This course builds on the study of the basic concepts and principles of the management process introduced in NSCI 4200 Clinical Laboratory Management I. Laboratory compliance and regulatory issues, financial resource management, human resource management, method validation, professionalism, and quality management are topics included in this course.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4200.

**NSCI 4230 MEDICAL LABORATORY SCIENCE CLINICAL CORRELATION (2 credits)**

This is a comprehensive course that uses lecture and case studies as an in-depth review of the theory and laboratory findings in all areas of the clinical laboratory including: immunology & serology, chemistry, hematology, immunohematology, microbiology, and microscopy. Practical application and correlation of clinical laboratory data, disease states, and diagnoses are emphasized.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Nebraska Methodist Hospital Medical Laboratory Science Program; NSCI 4080; NSCI 4100; NSCI 4120; NSCI 4140; NSCI 4160; NSCI 4180

**NSCI 4960 RESEARCH REPORT (1 credit)**

A writing course which may be used to partially fulfill the third writing course requirement for chemistry majors.

**Prerequisite(s)/Corequisite(s):** ENGL 1160. Must be taken concurrently with CHEM 4960. NSCI 2500 and NSCI 3354 are recommended.

## Neuroscience (NEUR)

**NEUR 1520 INTRODUCTION TO NEUROSCIENCE I (3 credits)**

The nervous system is intricate, complex, and is the subject of one of the most exciting fields in the life sciences. This course is part 1 of a 2-semester sequence designed for neuroscience majors or students who are contemplating neuroscience as a major. This course will focus on understanding how the nervous system interacts at the cellular and molecular levels: anatomy and function of neurons, communication within and between neurons, and how neurons interact to perceive and process sensory information.

**Prerequisite(s)/Corequisite(s):** High school biology and chemistry. Not open to non-degree graduate students.

**NEUR 1540 INTRODUCTION TO NEUROSCIENCE II (3 credits)**

The nervous system is intricate, complex, and is the subject of one of the most exciting fields in the life sciences. This course is part 2 of a 2-semester sequence designed for neuroscience majors or students who are contemplating neuroscience as a major. This course will focus on understanding how the nervous system interacts at the organismal, behavioral and cognitive levels: how the nervous system develops, how the motor system, hormones, and physiology influences behavior, and how cognition and systems neuroscience leads to understanding of the mind.

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or permission of instructor. Not open to non-degree graduate students.

**NEUR 3500 BIOLOGICAL PRINCIPLES OF AGING (3 credits)**

The Biological Bases of Aging Course provides a survey of the primary topics in the biology of aging field for undergraduate students. This is a required course for the Gerontology major. By the end of the course, students will understand major theories, biological methods, and seminal research studies in the biology of aging field. Furthermore, students will learn how to critically analyze and interpret primary research about biological aging. This course provides preparation for students considering graduate school in gerontology or biology, geriatric nursing and social work, geriatric medicine, neuroscience, psychology, and exercise science. (Cross-listed with GERO 3500, BIOL 3500)

**Prerequisite(s)/Corequisite(s):** Sophomore/Junior/Senior Standing. Not open to non-degree graduate students.

**NEUR 4000 SYSTEMS NEUROSCIENCE (3 credits)**

This is an advanced course for the Neuroscience major designed to provide a solid understanding of the peripheral and central connections that make the systems of the body function. Data and theories of brain-behavior relationships from current research in neuroscience will be discussed. (Cross-listed with NEUR 8006).

**Prerequisite(s)/Corequisite(s):** NEUR 1520 and NEUR 1540, BIOL 1450, BIOL 1750; or permission. Not open to non-degree graduate students.

**NEUR 4050 ADVANCED BIOLOGY OF AGING (3 credits)**

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 4050, GERO 8056).

**NEUR 4200 ADVANCED NEUROSCIENCE LABORATORY (3 credits)**

This course is designed as a capstone laboratory course for Neuroscience majors. The course will provide students with hands-on experience in collecting data in diverse areas of neuroscience, analyzing these data, interpreting the data, and preparing written and verbal presentations of the data.

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, PSYC 3130, PSYC 3140, and BIOL 1450. Not open to non-degree graduate students.

**NEUR 4230 BEHAVIORAL NEUROSCIENCE (3 credits)**

A comprehensive study of the relationship of the nervous and other organ systems to behavior. Research on both human and other animal species is considered. (Cross-listed with PSYC 4230).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 OR PSYC 1010

**NEUR 4290 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, BIOL 8296, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540 and BIOL 1750; or by permission of instructor. Not open to non-degree graduate students.

**NEUR 4330 SOCIAL NEUROSCIENCE (3 credits)**

This course will evaluate the biological substrates of sociality and social behavior, and explore the impact of social environments on brain function and development. Students in the course will explore the molecular, cellular, neurotransmitter, and endocrine influences on social behavior, including affiliative care, aggression, social bonding, altruism, and social cognition. (Cross-listed with PSYC 8336)

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or NEUR 1540, and BIOL 1450, or permission of Instructor. Not open to non-degree graduate students.

**NEUR 4650 NEUROMECHANICS OF HUMAN MOVEMENT (3 credits)**

A study of basic principles of neural process as they relate to human voluntary movement. Applications of neural and mechanical principles through observations and assessment of movement, from learning to performance, as well as development. (Cross-listed with BMCH 4650).

**Prerequisite(s)/Corequisite(s):** NEUR 1540 or permission of instructor

**NEUR 4870 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, BIOL 8876, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

**NEUR 4890 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 8896, BIOL 4890, BIOL 8896, PSYC 8896).

**Prerequisite(s)/Corequisite(s):** NEUR 1520, NEUR 1540, and BIOL 2140. Or by permission of instructor. Not open to non-degree graduate students.

**NEUR 4910 SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 1 (3 credits)**

Fulfills Neuroscience BLOCK 1 or Neuroscience Elective requirement. A study of designated special topic in neuroscience. Students may repeat this class as long as the specific topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** NEUR 1520, junior-senior status (sophomore status by permission), or instructor permission. Not open to non-degree graduate students.

**NEUR 4920 SPECIAL TOPICS IN NEUROSCIENCE - BLOCK 2 (3 credits)**

This course fulfills Neuroscience BLOCK 2 or Neuroscience Elective requirements. A study of designated special topic in neuroscience. Students may repeat this class as long as the specific topic is not duplicated.

**Prerequisite(s)/Corequisite(s):** NEUR 1520 or NEUR 1540, junior-senior status (sophomore status by permission), or instructor permission. Not open to non-degree graduate students.

**NEUR 4960 EXPERIENTIAL STUDY IN NEUROSCIENCE (1-3 credits)**

Focused research projects, data analysis, and/or directed readings with faculty supervision. Oral and written reports based on empirical research are expected outcomes.

**Prerequisite(s)/Corequisite(s):** NEUR 1520; PSYC 3130. PSYC 3140 recommended. Instructor permission required.

## Philosophy (PHIL)

**PHIL 1010 INTRODUCTION TO PHILOSOPHY: MEANING OF LIFE (3 credits)**

We all find ourselves at one point or another wondering what everything adds up to. This sentiment manifests itself as different questions: 'why are we here?', 'what's my purpose?', 'how can I lead a fulfilling life?', or, perhaps most relevantly, 'what is the meaning of life?'. Now that you're in college, these questions are of the essence. Where will you go from here? Which skills should you develop? Which major should you choose? What should you pursue? Love? Family? Friendship? Education? Career? Fame? Fortune? Religious devotion? Service to others? Fulfillment? Happiness? What does it mean to be happy or fulfilled? In this course, we're going to set all else aside and dedicate real effort to coming to grips with these questions. Our focus will be on developing our ability to think about what we're asking and acquiring the tools necessary to assess the responses on offer.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 1020 CONTEMPORARY MORAL PROBLEMS (3 credits)**

Introduction to the application of basic moral concepts and theories to contemporary moral issues. Discussion topics will vary and may include: distribution of wealth and resources, environmental ethics and sustainability, animal rights, capital punishment, torture, euthanasia, abortion, cloning, genetic engineering, privacy rights, drug laws, marriage and sexuality, gun control, and affirmative action.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 1030 INTRODUCTION TO PHILOSOPHY: BRAINS, MINDS, AND MACHINES (3 credits)**

Introduction to Philosophy: Brains, Minds, and Machines examines central questions in philosophy about the nature of the mind, the self, human rationality, perception/experience, and technology through the lens of work in cognitive science, neuroscience, artificial intelligence, and psychology. Some major topics and questions include: What are minds? Is the human mind a digital computer? Could a machine - e.g., a robot or a computer - be truly intelligent, or have experiences like humans and animals do? How does the brain "represent" its environment? In engaging these questions, the course also introduces students to foundational issues in cognitive science and artificial intelligence including: nativism vs. empiricism, mental representation, classical artificial intelligence vs. neural networks, modularity, evolutionary psychology, embodied cognition, and extended cognition.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 1040 INTRODUCTION TO PHILOSOPHY: LAW, POLITICS, AND SOCIETY (3 credits)**

A first course in philosophy designed to introduce students to the foundational theories and concepts of legal philosophy, ethics, and social/political philosophy. Students engage theories and concepts by exploring how they are relevant to life in contemporary society. Discussion topics may include free speech, immigration, racism, authoritarianism and populism, human rights, and humanitarian intervention.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 1210 CRITICAL REASONING (3 credits)**

A study of the principles of correct reasoning: induction, deduction, formal and informal fallacies. Critical reasoning is excellent preparation for the LSAT and the reasoning portions of other examinations for graduate study.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 2010 SYMBOLIC LOGIC (3 credits)**

A first course in symbolic logic designed to introduce students to formal systems of propositional and predicate logic. Logic is excellent preparation for the LSAT and the reasoning portions of other examinations for graduate study.

**PHIL 2020 INTRODUCTION TO PHILOSOPHY OF MIND (3 credits)**

This course is an introductory overview of fundamental issues in the study of mind, thinking and consciousness. Provides a forum for students to explore these philosophical issues from the perspective of current research in psychology, neuroscience, linguistics and computer science.

**Prerequisite(s)/Corequisite(s):** 3 hours in philosophy or permission of instructor.

**PHIL 2030 INTRODUCTION TO ETHICS (3 credits)**

A critical study of basic moral concepts and problems contained in ethical theories of important western philosophers: relativism, egoism, happiness, obligation, justice, freedom, conscience, love, religious precepts, moral rules, moral attitudes and moral language.

**Distribution:** Humanities and Fine Arts General Education course

**PHIL 2040 INTRODUCTION TO EAST ASIAN PHILOSOPHY (3 credits)**

This course makes a critical and philosophical inquiry into the fundamental questions raised in East Asian Philosophy, typically including a critical evaluation of the traditional theories in Confucianism, Buddhism, and Taoism of China, Korea, and Japan, as well as contemporary responses to those theories, e.g., Kyoto School or Maoism.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**PHIL 2300 HUMAN VALUES IN MEDICINE (3 credits)**

Human Values in Medicine examines questions of value and meaning that arise in medical contexts. This course provides an opportunity for philosophy majors, medical humanities majors / minors, and students preparing for health professions to confront ethical and social issues in medicine and biomedical research. (Cross-listed with MEDH 2300).

**PHIL 3000 PHILOSOPHY WRITING SEMINAR (3 credits)**

This course focuses on writing instruction, with a particular emphasis on logical argument, editing and revision, and research methods in the discipline of philosophy. It is designed for students who are beginning to take upper-level coursework and is suitable for Philosophy majors, minors, and non-majors, particularly those who seek additional preparation in argument-focused writing.

**Prerequisite(s)/Corequisite(s):** Composition II or the equivalent, and three hours of Philosophy, are required.

**Distribution:** Writing in the Discipline Single Course

**PHIL 3010 PHILOSOPHY OF JUSTICE (3 credits)**

An examination of the concept of justice from Greek moral philosophy to modern moral philosophy with focus on the problems of modern moral philosophy and the application of those ideas in government and society.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3020 THE JUSTIFICATION OF PUNISHMENT (3 credits)**

The course examines the major philosophical arguments concerning the conditions under which punishment is justifiable, and provides a background of ethical theory in order to make these arguments comprehensible.

**Prerequisite(s)/Corequisite(s):** Junior, or 3 credits in philosophy, or 1 course in criminology & criminal justice.

**PHIL 3040 PHILOSOPHY OF LAW (3 credits)**

An overview of central issues in the philosophy of law, including the nature, source, and legitimacy of law, the relationship between law and morality, competing theories of legal reasoning and interpretation, the sources and structure of rights and responsibilities, and theories of punishment.

**Prerequisite(s)/Corequisite(s):** Junior standing or 6 hours in Philosophy.

**PHIL 3050 ETHICAL THEORY (3 credits)**

This course surveys issues and controversies in meta-ethics, that is, in the theoretical understanding of ethics. A central organizing question is whether or not there are objective ethical facts that we use ethical language to report and discuss. If there are ethical facts, what kind of facts are they and how could we know them? There seems to be no scientific experiment or mathematical proof which could demonstrate an ethical claim. If there are no ethical facts, is ethics simply a matter of emotional self-expression, arbitrary cultural norms, or the like? If so, can there be significant ethical truth and substantive ethical knowledge? All in all, students will survey a variety of proposals on the fundamental nature of ethics and develop an understanding of their relative strengths and weaknesses.

**Prerequisite(s)/Corequisite(s):** PHIL 2030 or 6 hours in philosophy or permission of instructor.

**PHIL 3060 VALUES AND VIRTUES (3 credits)**

This course explores advanced topics in ethics with particular emphasis on value theory and virtue ethics. Topics to be considered include the meaning and status of value claims, sources of value, intrinsic goods, agent-relative goods, practical reason, moral development, happiness, moral ambiguity, moral luck, the identification of virtues, and relationships of care, trust, and responsibility. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8215)

**PHIL 3110 HISTORY OF ANCIENT PHILOSOPHY (3 credits)**

A survey of philosophy from its beginning to the Middle Ages: pre-Socratics, Plato, Aristotle, Cynics, Epicureans, Stoics, Skeptics, Neo-Platonists.

**PHIL 3130 HISTORY OF MODERN PHILOSOPHY (3 credits)**

The Modern Period (roughly 1600 to 1800) was a time of great scientific advancement, political upheaval, and philosophical progress. During this period, philosophers wrestled with fundamental metaphysical questions about the nature of matter, causation, mind, and God, key epistemological questions regarding the nature and grounds of knowledge, and central ethical and political questions about our rights and duties. As such, the philosophical work of this period provides the foundations for contemporary work in epistemology, metaphysics, philosophy of mind, philosophy of science, ethics, and political philosophy. In this course, students will explore the interpretation and implications of work by some of the most influential thinkers of the period such as Descartes, Spinoza, Locke, Leibniz, Berkeley, Hume, Reid, and Kant.

**Prerequisite(s)/Corequisite(s):** 3 hours in Philosophy or permission of the instructor.

**PHIL 3140 NINETEENTH CENTURY PHILOSOPHY (3 credits)**

An examination of major views in 19th century philosophy including the development of German idealism, British empiricism and Marxism. Special attention will be paid to the origins of existentialism, pragmatism and modern empiricism as reactions to 19th century positions.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**PHIL 3150 PHILOSOPHY OF HISTORY (3 credits)**

This course is designed to introduce students to the thinkers and issues in the philosophy of history (and historiography). After being coined by Voltaire, the term 'philosophy of history' has taken on different meanings. Prior to the twentieth century, philosophy of history meant speculation over the course and aims of history. It sought to investigate the subject matter of history, that is, the historical process itself. Consequently, philosophers of history aimed at comprehensive views of this process. During the twentieth century, however, philosophy of history became "analytical or critical." The aim of this approach is to question and criticize the ways that historians work, so issues of knowledge and explanation have become very important for the present-day philosopher of history. Although the course takes a thematic approach to the study of the philosophy of history, prominent philosophers who have investigated history will be introduced throughout the course.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3170 ETHICS IN BUSINESS (3 credits)**

An application of ethical concepts and principles to moral issues arising in business: corporate responsibility, discrimination, advertising, competition, whistle-blowing, trade secrets, multinationals, environmental protection, workers' rights, government regulation, investment, bribes, product liability and consumerism.

**PHIL 3180 ENVIRONMENTAL ETHICS (3 credits)**

This course introduces students to the thinkers and issues that make environmental ethics what it is today. It includes the analysis and evaluation, from ethical viewpoints, of such topics as: intrinsic value of animals, plants and ecosystems; animal rights; climate change; conservation and preservation; environmental law and politics; obligations to future generations; sustainability and new technologies; war, immigration, and the environment; human rights and the environment; nature and the built environment; and environmental activism. (Cross-listed with ENVN 3180).

**Prerequisite(s)/Corequisite(s):** Junior or 3 hours of philosophy.

**PHIL 3200 PHILOSOPHY OF RELIGION (3 credits)**

A study of the major arguments for and against the existence of God, religious knowledge, miracles, morality without religion and immortality.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3210 SOCIAL PHILOSOPHY (3 credits)**

An examination of the problems and concepts of social and political philosophy.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or junior or permission of instructor.

**PHIL 3220 PHILOSOPHY OF ART (3 credits)**

An inquiry into historical and contemporary philosophical perspectives on the making, interpreting and criticizing of works of art, including relations of the arts to other dimensions of cultures. (Cross-listed with PHIL 8225)

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3250 LIMITS OF CONSCIOUSNESS (3 credits)**

A course focusing on the scientific study of the psychology, neurology, and philosophy of the mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 4250, PSYC 8256)

**Prerequisite(s)/Corequisite(s):** PSYC 1010; or 6 hours in Philosophy.

**PHIL 3260 HISTORY OF AMERICAN PHILOSOPHY: 20TH CENTURY (3 credits)**

A study of the thinkers and movements in 20th century American thought: pragmatism, critical realism, new realism; along with selected readings from contemporary American thinkers.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3300 EARLY ANALYTIC PHILOSOPHY (3 credits)**

This course focuses on the foundations of the Analytic tradition (from 1879 to 1930). During this period, central figures such as Gottlob Frege, Bertrand Russell, G.E. Moore, Ludwig Wittgenstein, and Frank Ramsey aimed to bring clarity and precision to a wide range of philosophical problems by focusing on fundamental issues in the philosophy of logic and the philosophy of language. Understanding the developments of this period is essential to understanding the development of philosophy in the 20th and 21st centuries.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or permission of instructor.

**PHIL 3370 CONCEPTS OF NATURE (3 credits)**

An examination of key philosophical conceptions of nature from the Greeks through the 21st century. Topics covered include concepts of time, the cosmos, causation, determinism, natural law, the relationship between God and nature, and the place of humans and animals in nature.

**Prerequisite(s)/Corequisite(s):** Previous experience in philosophy, especially PHIL 3110, would be helpful.

**PHIL 3400 PHILOSOPHY OF NATURAL SCIENCE (3 credits)**

An examination of the philosophical problems associated with the methods of the natural sciences, the presuppositions of scientific inquiry, and the nature of scientific laws and theories.

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy or permission of instructor.

**PHIL 3410 PHILOSOPHY OF SOCIAL SCIENCE (3 credits)**

This course introduces students to central philosophical issues that are raised by and within the practice of social science. Some key questions are: In which respects is social science similar to natural science and in which respects is it dissimilar? Does social science aim at forming generalizable explanations, or does it seek to provide humanistic understanding? Can social science be conducted in a purely objective, disinterested way, or does the practice of social science always rely on at least implicit value assumptions? Must responsible researchers interrogate their research for such assumptions, and, if so, what does it take for research to "pass?"

**Prerequisite(s)/Corequisite(s):** 3 credits in philosophy and junior, or permission of instructor.

**PHIL 3430 PHILOSOPHY OF BIOLOGY (3 credits)**

An examination and evaluation of contrasting views on philosophical issues in the biological sciences, including explanation, observation, reduction, units of description analysis and the role of values. Attention will be paid to ways in which the study of biology has produced a new understanding of the nature of scientific inquiry.

**Prerequisite(s)/Corequisite(s):** 6 hours in philosophy or biology or permission of instructor.

**PHIL 3450 PHILOSOPHY OF MEDICINE (3 credits)**

This course considers a range of philosophical questions raised by and within the practice of medicine. The course begins with a conceptual investigation of the meaning of "health" from "illness." Is the classification of individuals as healthy or ill an objective, scientific matter? Or is it instead a matter of social and ethical values? What follows from answering this question one way, versus another? This introduction forms the backdrop against which we move on to investigate a range of further topics. Examples of some of the topics that may be covered include: medical and social models of disability; the role morality of doctors and other medical providers; abortion, euthanasia, and conscientious objection in the healthcare professions; health measurement and quality of life; "death panels" and health resource rationing; conditions on appropriately voluntary and informed consent to medical procedures; and the ethics of biomedical research. (Cross-listed with MEDH 3450).

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR permission of the instructor

**PHIL 3480 PHILOSOPHY OF RACE (3 credits)**

Where does the concept of race come from? How has the concept of race influenced scientific theories? Do empirical findings of genetic differences between racial groups show that races are biologically real? Why are racial categories used in medicine? Is some particular concept of race necessary for political and social opposition to racism? The course will involve reading original articles and book extracts from a range of disciplines, including history, philosophy, and several sciences. These articles will be explained and discussed in class. The course aims to provide you with the tools and concepts to think about race and racism in a nuanced and reflective way.

**Prerequisite(s)/Corequisite(s):** 6 credit hours Philosophy OR Sophomore Status OR Permission of the Instructor

**PHIL 3490 GENDER AND PHILOSOPHY (3 credits)**

This course examines philosophical arguments concerning gender and sexual difference, gender issues and women in the history of philosophy, and major views in feminist theory. (Cross-listed with WGST 3490).

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in PHIL or 6 hours in WGST.

**PHIL 3500 PROBLEMS IN PHILOSOPHY (3 credits)**

Seminar on specialized topic in philosophy. (See "Topic" in class search for specification of particular topic.)

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in philosophy.

**PHIL 3510 PHENOMENOLOGY AND EXISTENTIALISM (3 credits)**

A critical examination of phenomenology and existentialism as historical and philosophical movements. Course focus includes such thinkers as Edmund Husserl, Martin Heidegger, Jean-Paul Sartre, and Simone De Beauvoir.

**Prerequisite(s)/Corequisite(s):** Junior or 3 credits in philosophy.

**PHIL 3520 HERMENEUTICS IN PHILOSOPHY (3 credits)**

Introduction to hermeneutics or the notion of interpretation in certain thinkers and philosophy movements since the late 19thC. Focus includes Nietzsche, pragmatism, Peirce, James, Dewey, Gadamer, Frankfurt School, and Derrida. Course to exclude topics or things covered in PHIL3510.

**Prerequisite(s)/Corequisite(s):** 3 hours in philosophy, junior or permission of instructor.

**PHIL 3570 UNDERSTANDING SELF-DECEPTION (3 credits)**

This course is designed to introduce students to a variety of problems associated with the special issue of self-deception. Conceptual and linguistic issues concerning the paradox of self-deception, as well as epistemological issues concerning self-deception are considered.

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in philosophy or permission.

**PHIL 3600 EPISTEMOLOGY (3 credits)**

The course covers major theories and debates in Epistemology (i.e., the study of evidence, reasons, justification, warrant, knowledge, explanation, and understanding). The course covers both foundational structural debates (e.g., the structure of justification, the analysis for knowledge, the requirements of explanation, and the nature of understanding) and applied issues (e.g., expertise and testimony, peer disagreement, burden of proof, group deliberation and voting, epistemic bubbles and conspiracy theories, and the value of feelings of confidence, surety, and certainty).

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3650 PHILOSOPHY OF MIND (3 credits)**

A discussion of various accounts of the nature of minds which focuses upon philosophical problems such as whether the mind is identical with the brain, the extent of similarities between human minds and computers, the nature of personal identity and the relationship of mental activity to behavior. (Cross-listed with PHIL 8655).

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3700 METAPHYSICS (3 credits)**

This course introduces students to the critical study of selected philosophical theories of reality. Some representative views from the history of philosophy will be covered as well as contemporary debates. The course includes examination of the relation of metaphysical positions to other areas of knowledge and belief and the critical evaluation of metaphysics as an intellectual enterprise.

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

**PHIL 3960 READINGS IN PHILOSOPHY (1-3 credits)**

Readings in specialized areas or individual problems in philosophy.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHIL 4000 ADVANCED PHILOSOPHY WRITING SEMINAR (3 credits)**

This is the capstone course of the philosophy major, designed to teach students to write at an advanced level. Students will present their own writing and critique the writing of others, under close guidance of the instructor. By the end of the seminar, each student will have produced a "journal-length" (approximately 20 page) paper on a philosophical topic, and gained extensive experience in revising papers and editing the work of others.

**Prerequisite(s)/Corequisite(s):** Junior standing and 15 hours in philosophy including 9 hours consisting of 3000-level courses, or instructor permission. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**PHIL 4220 NEUROETHICS (3 credits)**

Neuroscience is a burgeoning field that yields new insights into the workings of the human mind and brain. Work in basic neuroscience also yields technological innovations - brain scans, smart pills, brain modification techniques, etc. - that have profound ethical and social implications. In this upper level philosophy course, we will primarily examine the social, legal, medical, and ethical implications of current and emerging neuroscience technologies and research practices. The emerging field of "neuroethics" examines the ethical ramifications of neuroscience using the concepts of normative and applied ethics. The course will discuss the ethics of neuroscientific technologies - e.g., the use of neuroimaging in the clinical and legal contexts - using the major ethical theories (utilitarianism, virtue ethics, deontological ethics) and principles central to biomedical ethics (autonomy, beneficence, justice, non-maleficence, competence, and informed consent).

**Prerequisite(s)/Corequisite(s):** Prior Philosophy coursework, particularly PHIL 2300, or prior coursework in Neuroscience, is recommended but not required. Sophomore standing or above.

**PHIL 4240 PHILOSOPHY OF EMOTION (3 credits)**

In this class, we will aim to understand emotions, moods, attitudes, and other affective phenomena from a broad, empirically informed perspective while keeping practical issues in mind. We will ask questions such as: What are emotions, moods, and the rest? How are these various affective phenomena related to one another? How do they provide information about our relationship to the world? Under what conditions are they appropriate or inappropriate? What role do they play in our reasoning and decision-making? What role do they play in our ethical lives? What role do they play in the arts (e.g., music, literature, film)?

**PHIL 4260 MORAL PSYCHOLOGY (3 credits)**

The growing interdisciplinary field of moral psychology studies our moral beliefs and decision-making processes using the tools of anthropology, psychology, philosophy, and neuroscience. Topics in the science of morality will include the moral-conventional distinction (the distinction between moral norms and non-moral norms such as etiquette), the role of reasons vs. emotions in moral judgment, the brain basis of moral decision-making, cultural differences in moral norms, psychopathy, and the development of morality in children. Psychology studies the nature of moral judgment using behavioral tasks. Neuroscience employs techniques such as functional magnetic resonance imaging (fMRI), transcranial magnetic stimulation (TMS), and other tools for monitoring and manipulating brain processes to study "where" in the brain moral decision making occurs and the nature of these decisions. Throughout the course, we will examine how these empirical findings intersect with the ethical choices that we ought to make.

**Prerequisite(s)/Corequisite(s):** No prerequisite. Prior Philosophy coursework is recommended but not required.

**PHIL 4610 PHILOSOPHY OF LANGUAGE (3 credits)**

This course provides an introduction to the central problems and foundational theories in the philosophy of language. We will investigate central semantic issues concerning the nature of reference, meaning, and truth; examine key pragmatic issues concerning the role of context and the ways in which we use language; and explore expressive and figurative uses of language such as metaphor. Such issues lie at heart of many perennial philosophical puzzles, encompass debates in linguistics and psycholinguistics, and pose challenges to work in Computer Science and, especially, Artificial Intelligence.

**Prerequisite(s)/Corequisite(s):** 6 hours of Philosophy OR Sophomore status OR Permission of Instructor

## Physical Education Activities (PEA)

**PEA 111A RACQUETBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the sport of racquetball.

**PEA 111B TENNIS (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of tennis. Included will be the fundamental skills and strategies of playing the game.

**PEA 111C GOLF (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of golf.

**PEA 111D JUDO (1 credit)**

A basic judo course designed primarily for men and women students with limited experience in judo. The course includes techniques of falling, self-balance, body management, disturbing opponent's balance, throwing techniques, techniques of pins, recognition of choking and armlocks, and judo principles for self-defense and individual sport techniques.

**PEA 111E SELF-DEFENSE (1 credit)**

This is a self defense course designed primarily for men and women students with little experience in self defense.

**PEA 111F TAEKWONDO (1 credit)**

Originally designed as a means of self-defense. Taekwondo is also excellent for physical conditioning, increasing agility, and building self-confidence. The purpose of the course is to introduce the student to the basic techniques and philosophies of Taekwondo.

**PEA 111G BASIC HAPKIDO (1 credit)**

In addition to the kicks and strikes normally associated with Oriental martial arts, Hapkido adds throws, take-downs, and restraint and submission holds. Hapkido is also excellent for physical conditioning, increasing agility, and building self-confidence. The purpose of the course is to introduce the student to the basic techniques and philosophies of Hapkido.

**PEA 111H WEIGHT TRAINING/BODY CONDITIONING (1 credit)**

The course is designed to develop the skills and knowledge necessary to begin and participate in a program of weight lifting as a lifelong activity.

**PEA 111I ADVANCED WEIGHT TRAINING (1 credit)**

The course is designed to enhance weightlifting and conditioning skills to an advanced level from skills already possessed by the student.

**PEA 111N KICKBOXING (1 credit)**

The course is a combination of boxing and kicking techniques and total body conditioning. It will focus on low, moderate, and/or high impact movements. The course will concentrate on safe and effective exercises that will develop the aerobic endurance and strength of the student. Students will utilize hand-wraps, gloves, focus mitts, and kicking shields during the course.

**PEA 111O MULTICULTURAL DANCE (1 credit)**

This course is designed to provide students with an introduction to dances from Europe, Asia, Africa, and North and South America.

**PEA 111P MODERN DANCE (1 credit)**

This course for men and women students is designed to develop technique in modern dance and acquire a brief knowledge, understanding, appreciation of modern dance, its history, and composition.

**PEA 111Q BALLET (1 credit)**

The course introduces the student to basic ballet technique and fosters an appreciation for ballet as an art form.

**PEA 111R JAZZ I (1 credit)**

The course is designed to introduce the student to various fundamental techniques in jazz dance and to incorporate these techniques into dance sequences.

**PEA 111S RELAXATION TECHNIQUES (1 credit)**

This course involves discussion about stress and its health related aspects. The focus is on demonstration and practice of selected stress management skills.

**PEA 111T YOGA I (1 credit)**

This course actively covers the scope of hatha yoga through both demonstration and participation as well as historical review of yoga.

**PEA 111U YOGA II (1 credit)**

This course actively continues to cover the scope of hatha yoga through both demonstration and participation as well as historical review of yoga.

**PEA 111V BEGINNING/INTERMEDIATE SWIMMING (1 credit)**

This course in Beginning and Intermediate Swimming is designed to expose the student to the basic skills involved in safe and efficient aquatics practices. Skills and information dealing with general water safety will be covered in order to create an awareness of the cause and prevention of water accidents, to develop a desire to be safe and to encourage healthy and safe water recreation.

**PEA 111W SCUBA (1 credit)**

This course in Beginning Scuba is designed to expose the student to the skills and equipment necessary to explore the world below the surface of the water through the use of a mask, fins, snorkel and compressed air tanks.

**Prerequisite(s)/Corequisite(s):** Swimming 50 yds. using two basic strokes; basic water adjustment; underwater swim at least 15 feet; treading water for two minutes; demonstrate two surface dives

**PEA 111X BASKETBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of basketball.

**PEA 111Z BACKPACKING & CAMPING (1 credit)**

This course is designed to introduce the student to backpacking and orienteering in order to provide the students with an appreciation for the outdoor environment.

**PEA 112A SWIM CONDITIONING (1 credit)**

This course in Swim Conditioning is designed to expose the participants to the benefits and variety of swimming as a lifetime fitness exercise.

**Prerequisite(s)/Corequisite(s):** Participants should have the ability to continuously swim 25 yards.

**PEA 112C POWER YOGA (1 credit)**

This course provides an exercise program based on traditional yoga poses (asanas) in a continuous series of exercises. The course will concentrate on safe, effective, exercise that will develop the cardiovascular fitness, muscular strength, endurance and flexibility of the student.

**PEA 112D PILATES MATWORK (1 credit)**

This course is based on a method of exercise develop by Joseph H. Pilates. The course will concentrate on safe, effective exercise that will develop the cardiorespiratory fitness, muscular strength, endurance and flexibility of the student.

**PEA 112E JAZZ II (1 credit)**

The course is designed to build upon the techniques learned in Jazz Dance I.

**Prerequisite(s)/Corequisite(s):** PEA 111R or permission of instructor

**PEA 112F ROCK CLIMBING (1 credit)**

This class focuses on the basic knowledge and skills necessary for the sport of rock climbing. Topics covered will include protecting the climber from falling, movement on the rock, rappelling, and an introduction to anchor setting and ethics. Each topic will emphasize risk management and current accepted technique in the field.

**PEA 112G BALLET II (1 credit)**

The course builds on the work introduced in Ballet I. While still basic, there is increased complexity as the student begins to demonstrate greater ability.

**Prerequisite(s)/Corequisite(s):** PEA 111Q or permission of instructor

**PEA 112H BALLROOM DANCE I (1 credit)**

This course is designed to introduce the student to various fundamental techniques in Ballroom social dance and to incorporate these into basic Ballroom, Latin, and Swing dances.

**PEA 112I TAI CHI FOR MOVEMENT IMPROVEMENT (1 credit)**

This course is designed to teach students various forms of Tai Chi. There will be emphasis on balance, coordination, flexibility, relaxation, and strength. It is designed for all levels of ability.

**PEA 112J MODERN DANCE 2 (1 credit)**

The course is designed to further the student's study of modern dance techniques.

**Prerequisite(s)/Corequisite(s):** PEA 111P or permission of instructor. Not open to non-degree graduate students.

**PEA 112K SOCCER (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of soccer.

**PEA 112L WALKING/JOGGING (1 credit)**

This course is designed to help the students improve personal fitness through walking and jogging.

**PEA 112M VOLLEYBALL (1 credit)**

This course is designed to develop the fundamental skills and knowledge of the game of volleyball.

**PEA 112N ZUMBA (1 credit)**

Zumba is a fitness program inspired by Latin dance. Zumba combines Latin rhythms (salsa, bachata, merengue, and chachacha.) with cardiovascular exercise to create an aerobic routine that is fun and easy to follow.

**PEA 112O BALLROOM DANCE II (1 credit)**

The course is designed to further the student's study of Ballroom Dance techniques.

**Prerequisite(s)/Corequisite(s):** PEA 112H or permission of instructor

**PEA 112P INDOOR CYCLING (1 credit)**

This activity course is an indoor stationary cycling program. It is a high intensity, cardiovascular fitness program designed to promote lifetime fitness.

**PEA 112Q HIP HOP (1 credit)**

This course is designed to give students a beginning understanding and appreciation of hip hop dance.

**PEA 112R NET GAMES (1 credit)**

This course is designed to teach students the fundamental skills and rules of Badminton, Tennis, Pickleball, and Table Tennis.

**PEA 112S CROSS-TRAINING (1 credit)**

This course is designed to develop the technique, fitness level and knowledge base to effectively participate in cross-training activities. Individuals will be exposed to a variety of methods such as, but not limited to, plyometrics, agility training, kettlebells, and core training.

**PEA 112T ADVANCED MARTIAL ARTS (1 credit)**

The purpose of this course is to expand upon the basic techniques and philosophies presented in the UNO Martial Arts Introductory classes. The class will review the basic concepts and techniques taught in the intro classes which may be new to the student depending on the introductory class experience of the student.

**Prerequisite(s)/Corequisite(s):** PEA 111G, PEA 111F, or PEA 111D; or instructor consent.

**PEA 112U QI GONG (1 credit)**

This course actively covers the scope of Qi Gong through demonstration and participation as well as through a systematic elucidation of the history and theoretical underpinnings of Qi Gong.

**PEA 112V MINDFULNESS MEDITATION (1 credit)**

This course actively covers the scope of Meditation practices, including Mindfulness, through demonstration, lecture, discussion, and participation. Various methods will be taught, as well as the history, philosophy and practices of meditation. Contemporary research will also be discussed.

**PEA 112W TAP I (1 credit)**

The course is designed to introduce the student to various fundamental techniques in tap dance and to incorporate these techniques into dance sequences.

**PEA 112X BARRE FITNESS (1 credit)**

This is a fitness course that utilizes safe barre exercises to develop muscular endurance, flexibility, and neuromotor training. The course will concentrate on integrating the use of the ballet barre, light weights, and various props.

**PEA 113A BEGINNING ICE SKATING (1 credit)**

This course is designed for beginning ice skaters. Instructional emphasis will be placed on safely learning the life-long activity of ice skating. Students will develop an understanding of the basic principles and terminology of the sport of ice skating, improve on any current ice skating skills, and develop new skills such as forward and backward skating, crossovers, turns, and stops.

**PEA 1130 ADAPTED PHYSICAL EDUCATION (1 credit)**

This course is designed to provide an opportunity for independent physical education activity for a disabled person.

**Prerequisite(s)/Corequisite(s):** A disability which does not allow participation in regularly scheduled physical education activity courses.

## Physics (PHYS)

**PHYS 1030 PHYSICS OF EVERYDAY LIFE (3 credits)**

A conceptual course in the principles of physics and their relationship to man and his environment. Topics included relate the basic laws of physics and recent developments in science to their effects on man. This course is intended for students not majoring in the sciences and may be used in partial fulfillment of the natural science requirement.

**Prerequisite(s)/Corequisite(s):** High School algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1034 PHYSICS OF EVERYDAY LIFE LABORATORY (1 credit)**

A physics laboratory consisting of a series of concise experiments which relate man directly to his physical environment.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent; PHYS 1030, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1050 INTRODUCTION TO PHYSICS (4 credits)**

A terminal one-semester course covering major topics in mechanics, heat, sound, electricity, magnetism, light and modern physics. Designed particularly for non-science liberal arts majors or others for whom such a one-semester coverage might be deemed adequate. (Does not count towards physics requirement for chemistry, physics and engineering majors.)

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1054 INTRODUCTION TO PHYSICS LABORATORY (1 credit)**

A series of concise experiments on varied topics in physics, such as scientific sampling, optics, elasticity, motion, sound, light and electricity are covered in this one-semester course. Emphasis is placed on data collection and graphing, and error reduction.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent; PHYS 1050, prior or concurrent, or permission of the instructor

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1110 GENERAL PHYSICS I WITH ALGEBRA (4 credits)**

First part of a two-semester continuing course designed for students with no prior background in physics. Mechanics, heat and sound are covered in this semester.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent, or MPE score above 2 or permission of instructor

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1120 GENERAL PHYSICS (4 credits)**

Second part of a two-semester continuing course designed for students with no prior background in physics. Electricity and magnetism, light, and a little modern physics are covered.

**Prerequisite(s)/Corequisite(s):** PHYS 1110 or permission.

**PHYS 1154 GENERAL PHYSICS LABORATORY I (1 credit)**

One-semester laboratory course for students enrolled in PHYS 1110 or PHYS 2110. Covers experiments in mechanics, wave motion and heat.

**Prerequisite(s)/Corequisite(s):** PHYS 1110 or PHYS 2110, prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1164 GENERAL PHYSICS LABORATORY II (1 credit)**

One-semester laboratory course for students enrolled in PHYS 1120 or PHYS 2120. Second semester covers experiments in electricity and magnetism, optics, and modern physics.

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120, prior or concurrent.

**PHYS 1350 PRINCIPLES OF ASTRONOMY (3 credits)**

An introductory course that satisfies divisional requirements in natural science. Topics discussed include the night sky, gravity, telescopes, atoms and radiation, the solar system, the sun and stars; and cosmology.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 1354 INTRODUCTORY ASTRONOMY LAB (1 credit)**

Laboratory sessions acquaint students with basic phenomena, methods and data acquisition in astronomy. By use of the experiments, students will be able to explore and add to what has been discussed in lecture. Several night observing sessions will also be available for students to use telescopes.

**Prerequisite(s)/Corequisite(s):** PHYS 1350 prior or concurrent.

**Distribution:** Natural/Physical Sci General Education lab course

**PHYS 1750 FUNDAMENTAL PHYSICS OF SOUND (4 credits)**

A course designed for music and communication majors. It covers transmission of sound, wave motion, pitch, quality, sound synthesis, acoustics, resonance, interference, musical scales, string and wind instruments, recording and reproduction of sound. Three lectures and one discussion per week.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**PHYS 1754 FUNDAMENTAL PHYSICS OF SOUND LABORATORY (1 credit)**

A laboratory that accompanies PHYS 1750. The experiments are coordinated with the music-related portions of lecture course. The laboratory is designed for music majors.

**Prerequisite(s)/Corequisite(s):** PHYS 1750 prior or concurrent and music major or permission of instructor.

**PHYS 1950 PHYSICS GATEWAY COURSE (1 credit)**

Designed for first year physics majors, a one-semester introduction to concepts and tools to be encountered and used in earning a physics degree.

**Prerequisite(s)/Corequisite(s):** High school algebra or equivalent.

**PHYS 2030 ENERGY AND FUELS (3 credits)**

This one semester course focuses on energy from a macroscopic perspective. Viewpoints based on the law of physics are distinguished from unsupported opinion. Topics include: electricity production and consumption; mineral and fossil fuel resources; nuclear, solar, fossil fuel and biomass energies; pollution, conservation and recycling; extrapolation and interconnections.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220

**PHYS 2040 RADIATION FUNDAMENTALS (3 credits)**

This one-semester course examines the ways radiation affects our daily lives. Topics include: structure of matter and types of radiation, half-life and activity, biological effects of radiation, radiation standards and protection, uses of isotopes and radiation, nuclear wastes life-cycle, nature of risk versus benefit, dose calculations and shielding fundamentals.

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, minimum of PHYS 1050.

**PHYS 2110 GENERAL PHYSICS I - CALCULUS LEVEL (4 credits)**

First part of a two-semester continuing course for students majoring in some area of science, mathematics or engineering. Mechanics, molecular properties of matter and heat are covered in the first semester.

**Prerequisite(s)/Corequisite(s):** MATH 1950 (MATH 1930 for Geology majors) or permission of the instructor. High school physics or PHYS 1050 is recommended.

**Distribution:** Natural/Physical Sci General Education lecture

**PHYS 2120 GENERAL PHYSICS-CALCULUS LEVEL (4 credits)**

Second part of a two-semester continuing course for students majoring in some area of science, mathematics or engineering. Wave motion, electricity, magnetism and light are considered during the second semester.

**Prerequisite(s)/Corequisite(s):** PHYS 2110 and MATH 1960 (MATH 1930 for Geology majors) or permission of the instructor.

**PHYS 2130 MODERN PHYSICS (4 credits)**

The course is composed of introductions to relativity theory and quantum theory with applications to atomic and nuclear structure. Topics include: Planck radiation law; Compton Effect; photoelectric effect; the Rutherford experiments and Bohr model of the atom; the Schrodinger electronic structure of atoms; nuclear reactions, nuclear models, radioactive decay, fission, fusion and elementary particles.

**Prerequisite(s)/Corequisite(s):** PHYS 2110, PHYS 2120, MATH 1950, & MATH 1960; or permission.

**PHYS 2350 SPECIAL TOPICS IN ASTRONOMY: OBSERVATIONAL ASTRONOMY (2-3 credits)**

This one semester course emphasizes personal study of the sky, including observing, measuring and recording celestial positions. Students will be shown how to observe and measure the Sun, the Moon, visible planets, and stars, and how to document astronomical observations. Students will be required to study outdoors on their own and will also use the department's observing facilities.

**Prerequisite(s)/Corequisite(s):** PHYS 1350 or instructor permission.

**PHYS 3050 THE PHILOSOPHY OF SPACE EXPLORATION (3 credits)**

This course deals mainly with the justification of space exploration in the face of conflicting needs. Topics to be studied include objections to the space program and responses to them, spin-off benefits, space industrialization, planetary and interstellar exploration, space colonies, search for life elsewhere, and other related theoretical issues. (Cross-listed with PHYS 8055)

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**PHYS 3150 MODERN DEVELOPMENTS IN PHYSICS (3 credits)**

A resume of the most important discoveries, changes and new concepts gleaned from the last decade of research in physics. Superconductivity, lasers, masers, superfluidity, ultra large magnetic fields, space plasmas, nuclear fusion power, etc. Designed for updating physical science concepts for science majors and for science teachers. (Cross-listed with PHYS 8155)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120

**PHYS 3160 CURRENT TOPICS IN SCIENCE (1-3 credits)**

The subject matter of this course will generally not be presented in a standard physics course and may be of an interdisciplinary nature. The specific topics and prerequisites will be listed in the schedule. (Cross-listed with PHYS 8165)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHYS 3250 MATHEMATICAL METHODS OF PHYSICS (3 credits)**

Training in the use of mathematical techniques applicable to physics problems encountered in upper-level physics courses. Vector operators, Fourier analysis, frequently used differential equations (ordinary and partial), orthogonal functions, and matrix methods of coordinate transformation are included. Emphasis is given to solving problems from mechanics such as vectoral mechanics, oscillatory systems, wave motion, potential theory, etc.

**Prerequisite(s)/Corequisite(s):** MATH 1950, MATH 1960, MATH 1970 and PHYS 2160 or 2120 or permission.

**PHYS 3260 COMPUTER TOOLS FOR PHYSICISTS (2 credits)**

This course will introduce a wide selection of computer-powered mathematical tools for doing physics or any upper level science courses. It will introduce software packages in real and complex algebra, trigonometry, calculus I & II, linear algebra, statistics, differential equations, special functions, graphics, document preparation, and programming in the manner of a research scientist.

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1960.

**PHYS 3300 INTRODUCTION TO BIOMEDICAL PHYSICS (3 credits)**

This course is designed primarily for students desiring to specialize in Biomedical Physics. The course emphasizes an understanding of the fundamental principles of physics and the use of these principles in a variety of biological and medical applications with the major goal to merge physics, biology, and medicine in a unified perspective. PHYS 3300 covers various topics relating basic physics to living systems, including mechanics, fluid mechanics, thermodynamics, sound, electricity, optics, atomic physics, nuclear physics, and nanotechnology. It also describes various technologies widely used in modern medicine such as laser surgery, ultrasound imaging, X-ray, computed tomography, and magnetic resonance imaging. Each topic briefly introduces related background of physics principles as well as comprehensive overview of biological/medical application, thus (although highly recommended) very little background in physics or biology is required. This course will benefit students with interests in medicine, biology, biophysics, or medical physics.

**Prerequisite(s)/Corequisite(s):** PHYS1110 is required. PHYS2110 and PHYS1120 or PHYS2120 are recommended.

**PHYS 3450 CLASSICAL MECHANICS (3 credits)**

Statics and dynamics of particles and rigid bodies including the equations of Lagrange and Hamilton. (Cross-listed with PHYS 8455)

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 3250 or permission.

**PHYS 3500 ELEMENTS OF ELECTRONICS (3 credits)**

The topics covered will include basic circuit theory, principles and operation of electronic devices such as diodes, transistors and integrated circuits.

Application of these devices in various electronic circuits. Both analog and digital circuitry will be studied. (Cross-listed with PHYS 8505)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970

**PHYS 3504 EXPERIMENTAL PHYSICS I (1 credit)**

A set of experiments designed to complement PHYS 3750 and PHYS 4200.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3524 EXPERIMENTAL PHYSICS II (1 credit)**

A set of experiments designed to complement PHYS 3760 and PHYS 4210.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3544 EXPERIMENTAL PHYSICS III (1 credit)**

A set of experiments designed to complement PHYS 3450, PHYS 3850, and PHYS 4200.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3564 EXPERIMENTAL PHYSICS IV (1 credit)**

A set of experiments designed to complement PHYS 3020 and PHYS 4220.

**Prerequisite(s)/Corequisite(s):** PHYS 2120

**PHYS 3600 THERMODYNAMICS AND STATISTICAL PHYSICS (3 credits)**

Topics include: empirical and absolute temperature, equations of state, work, heat, entropy, the four laws of thermodynamics, phase changes, thermodynamic potentials, classical and quantum statistics of an ideal gas. Applications to be included: Einstein theory of a solid, paramagnetism, blackbody radiation, and conduction electrons. (Cross-listed with PHYS 8605)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and MATH 1970.

**PHYS 3750 ELECTRICITY AND MAGNETISM I (3 credits)**

An advanced study of electrostatics and magnetostatics, including Coulomb's law, Gauss' law, the scalar potential, conductors and dielectrics, electrostatic energy, special methods, electric current, Ampere's law, the magnetic induction, Faraday's law, and the electromagnetic wave equation as obtained from Maxwell's equations, with simple examples such as transmission lines and antennas. (Cross-listed with PHYS 8755)

**Prerequisite(s)/Corequisite(s):** MATH 1950, MATH 1960, MATH 1970, PHYS 3250, or permission.

**PHYS 3760 ELECTRICITY AND MAGNETISM II (3 credits)**

A selection of more advanced topics from electromagnetic theory, including a deeper treatment of the electromagnetic wave equations derived from Maxwell's equations, extending to propagation, reflection and refraction of plane waves, waves in wave guides, and radiation. Other topics covered might be magnetism and magnetic energy, plasmas and special relativity. (Cross-listed with PHYS 8765)

**Prerequisite(s)/Corequisite(s):** PHYS 3750

**PHYS 3800 OPTICS (3 credits)**

The behavior of electromagnetic radiation as formulated in the ray, wave, and quantum models. Topics will include: reflection and refraction, vergence, matrix method, optical instruments, scalar waves, electromagnetic waves, blackbody radiation, interference, diffraction, and lasers; if time permits, fiber optics and holography will also be included. (Cross-listed with PHYS 8805)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970

**PHYS 4200 INTRODUCTION TO QUANTUM MECHANICS (3 credits)**

This course provides an introduction to the historical development of modern physics and to the Schroedinger formulation of quantum mechanics. Specific topics will include square wells potential barriers, the simple harmonic oscillator potential and the hydrogen atom. Characteristics of multi-electron atoms, including angular momentum coupling schemes, spectra and transition rules will also be included. (Cross-listed with PHYS 8206)

**Prerequisite(s)/Corequisite(s):** PHYS 3250 or permission.

**PHYS 4210 QUANTUM THEORY (3 credits)**

The matrix operator formalism is covered along with philosophical implications of this approach. The methods developed will be applied to simple harmonic oscillator and hydrogen atom potentials. Raising and lowering operators, creation-annihilation operators, and first and second order perturbation theory will be discussed. (Cross-listed with PHYS 8216)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4220 PHYSICS OF MOLECULES AND SOLIDS (3 credits)**

This course covers the various types of atomic bonding found in molecules and solids. Electronic energy levels and spectra of molecules will be discussed. Topics in solid state physics will include mechanics and thermodynamics of crystals, the scattering of waves, including x-ray and neutron scattering, electron scattering and phonon and photon interactions. (Cross-listed with PHYS 8226)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4230 SPECIAL RELATIVITY AND NUCLEAR PHYSICS (3 credits)**

This course includes a brief historical background of the development of relativity theory and the importance of the experiments performed in conjunction with it. Lorentz transformations and covariant formalism will be developed and applied to certain problems in mechanics and electricity and magnetism. The nuclear physics portion of the course will include the historical development of the concept of the nuclear atom. Theoretical models of nuclear structure will be discussed, along with the theory of alpha, beta and gamma decay. Fission and fusion discussed as time permits. (Cross-listed with PHYS 8236)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 4300 GENERAL RELATIVITY (3 credits)**

A study of general relativity theory and its leading applications. Physical motivations and conceptual foundations will be explored. Students will be guided step-by-step to mastery of the tensor analysis required by this theory. Topics covered will include the equivalence principle, recap of special relativity, tensors, curvature and geodesics, Einstein field equations, black holes, cosmology, and gravitational waves. (Cross-listed with PHYS 8306)

**Prerequisite(s)/Corequisite(s):** PHYS 3750 and PHYS 4230, or permission of instructor.

**PHYS 4350 ASTROPHYSICS (3 credits)**

This course introduces the fundamentals of astrophysics to students with a prior knowledge of physics and mathematics. A review will be given of light and telescopes, classical and quantum mechanics and special relativity. Basic laws of physics will be applied to various topics such as: the sun, nuclear fusion and particle physics, evolution and end state of stars, interstellar medium, galaxies and cosmology. (Cross-listed with PHYS 8356)

**Prerequisite(s)/Corequisite(s):** PHYS 2130 or 4200 and MATH 1970.

Recommended: PHYS 1350.

**PHYS 4400 GEOPHYSICS (3 credits)**

A study of geophysical techniques used to understand the earth and in resource exploration. Seismic, gravity, heat flow, magnetic and other methods will be presented. The insights from these methods into earthquake events, stress distributions, rock, rheology, and plate tectonics will also be addressed. Interpretive skills will be emphasized.

**Prerequisite(s)/Corequisite(s):** GEOL 1170, PHYS 1110 and MATH 1950, MATH 1960 or permission of instructor.

**PHYS 4500 BIOLOGICAL PHYSICS (3 credits)**

This course is designed primarily for students specializing in Biomedical Physics. As a part of Biomedical Physics program at the Department of Physics, the course introduces the fundamental principles of physics and the use of these principles for various biological applications. PHYS 4500/8506 covers various topics including cells, polymers, polyelectrolytes, membranes, mesoscopic forces, self-assembly, photonics, fluid mechanics, motility, chemical kinetics, enzyme kinetics, modern experimental techniques of biophysics. Each topic connects biomolecules with their functions and relevant biological phenomena from a physics perspective. This course will benefit students with interests in biological and medical physics, as well as chemistry, biology. (Cross-listed with PHYS 8506).

**Prerequisite(s)/Corequisite(s):** PHYS 2110 is required. PHYS 2120 and PHYS 3300 are recommended.

**PHYS 4550 PHYSICS IN MEDICINE (3 credits)**

This course is designed primarily for students desiring to specialize in Biomedical Physics. The course introduces principles and applications of various medical imaging modalities and medical physics based therapies. Topics include such imaging techniques as ultrasound, X-ray imaging, Computed Tomography (CT), MRI imaging, and positron emission tomography. The course discusses physical principles behind medical imaging and therapeutic applications and covers interaction of different kinds of radiation with biological matter. (Cross-listed with PHYS 8556).

**Prerequisite(s)/Corequisite(s):** PHYS 2110; PHYS 2120, and PHYS 2130 for Physics majors or permission of the instructor. PHYS 3300 and PHYS 4500 are recommended.

**PHYS 4800 INTERNSHIP (1-6 credits)**

Internship with agencies or corporations enabling students to gain knowledge and experience in practical applications of physics and/or environmental principles.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Permission.

**PHYS 4950 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4960, PHYS 8956, PHYS 8966)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

**PHYS 4960 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4950, PHYS 8956, PHYS 8966)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

## Political Science (PSCI)

**PSCI 1000 INTRODUCTION TO POLITICAL SCIENCE (3 credits)**

This course introduces students to political ideas, behaviors, processes, institutions, and issues on a national and global level.

**Distribution:** Social Science General Education course and Global Diversity General Education course

**PSCI 1100 INTRODUCTION TO AMERICAN NATIONAL GOVERNMENT (3 credits)**

This course introduces students to the foundational principles, institutions, processes, and policies of national government in the United States.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**PSCI 2000 INTRODUCTION TO POLITICAL INQUIRY AND WRITING (3 credits)**

This course introduces students to how political scientists conduct inquiry into political questions and how they write about the results of their investigations for various kinds of audiences. Students will learn the basics of quantitative and qualitative research methods in political science, will learn how to use the library and other available sources of information, and will produce the various kinds of writings by which political scientists communicate their findings to the public, to other scholars, and to political and governmental actors.

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or PSCI 1000 preferred. ENGL 1150 required and ENGL 1160 recommended.

**Distribution:** Writing in the Discipline Single Course

**PSCI 2110 INTRODUCTION TO PUBLIC POLICY (3 credits)**

An introduction to the formation and evaluation of public policy, with particular focus on the stages of public policy development.

**Distribution:** Social Science General Education course

**PSCI 2120 INTRODUCTION TO LEADERSHIP (3 credits)**

This course introduces students to civic leadership in a public setting, including theories of leadership, models of leadership, cases of success and failure, and the inherent tensions among democracy, leadership, and administration.

**Distribution:** Social Science General Education course

**PSCI 2130 AFRICAN POLITICS (3 credits)**

African Politics examines the socio-cultural and economic environments which characterize political life in contemporary Africa. This course examines contemporary African politics and government in post-independence Africa, and the pre-colonial political and economic systems which influence contemporary African politics. The course assesses the various approaches used to study the political development of the African continent; examines the processes, features, and institutions of the African states; addresses key and persistent issues about African politics; and examines dimensions of social change and political reform. (Cross-listed with BLST 2130).

**Distribution:** Global Diversity General Education course

**PSCI 2150 CAREERS IN LAW AND POLITICS (3 credits)**

This course introduces students to a diversity of career paths in both the public and private sector that are available in the fields of law and politics, and the motivations, qualifications, and expertise necessary for each.

**Prerequisite(s)/Corequisite(s):** PSCI 1000 or PSCI 1100 is recommended. Not open to non-degree graduate students.

**PSCI 2180 INTRODUCTION TO LAW (3 credits)**

This course introduces students to the foundations, principles, functions, institutions, processes, issues, and fields of law with a special emphasis on the American political and legal systems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**PSCI 2210 INTRODUCTION TO INTERNATIONAL RELATIONS (3 credits)**

This course introduces students to historical and contemporary questions and major theoretical approaches to world affairs through examination of the international system in terms of the economic, military, and political forces between states, international organizations, and transnational actors.

**Distribution:** Global Diversity General Education course and Social Science General Education course

**PSCI 2310 INTRODUCTION TO POLITICAL THOUGHT (3 credits)**

This course introduces students to the nature and scope of politics, the foundations of political thought, and competing traditions of political theory through the ideas of major political philosophers, the interpretation of their ideas, and the possible application of their ideas today.

**Distribution:** Humanities and Fine Arts General Education course

**PSCI 2500 INTRODUCTION TO COMPARATIVE POLITICS (3 credits)**

This course introduces students to the fundamental concepts and theoretical approaches used to study political institutions, processes, and public policies in different country settings. This course also illustrates the rich diversity of political life and the importance of global political and economic change.

**Distribution:** Global Diversity General Education course and Social Science General Education course

**PSCI 3000 QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE (3 credits)**

This course introduces students to the techniques that political scientists use to answer research questions with quantitative data, as well as issues of research design, hypothesis formation, and causation. The course emphasizes the methods used to collect, analyze, and extract information from data using statistical computer software. (Cross-listed with PSCI 8005)

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1530, MATH 1220 or MATH 1310 or permission of department.

**PSCI 3010 URBAN POLITICS (3 credits)**

This course introduces students to the development, powers, forms of government, and functions of cities and their suburbs as well as the problems faced by elected officials, business and community leaders, and citizens in the urban setting. (Cross-listed with PSCI 8015)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3040 GOVERNMENT AND POLITICS OF NEBRASKA (3 credits)**

This course introduces students to the development, structures, functions and public policies of the government of the state of Nebraska. (Cross-listed with PSCI 8045)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor. .

**PSCI 3050 STATE GOVERNMENT AND POLITICS (3 credits)**

This course introduces students to the development, structures, functions and public policies of states. (Cross-listed with PSCI 8055)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3100 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 8105, WGST 3100, WGST 8105)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3120 THE AFRICAN AMERICAN EXPERIENCE IN POLITICS (3 credits)**

This course will provide a historical and contemporary survey of the African American political experience in the United States, from the passage of the 15th Amendment in the late 1800s, to the 1965 Voting Rights Act, and continuing into the 21st century. Students will examine the evolution of the Black political experience, with emphasis on the fight against enslavement, segregation, lynchings and mass incarceration, and the long struggle of African Americans against institutional and structural racism in the American political system. (Cross-listed with BLST 3120)

**Prerequisite(s)/Corequisite(s):** PSCI 1000 or PSCI 1100

**Distribution:** U.S. Diversity General Education course

**PSCI 3130 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 8135, WGST 3130, WGST 8135)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3140 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 8145, LLS 3140, LLS 8145)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**PSCI 3150 ASIAN PACIFIC AMERICANS AND THE NEW MINORITY POLITICS (3 credits)**

This course will be devoted to a broad discussion about the emergence of Asian Pacific Americans by birth and immigration, the fastest growing minority in the U.S., as a significant factor in American politics. (This course fulfills the department's American politics requirement).

**Prerequisite(s)/Corequisite(s):** Junior standing or by professor's permission.

**PSCI 3160 POLITICAL PARTIES (3 credits)**

This course introduces students to the origin, development, structure, and functions of political parties in the United States as political organizations, coalitions of voters, and governing coalitions that seek to hold office and influence public policy. (Cross-listed with PSCI 8165)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3170 INTEREST GROUPS (3 credits)**

This course introduces students to the theories, formation, organization, and activities of interest groups and their impact on public policy, particularly through their role in campaigns and elections and lobbying. (Cross-listed with PSCI 8175)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3180 CAMPAIGNS AND ELECTIONS (3 credits)**

This course introduces students to the evolution and modern application of campaigns and elections in the United States through examination of campaign management and campaign strategy in congressional and presidential elections. (Cross-listed with PSCI 8185)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 3210 GEOPOLITICS OF CENTRAL ASIA AND SOUTH ASIA (3 credits)**

This course will focus on the geographic area of Central Asia-South Asia (CASA) and provide students with opportunity to understand the dynamics that made this region a traditional contest area between regional and global powers for centuries. Central Asia-South Asia region is home to successful democracies, a monarchy, and dictatorships. This course is designed to help students analytically assess the geopolitical variables concerning the CASA region and the players involved. Post 9/11 developments in Afghanistan have brought the whole region once again to the forefront of geopolitical struggle between global and regional players, thus reigniting the struggle of the New Great Game in the region. These multiple elements of regional, development, stability and instability will be discussed in this course.

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor. Recommended: INST 2130: Introduction to International Studies.

**PSCI 3220 INTERNATIONAL ORGANIZATIONS (3 credits)**

This course introduces students to the history, principles, structures, and processes developed to organize and legitimize peaceful reconciliation of the differences of nation-states and to advance their mutual interests in the contemporary global political and economic system. (Cross-listed with PSCI 8225)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 3230 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 8235, WGST 3230, WGST 8235)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 is recommended.

**Distribution:** Global Diversity General Education course

**PSCI 3240 THE POLITICS AND PRACTICE OF HUMAN RIGHTS (3 credits)**

This course introduces students to human rights issues across the globe and explores the theoretical foundations of human rights as well as human rights institutions and transitional justice. (Cross-listed with PSCI 8245)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of the instructor.

**PSCI 3250 GLOBAL SECURITY ISSUES (3 credits)**

This course introduces students to issues of national and international security that cross boundaries and threaten all countries including issues such as climate change, environmental deterioration, population and demographics, gender issues, disease and public health, the media, asymmetrical warfare, drugs/organized crime, and cyberthreats. (Cross-listed with PSCI 8255)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 3260 UNITED STATES FOREIGN POLICY (3 credits)**

This course introduces students to the analysis of foreign and defense policy processes in the United States, including the role of the President, Congress, Departments of State and Defense, the intelligence community, and other actors/factors affecting policy formulation and implementation. (Cross-listed with PSCI 8265)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 3340 AMERICAN POLITICAL THOUGHT (3 credits)**

This course introduces students to the ideals, ideologies, identities, and institutions of American political thought from the country's origins to the present. Topics to be covered may include the political thought of the early American settlers and of the founding generation, the debates over the creation and implementation of the Constitution, the 19th century arguments over slavery, the rise of progressivism, the New Deal and its critics, and contemporary American conservatism and liberalism. (Cross-listed with PSCI 8345)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or PSCI 2310 or junior standing or permission of instructor.

**PSCI 3410 LAW AND THE BLACK COMMUNITY (3 credits)**

Law and the Black Community provides an in-depth examination of the racialized American legal process as it pertains to and affects African Americans in the U.S. From the formation of the U.S. Constitution to present day, this course analyzes intersections of race, law, politics and culture, and explores the administration of justice and Black experiences through a critical legal perspective. (Cross-listed with BLST 3410, CRCJ 3410).

**Prerequisite(s)/Corequisite(s):** BLST 1000 OR Junior standing OR instructor permission.

**Distribution:** U.S. Diversity General Education course

**PSCI 3500 EUROPEAN POLITICS (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Europe, including the European Union. (Cross-listed with PSCI 8505)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3580 GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES (3 credits)**

This course introduces students to the political cultures, institutions, processes, and public policies of Russia and the states of the former Soviet Union. (Cross-listed with PSCI 8585)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3640 GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies, and other characteristics of China and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 8645)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3660 GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies and other characteristics of Japan and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 8665)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3680 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with PSCI 8685, LLS 3680, LLS 8685)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior status or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3700 GOVERNMENT AND POLITICS OF THE MIDDLE EAST (3 credits)**

This course introduces students to government and politics in the contemporary Middle East, including considerations of state formation, authoritarianism and democratization, state-society relations, religion, culture, gender, and economy. (Cross-listed with PSCI 8705)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 3920 SPECIAL TOPICS IN POLITICAL SCIENCE (3 credits)**

This course introduces students to a specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours.

**PSCI 4030 THE PRESIDENCY (3 credits)**

This course introduces students to the development and modern application of presidential leadership through examination of presidential selection, presidential decision-making, the relationship of the presidency with other governmental and non-governmental actors, and the role of the presidency in making public policy. (Cross-listed with PSCI 8036)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4040 CONGRESS AND THE LEGISLATIVE PROCESS (3 credits)**

This course introduces students to the development of the Congress and modern application of the legislative process through examination of congressional elections, congressional leadership, congressional decision-making, legislative rules and procedures, the relationship of the Congress with other governmental and non-governmental actors, and the role of the Congress in making public policy. (Cross-listed with PSCI 8046)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4050 THE JUDICIAL PROCESS (3 credits)**

This course introduces students to the administration of law in federal and state courts with respect to the organization of the courts, judicial selection, judicial powers, judicial decision-making, judicial policy-making, the bar, and reform movements in the pursuit of justice. (Cross-listed with PSCI 8056)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4110 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 8116, PSYC 4110, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4120 PUBLIC OPINION AND POLLING (3 credits)**

This course introduces students to the origins, nature, measurement, and consequences of public opinion on policymaking. (Cross-listed with PSCI 8126)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of the instructor.

**PSCI 4140 CONSTITUTIONAL LAW: CIVIL RIGHTS (3 credits)**

This course introduces students to the history, principles, and judicial interpretation of key constitutional provisions and federal statutes regarding civil rights in the United States. (Cross-listed with PSCI 8146)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4150 LAW AND THE COURTS: MOCK TRIAL (3 credits)**

This course introduces students to the American legal system, including its courtroom aspects, through preparation of and participation in a mock trial case.

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor. Not open to non-degree graduate students.

**PSCI 4160 LAW AND THE COURTS: MOCK TRIAL PRACTICUM (1-3 credits)**

This course introduces students to the American legal system through participation in mock trial competition.

**Prerequisite(s)/Corequisite(s):** PSCI 4150 or junior standing or permission of instructor. Not open to non-degree graduate students.

**PSCI 4170 CONSTITUTIONAL LAW: FOUNDATIONS (3 credits)**

This course introduces students to the principles, design and operation of the American constitutional system with emphasis on analysis of the Declaration of Independence, the Articles of Confederation, the proceedings of the Constitutional Convention, and the Federalist Papers. (Cross-listed with PSCI 8176)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor

**PSCI 4180 CONSTITUTIONAL LAW: THE FEDERAL SYSTEM (3 credits)**

This course introduces students to American constitutional law as it relates to issues of federalism, the relation of the nation and the states, and separation of powers, the relation of the three branches of the national government. (Cross-listed with PSCI 8186)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4190 CONSTITUTIONAL LAW: CIVIL LIBERTIES (3 credits)**

This course introduces students to the philosophy, history, and development of the personal liberties guaranteed by the Constitution including freedom of speech, religion, assembly, petition, and the right of privacy, primarily through examination of Supreme Court decisions. (Cross-listed with PSCI 8196)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 4200 INTERNATIONAL RELATIONS OF EAST ASIA (3 credits)**

This course introduces students to the international politics of East Asia with an emphasis on the contemporary relations among major East Asian states (China, Japan, the Korean peninsula) and the United States. (Cross-listed with PSCI 8206)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4210 INTERNATIONAL RELATIONS OF THE MIDDLE EAST (3 credits)**

This course focuses on the international politics of the Middle East region, specifically looking at conditions for peace and causes of war. It examines how the international system, domestic politics, ideologies, and leaders influence international politics in the Middle East. (Cross-listed with PSCI 8216)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4240 INTERNATIONAL CONFLICT RESOLUTION (3 credits)**

This course introduces students to different approaches to peace, their basic assumptions, and their application to current conflicts. (Cross-listed with PSCI 8246)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 4250 INTELLIGENCE AND NATIONAL SECURITY (3 credits)**

This course introduces students to the United States intelligence services, and their relation to broader U.S. national security policy. (Cross-listed with PSCI 8256)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor

**PSCI 4260 INTERNATIONAL LAW (3 credits)**

The course introduces students to the general principles of international law, including the key actors, the creation and sources of international law, the interpretation of international law by courts and tribunals, and its enforcement. (Cross-listed with PSCI 8266)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior status or permission of instructor.

**PSCI 4270 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with ENVN 4270, PSCI 8276)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 4280 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with PSCI 8286, LLS 4280, LLS 8286)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4290 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 8296, CACT 8306)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or junior standing or permission of instructor.

**PSCI 4310 CLASSICAL POLITICAL THOUGHT (3 credits)**

This course introduces students to key works representative of premodern political thought. Authors examined may include Plato, Aristotle, Xenophon, Cicero, Augustine, and Aquinas. (Cross-listed with PSCI 8316).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4320 EARLY MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key works of the 16th through mid-18th centuries. Authors examined may include Machiavelli, Hobbes, Hume, Smith and Montesquieu. (Cross-listed with PSCI 8326)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor

**PSCI 4330 LATE MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key texts of the mid-18th through 19th centuries. Authors to be examined may include Rousseau, Burke, Mill, Tocqueville, Marx, and Nietzsche. (Cross-listed with PSCI 8336)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4340 CONTEMPORARY POLITICAL THOUGHT (3 credits)**

This course introduces students to leading works of contemporary political thought, including Marx, Spencer, Dahl, Rawls, feminism, and rational choice. The theories, their interrelationships, the theorists, and the manifestations of these works will be discussed and analyzed. (Cross-listed with PSCI 8346)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or junior standing or permission of instructor.

**PSCI 4350 DEMOCRACY (3 credits)**

A basic study of theory, practice and practitioners of political democracy, its roots, development, present application and problems and future. (Cross-listed with PSCI 8356)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor is required.

**PSCI 4360 AUTHORITARIAN REGIMES (3 credits)**

An analysis of various types of authoritarian regimes, their differences from democratic governments, and the causes of their establishment, maintenance, and failure. (Cross-listed with PSCI 8366).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 4370 GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS (3 credits)**

This course introduces students to civil-military relations and military politics across the globe. (Cross-listed with PSCI 8376).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of the instructor.

**PSCI 4380 TOPICS IN POLITICAL THEORY (3 credits)**

This course will conduct an in-depth exploration of an important issue, movement, thinker, or work in political theory. The particular subject matter will vary and will be chosen by the instructor.

**Prerequisite(s)/Corequisite(s):** Junior, or permission of instructor. Junior, or permission of instructor. Not open to non-degree graduate students.

**PSCI 4500 GOVERNMENT AND POLITICS OF GREAT BRITAIN (3 credits)**

A comprehensive study of British politics and government. Emphasis will be focused on the formal institutions and informal customs and practices of the British political system. (This course satisfies the department's comparative politics requirement). (Cross-listed with PSCI 8506)

**Prerequisite(s)/Corequisite(s):** Junior

**PSCI 4520 POLITICS OF FRANCE (3 credits)**

This course introduces students to the political heritage of France, contemporary political institutions and problems, and political and policy responses to these problems. (Cross-listed with PSCI 8526)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or junior standing or permission of instructor.

**Distribution:** Global Diversity General Education course

**PSCI 4550 POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM (3 credits)**

This course is a survey on the types of violence used within a political context, focusing on its causes, forms and consequences. Specifically, this course details why and how violence occurs, and its impact on institutions and the people operating within that system. (Cross-listed with PSCI 8556).

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or PSCI 2500

**PSCI 4620 ISLAM AND POLITICS (3 credits)**

This course introduces students to the interaction between religion and politics in the Muslim world, covering various political ideologies in the Muslim world and different experiences of Muslim-majority countries such as Saudi Arabia, Pakistan, Iran, Turkey, Indonesia, and Egypt. It will also analyze mainstream and radical transnational Islamic movements. (Cross-listed with PSCI 8626)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or 2500 is recommended.

**Distribution:** Global Diversity General Education course

**PSCI 4710 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with PSCI 8716, ENTR 4710, ENTR 8716).

**PSCI 4770 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 8776, SOC 4770, SOC 8776).

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing or permission of instructor

**PSCI 4820 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with JMC 4820, JMC 8826, PSCI 8826)

**PSCI 4900 READINGS IN POLITICAL SCIENCE (1-3 credits)**

This course provides students an opportunity to study an advanced and specialized subject matter in the field of political science not covered in existing courses. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 4910 POLITICAL SCIENCE INTERNSHIP (1-6 credits)**

This course offers students an opportunity to experience the resolution of public issues through direct involvement in career-oriented policy organizations. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 4920 ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours. (Cross-listed with PSCI 8926)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**PSCI 4950 SENIOR ASSESSMENT IN POLITICAL SCIENCE (0 credits)**

This zero-credit-hour course is used to assess the knowledge and skills that are imparted by the Political Science program to its students. Seniors must enroll in the class, take the major field test, and submit a writing assignment from one of their upper level political science courses. Because this is a 0 credit course, these items will not be graded, but they will be scored for purposes of program assessment.

**Prerequisite(s)/Corequisite(s):** Senior standing. Permission of Department Chair required.

**Distribution:** Writing in the Discipline Single Course

## Psychology (PSYC)

**PSYC 1010 INTRODUCTION TO PSYCHOLOGY I (3 credits)**

An overview of scientific understanding of the human mind and behavior. Theories and empirical tests of explanations for how we think, feel, and act. This course is a prerequisite to all subsequent, more specialized courses in Psychology.

**Distribution:** Social Science General Education course

**PSYC 1020 INTRODUCTION TO PSYCHOLOGY II (3 credits)**

Provides students who have completed a course in introductory psychology with an opportunity for in-depth study of selected areas of psychology along with related laboratory experiences. Research methodology is emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. The proposed course is designed to build upon the content knowledge gained in a first introductory psychology course.

**PSYC 2000 CAREER PATHS IN PSYCHOLOGY (1 credit)**

A course that introduces the student to the different career paths available to psychology majors, both within and outside of the psychology field and those including graduate or professional school as well as career paths for those with bachelor's degrees. Required of psychology majors. This is a one (1) hour credit course.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 2024 EXPLORATIONS IN THE SCIENCE OF PSYCHOLOGY (2 credits)**

This course explores the scientific foundation of psychology representing several topic areas such as Learning, Developmental, Cognitive, and Physiological Psychology. Basic application of statistics and APA manuscript writing will build a solid background for upper-level courses in Psychology.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 2100 LEARNING ASSISTANT SEMINAR (0 credits)**

This course focuses on effective methods of college teaching and instructional strategies. Students participate in activities designed to increase their understanding of the role of a Learning Assistant.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and permission of instructor. Not open to non-degree graduate students.

**PSYC 2500 LIFESPAN PSYCHOLOGY (3 credits)**

A life span approach to development focusing on the biological, cognitive, and social emotional changes in development occurring from infancy through old age. The impact of these changes on the individual's behavior and interactions with society will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3130 STATISTICS FOR THE BEHAVIORAL SCIENCES (3 credits)**

An introduction to statistics with particular emphasis on models and hypothesis testing covering analysis of variance, chi-square, F and t-tests, first-order regression and correlation.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1530, MATH 1310 or MATH 1220. Psychology Majors Only: PSYC 2024 (prior to, or concurrent with).

**PSYC 3140 RESEARCH METHODS IN PSYCHOLOGY (4 credits)**

An introduction to the methods by which psychologists attempt to create, disseminate and integrate knowledge about behavior. PSYC 3140 fulfills the Writing in the Discipline Requirement for Psychology and Neuroscience majors.

**Prerequisite(s)/Corequisite(s):** Psychology majors require PSYC 2000, PSYC 3130 and ENGL 1160. Neuroscience majors require PSYC 3130 and ENGL 1160

**Distribution:** Writing in the Discipline Single Course

**PSYC 3410 CLINICAL PSYCHOLOGY (3 credits)**

A broad survey of problems and practices in the diagnosis and treatment of emotional and behavioral disorders.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3430 PERSONALITY AND ADJUSTMENT (3 credits)**

The study of persons in a social context and their resultant effective and ineffective behavior, with emphasis on types of adjustment.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3450 SOCIAL PSYCHOLOGY (3 credits)**

Social interaction studied in situations of (1) social influences on individuals, (2) dyads or face-to-face groups, and (3) larger social systems. The concepts, theories, data, research methods and applications of varied substantive topics are examined. (Cross-listed with SOC 3450)

**Prerequisite(s)/Corequisite(s):** SOC 1010 or PSYC 1010

**PSYC 3510 EDUCATIONAL PSYCHOLOGY (3 credits)**

A study of the capacities and interests of children and their individual differences. Factors that influence learning and an evaluation of learning and classroom procedures are included.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3520 CHILD PSYCHOLOGY (3 credits)**

A study of the biological, social, emotional and cognitive development of the child emphasizing infancy and childhood.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 3540 ADOLESCENT PSYCHOLOGY (3 credits)**

A review of theory and available evidence useful in understanding changes and problems in the physical, intellectual, social and emotional adjustment of individuals in adolescence.

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 4010 HISTORY OF PSYCHOLOGY (3 credits)**

A study of the origins, development and nature of psychology and its relation to external events; emphasis on the period since 1875. (Cross-listed with PSYC 8016)

**Prerequisite(s)/Corequisite(s):** at least 15 hours of Psychology credits including PSYC 1010 or approval of instructor. Not open to non-degree students or students in other departments or programs.

**PSYC 4020 LEARNING (3 credits)**

A comprehensive coverage of the experimental literature and theories on human and animal learning.

**Prerequisite(s)/Corequisite(s):** PSYC 1020

**PSYC 4024 LABORATORY IN PSYCHOLOGY: LEARNING (3 credits)**

Classical experiments and a service-learning research project designed to apply general learning principles. Systematic techniques used to assess behavior changes associated with the learning process, research design, and scientific report writing will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4020. Not open to nondegree students.

**PSYC 4070 COGNITIVE PSYCHOLOGY (3 credits)**

An exploration of historical and contemporary research and theory concerned with cognitive processes including attention, memory, problem solving and concept formation.

**Prerequisite(s)/Corequisite(s):** PSYC 1020.

**PSYC 4074 LABORATORY IN PSYCHOLOGY: COGNITION (3 credits)**

Laboratory work coordinated with PSYC 4070, emphasizing a presentation of methods of research assessing human attention, memory and problem-solving processes. Research design, data analysis and research report writing are also emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4070 or PSYC 4090 or PSYC 4210.

**PSYC 4090 COGNITIVE NEUROSCIENCE (3 credits)**

This course is concerned with the relationship between cognition and the brain. Special attention will be devoted to the techniques used to study specific relationships and the theoretical perspectives that have guided research in the area. Topics for the course include history, neural mechanisms, methods, lateralization of function, sensation and perception, memory, language, action and movement, executive processes, computer models, and the social brain.

**Prerequisite(s)/Corequisite(s):** PSYC 1020 or NEUR 1520 or NEUR 1540. Not open to non-degree graduate students.

**PSYC 4110 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 4110, PSCI 8116, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSYC 4150 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with PSYC 8156, BLST 4150, BLST 8156).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and Junior standing or Instructor permission

**PSYC 4210 SENSATION AND PERCEPTION (3 credits)**

Reading and discussion concerning psychophysical methods, sensory physiology, phenomenology of various sensory systems and theories of the perceptual process.

**Prerequisite(s)/Corequisite(s):** PSYC 1020 or NEUR 1520 or NEUR 1540.

**PSYC 4214 LABORATORY IN PSYCHOLOGY: SENSATION AND PERCEPTION (3 credits)**

Laboratory work coordinated with PSYC 4210 which is designed to increase comprehension of psychology as a laboratory science in general and the experimental study of the perceptual process in particular. Emphasis will be placed on the development of skills involved in the design of experiments, data collection, data analysis, reasoning about experimental results and scientific report writing.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 and PSYC 4210 or PSYC 4070 or PSYC 4090.

**PSYC 4230 BEHAVIORAL NEUROSCIENCE (3 credits)**

A comprehensive study of the relationship of the nervous and other organ systems to behavior. Research on both human and other animal species is considered. (Cross-listed with NEUR 4230).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 OR BIOL 1450

**PSYC 4234 LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE (3 credits)**

Laboratory course designed to introduce the students to the techniques and procedures of physiological psychology. Scientific report writing, problems of research design and data analysis also will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140. Psych majors PSYC 4230; Neuroscience majors NEUR 1520 or NEUR 1540.

**PSYC 4250 LIMITS OF CONSCIOUSNESS (3 credits)**

A course focusing on the scientific study of the psychology, neurology and philosophy of mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 8256, PHIL 3250)

**Prerequisite(s)/Corequisite(s):** PSYC 1010; or 6 hours in Philosophy.

**PSYC 4270 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with PSYC 8276, BIOL 4270, BIOL 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**PSYC 4280 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with PSYC 8286, BIOL 4280, BIOL 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**PSYC 4310 PSYCHOLOGICAL AND EDUCATIONAL TESTING (3 credits)**

The use of standardized tests in psychology and education is considered with special regard to their construction, reliability and validity. (Cross-listed with PSYC 8316)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior. Not open to non-degree graduate students.

**PSYC 4320 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provided students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with PSYC 8326, BIOL 4320, BIOL 8326)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and either BIOL 1020 or 1750. Not open to non-degree graduate students.

**PSYC 4440 ABNORMAL PSYCHOLOGY (3 credits)**

A course designed to examine the aberrant behavior of individuals. Symptoms, dynamics, therapy and prognosis of syndromes are considered. (Cross-listed with PSYC 8446)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4450 PERSONALITY THEORIES (3 credits)**

A comparative approach to the understanding and appreciation of personality theories considering history, assertions, applications, validations and prospects. (Cross-listed with PSYC 8456)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students students.

**PSYC 4460 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)**

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with GERO 4460, GERO 8466).

**Prerequisite(s)/Corequisite(s):** Junior or Senior.

**PSYC 4470 MENTAL HEALTH AND AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with PSYC 8476, GERO 4470, GERO 8476)

**Prerequisite(s)/Corequisite(s):** Junior or senior

**PSYC 4510 PSYCHOLOGY IN THE SCHOOLS (3 credits)**

This course introduces students to the academic and mental health needs of children and youth in schools, as well as how those needs are addressed individually and systemically. A service learning experience enables students to work directly with school-age children.

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4520 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with PSYC 8526)

**Prerequisite(s)/Corequisite(s):** Senior or graduate or permission of instructor. Not open to non-degree graduate students.

**PSYC 4530 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 8536, CACT 8106).

**Prerequisite(s)/Corequisite(s):** PSYC 1010.

**PSYC 4544 LABORATORY IN DEVELOPMENTAL PSYCHOLOGY (3 credits)**

Laboratory work coordinated with PSYC 3520 and PSYC 3540 emphasizing the methods of research and statistical analyses used in the study of human development. Emphasis will be placed on the development of skills involved in the design of experiments, data collection, data analysis, reasoning about results, and scientific report writing.

**Prerequisite(s)/Corequisite(s):** PSYC 3140, PSYC 3520, and PSYC 3540 or permission of instructor. Not open to non-degree graduate students.

**PSYC 4560 FORENSIC PSYCHOLOGY (3 credits)**

The roles and functions of forensic psychologists, as participants in the legal system, are studied, with special emphasis on the relevance of theories and principles from social psychology. Psychological concepts, theories, data, research methods and applications to varied substantive topics are examined (e.g., forensic careers, police psychology, violence, criminal profiling, sociopathy and psychopathy, risk assessment, expert testimony, and corrections).

**Prerequisite(s)/Corequisite(s):** PSYC 1010 or SOC 1010 and PSYC 3450 or SOC 3450.

**PSYC 4570 BEHAVIOR ANALYSIS AND INTERVENTIONS (3 credits)**

Introduction to experimental methodology, rationale and research literature of changing behavior through behavior modification techniques. Particular attention will be paid to methodological concerns regarding single subject design, ethical considerations and ramifications of behavior intervention with children and youth. (Cross-listed with PSYC 8576)

**Prerequisite(s)/Corequisite(s):** PSYC 1010, PSYC 4020 and permission of instructor. Not open to non-degree graduate students.

**PSYC 4590 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3 credits)**

A study of exceptional children and adolescents with sensory or motor impairments, intellectual retardations or superiorities, talented or gifted abilities, language or speech discrepancies, emotional or behavioral maladjustments, social or cultural differences, or major specific learning disabilities.

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior.

**PSYC 4630 ORGANIZATIONAL PSYCHOLOGY (3 credits)**

This is a survey course which will cover the major concepts, theories and empirical research related to organizational psychology. Specific topics will include: work motivation, leadership, decision making and job satisfaction as well as more recent trends such as cultural diversity, work teams, work-family and quality issues. (Cross-listed with PSYC 8636)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4640 PERSONNEL PSYCHOLOGY (3 credits)**

A survey of psychological principles, theories and research related to personnel issues. Course includes discussion of personnel selection, performance appraisal, recruitment, training and health and safety. (Cross-listed with PSYC 8646)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 4644 LABORATORY IN PSYCHOLOGY: SOCIAL/INDUSTRIAL-ORGANIZATIONAL (3 credits)**

Laboratory work coordinated with PSYC 3450 and PSYC 4630 or PSYC 4640, emphasizing a presentation of methods of research assessing human social behavior and applied psychological processes. Research design, data analysis and research report writing are also emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 3140, PSYC 3450 and PSYC 4630 or PSYC 4640.

**PSYC 4650 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 8656, CACT 8506)

**PSYC 4800 LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE (3 credits)**

This course presents legal principles relevant to all psychological specialties, with special reference to mental health services. Ethical reasoning and the APA ethics code are considered. (Cross-listed with PSYC 8806)

**Prerequisite(s)/Corequisite(s):** 15 hours of Psychology credits including PSYC 1010 or approval of the instructor. Not open to non-degree graduate students.

**PSYC 4920 SPECIAL TOPICS IN PSYCHOLOGY (1-3 credits)**

A discussion of specific topics which will be announced whenever the course is offered. May be repeated as topics change, but six hours is the maximum that may be applied toward a psychology major.

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**PSYC 4960 INDEPENDENT STUDY IN PSYCHOLOGY (1-6 credits)**

A faculty-supervised special research project and or directed readings involving empirical research and appropriate oral and written reports arranged individually with students on topics not explored in other offerings. If students do not complete the work during the semester they enroll in the course, they must complete all the work within an academic year of their enrollment.

**Prerequisite(s)/Corequisite(s):** A minimum of 10 hours of Psychology including PSYC 1010 & PSYC 1020 and 1 additional course. Completion of the Independent Study Form and permission from the Undergraduate Program Committee (UPC).

**PSYC 4990 SENIOR THESIS (3-6 credits)**

The course is designed to provide the student with the opportunity to initiate, design, analyze, and write-up an original experimental study in an area of interest to the student. Although the course is intended primarily for students who need to satisfy the requirement of a second experimental/laboratory course in the Bachelor of Science degree program, all students interested in this course will be considered on an individual basis.

**Prerequisite(s)/Corequisite(s):** PSYC 3140 with a 'B' or better; 'B' average in major; signed statement from faculty member of Psychology Department who is willing to serve as adviser; written approval from chair of undergraduate program committee. Must be a 2nd semester junior or later.

## Public Administration (PA)

**PA 1010 INTRODUCTION TO URBAN STUDIES (3 credits)**

Introduction to history, concepts, development and literature of urbanism. An interdisciplinary examination of issues confronting contemporary urban society and how various academic disciplines relate to those issues. (Cross-listed with UBNS 1010).

**PA 2000 LEADERSHIP & ADMINISTRATION (3 credits)**

This course is designed to offer students the opportunity to increase their leadership skills by providing them with a series of competency-based seminars/workshops on the characteristics and tasks in which leaders are engaged.

**PA 2170 INTRODUCTION TO PUBLIC ADMINISTRATION (3 credits)**

A study of governmental administration and its involvement in the social and economic problems of American democracy. It includes but is not limited to the organizational, financial, personnel and planning problems and administrative relations with legislatures, political parties, chief executives and the courts.

**PA 3000 APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR (3 credits)**

A course on the use of data and statistical methods to explore and make inferences about society, while critically considering the influence of context and the powers and limitations of quantitative evidence. (Cross-listed with CRCJ 3000, SOWK 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1120 or 1130 or 1220, or an ACT of 19, or above or permission from the department.

**PA 3200 PROGRAM PLANNING AND EVALUATION (3 credits)**

Research, program design, and evaluation are critical functions in the non-profit sector. Leaders and managers of non-profit organizations are continually challenged to monitor community needs, select and develop services and programs that respond to those needs, and to evaluate and modify the services they provide. This recurrent process is the foundation of quality non-profit programs. This course prepares students to undertake the research, program design and evaluation process employed in non-profit organizations.

**Prerequisite(s)/Corequisite(s):** PA 3000. Not open to non-degree graduate students.

**PA 3500 NONPROFIT ORGANIZATIONS AND MANAGEMENT (3 credits)**

Introduces students to the nonprofit sector, including several aspects of nonprofit management. Intended for any student who wishes to understand nonprofit organizations and/or who may wish to work in the nonprofit sector. Service learning in a nonprofit agency is an important aspect of the class.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**PA 3600 PERSONNEL AND VOLUNTEER MANAGEMENT IN NONPROFITS (3 credits)**

This course examines the managerial practices and problems in recruiting, hiring and other staffing issues within nonprofit organizations. It also addresses issues of personnel leadership, accountability, and performance associated with working with volunteers.

**Prerequisite(s)/Corequisite(s):** PA 2170 & PA 3500 or permission from the school. Not open to non-degree graduate students.

**PA 3700 FINANCIAL MANAGEMENT FOR NONPROFITS (3 credits)**

This course will prepare students to oversee the financial management of nonprofit organizations by focusing on four areas: key financial concepts, financial statements presentation, accounting and reporting, and operational issues - emphasizing the links between accounting staff, program staff, fundraising staff and board of directors.

**Prerequisite(s)/Corequisite(s):** PA 2170 and PA 3500. Not open to non-degree graduate students.

**PA 3800 CROSS-SECTOR COLLABORATIVE LEADERSHIP (3 credits)**

The goal of PA 3800/MGMT 3800 is to prepare students to serve as collaborative leaders of cross-sector initiatives. Specifically, this course will prepare students for success in working collaboratively across private, nonprofit and public sector organizations while also enhancing their overall development as a leader. Examples of successful and unsuccessful cross-sector collaborations will be explored along with discussions of theories related to cross-sector collaboration. (Cross-listed with MGMT 3800).

**Prerequisite(s)/Corequisite(s):** Permission from instructor or MGMT 3490 with a grade of C or higher or enrollment in the cross-sector collaborative leadership minor.

**PA 4100 MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS (3 credits)**

This course will focus on developing a working knowledge of marketing and its component parts as they may be applied to non-profit organizations. Emphasis will be placed on understanding the marketing process and applying marketing principles to real organizational settings. (Cross-listed with PA 8106).

**PA 4200 COMMUNITY ORGANIZING & SOCIAL CHANGE (3 credits)**

This course will focus on various theories and applications of organizing communities and neighborhoods to effect change. Of particular interest is the role of engaging citizens in improving their communities. (Cross-listed with PA 8206).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PA 4210 INTRODUCTION TO HEALTH CARE SYSTEMS (3 credits)**

This course is designed to familiarize students with the structure of the health services system in the United States. It addresses quality, access and cost of health services delivery, personnel and funding resources for providing health care, financing health care, traditional and alternative health services delivery settings, and forces that shape the current and future health care sector.

**PA 4300 SEMINAR IN PUBLIC POLICY (3 credits)**

A study of the economic, social and political determinants of public policy in terms of administration and decision-making and of measuring and evaluating policy impact. The course includes both study of general policy processes, and, to a lesser extent, particular policy topics.

**Prerequisite(s)/Corequisite(s):** PA 2170

**PA 4390 PUBLIC BUDGETING (3 credits)**

A study of the processes, procedures and politics of public sector budgeting.

**PA 4410 PUBLIC PERSONNEL MANAGEMENT (3 credits)**

A study of the personnel process in American governmental administration. The processes and problems of recruiting, structuring and operating public bureaucracies are examined as well as problems in personnel leadership, neutrality, accountability and performance.

**Prerequisite(s)/Corequisite(s):** PA 2170, junior.

**PA 4430 MUNICIPAL ADMINISTRATION (3 credits)**

The administrative structure and administrative practices of American cities covering such areas as finance, personnel, public works, public safety, health, utilities and planning. (Cross-listed with PA 8436).

**Prerequisite(s)/Corequisite(s):** Junior. Not open to non-degree graduate students.

**PA 4440 ORGANIZATIONAL DEVELOPMENT AND CHANGE (3 credits)**

The ability to lead and manage organizational change is a required competency for individuals working public sector related fields. Civic leaders, public administrators and non-profit managers must diagnose and respond to the dynamic and interconnected environment in which they work. This course prepares students to conduct the forms of analysis that organizational development and change requires.

**PA 4500 NONPROFIT FUNDRAISING (3 credits)**

Introduces students to issues and techniques for resource development within nonprofit organizations, including fundraising, program planning and budgeting, and marketing. Intended for students who wish to understand resource development within nonprofit organizations. Service learning with a nonprofit agency is an important aspect of the class.

**Prerequisite(s)/Corequisite(s):** PA 2170 and PA 3500

**PA 4510 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 4510, GERO 8516 and PA 8516).

**Prerequisite(s)/Corequisite(s):** PA 2170

**PA 4530 STRATEGIC PLANNING (3 credits)**

The ability to lead and manage a strategic planning process is a required competency for individuals working public sector related fields. Civic leaders, public administrators and non-profit managers must diagnose and respond to the dynamic and interconnected environment in which they work. This course prepares students to conduct the forms of analysis that strategic planning requires.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 4560 INTERGOVERNMENTAL MANAGEMENT (3 credits)**

This course is for students wanting to improve their knowledge and understanding of intergovernmental relations as they impact policy and administration in the United States. (Cross-listed with PA 8566).

**PA 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

Seminar on environmental law and regulations. Addresses federal regulations, implementing instructions, legal principles, and requirements. The major federal environmental laws, air and water quality, solid and hazardous waste, and pollution prevention and remediation are discussed. Usually offered Fall semesters.

**Prerequisite(s)/Corequisite(s):** Junior-senior and permission.

**PA 4890 SPECIAL TOPICS PUBLIC ADMIN (3 credits)**

A course with the purpose of acquainting the student with key issues and topics of special concern to public and non-profit management that they otherwise would not receive elsewhere. (Cross-listed with PA 8896).

**PA 4900 SPECIAL TOPICS IN PUBLIC ADMINISTRATION (1-3 credits)**

A variable content course with public administration and urban studies topics selected in accordance with student and faculty interests. Possible topics include urban homesteading, administrative federalism and economic development and the public sector. (Cross-listed with PA 8906).

**Prerequisite(s)/Corequisite(s):** PA 2170 and permission of instructor.

**PA 4950 INTERNSHIP (3 credits)**

A course designed to link theoretical concepts learned in the classroom to the practical application of "real world" situations and to familiarize students with attitudes, operations and programs of governmental units.

**Prerequisite(s)/Corequisite(s):** PA 2170 and permission of the School.

**PA 4960 CROSS-SECTOR COLLABORATIVE LEADERSHIP CAPSTONE (3 credits)**

This is a capstone course that prepares students to be effective leaders in the 21st century. This course is the final leadership course in the Cross-Sector Collaborative Leadership minor. This minor requires a capstone project that encompasses the student's knowledge and training. It is designed to provide an applied service-learning opportunity for students. (Cross-listed with MGMT 4960).

**Prerequisite(s)/Corequisite(s):** Must be completing Cross-Sector Collaborative Leadership Minor. Not open to non-degree graduate students.

## Public Health & Behavior (PHHB)

**PHHB 1500 FOUNDATIONS IN PUBLIC HEALTH (3 credits)**

An introductory course for public health majors and other interested students, that examines the foundations of public health. The course includes an orientation to the process and the professions of public health and a consideration of current trends, problems and issues and their implications for public health professionals. The course will help candidates develop the knowledge, skills, competencies, and attitudes necessary to orchestrate an environment for positive public health.

**Distribution:** Social Science General Education course

**PHHB 2070 DRUG AWARENESS (3 credits)**

An introduction to the effects and rationales of drug use, misuse, and abuse. Included are the physiological, psychological, sociological, pharmacological, and legal aspects of drugs in a culturally diverse United States and abroad.

**PHHB 2310 HEALTHFUL LIVING (3 credits)**

A study of selected health problems and issues in our society as related to knowledge, attitudes, and behaviors necessary for healthful living in a culturally diverse society.

**PHHB 2850 STRESS MANAGEMENT (3 credits)**

The health-related aspects of stress will be the focus of this course. Selected techniques for the self-regulation of stress will be demonstrated, practiced, and analyzed. Pressures from the culturally diverse United States and implications of a global society will be analyzed. Students will develop skills and competencies necessary to create a learning environment conducive to reducing stress.

**PHHB 3000 SPECIAL PROJECTS (1-3 credits)**

This course is designed to provide an opportunity to study a topic in public health through short course, seminar, workshop, or special project.

**Prerequisite(s)/Corequisite(s):** The prerequisite for the special project will be determined by the instructor.

**PHHB 3030 FIRST AID (3 credits)**

Designed to give students knowledge and skill in implementing immediate, temporary treatment in case of injury or sudden illness before the services of a physician. Upon successful completion of the course, a student will receive a standard first aid and cardiopulmonary resuscitation certificate.

**PHHB 3060 PROMOTING POSITIVE HEALTH (3 credits)**

The focus of this team taught, experiential course will be assisting individual students: a) determine what wellness and mindfulness changes they wish to make in their lives; b) assisting them in acquiring the skills and learning about theories of how to effectuate change, and c) assisting them in making the change.

**Prerequisite(s)/Corequisite(s):** HPER 3090/HEKI 3090, HPER 2850/HEKI 2850, and Holistic Health - Eastern Perspectives. At least two of the following: PEA 111T, PEA 112I, PEA 112U, or PEA 112V One additional PEA course (may not be from the previous category or basketball or volleyball)

**PHHB 3070 DEATH AND DYING (3 credits)**

An interdisciplinary survey of literature in the field of thanatology, with an emphasis on working with the older patient and his or her family. (Cross-listed with GERO 3070).

**PHHB 3080 HEALTH CONCEPTS OF SEXUAL DEVELOPMENT (3 credits)**

An examination of factors influencing sexual development. Emphasis is given to topics pertinent to healthful living in today's culturally diverse, global society. (Cross-listed with WGST 3080).

**PHHB 3310 INJURY PREVENTION IN PUBLIC HEALTH (3 credits)**

This course is designed to explore public health strategies for the development and maintenance of safe physical environments with a focus on prevention of intentional and unintentional injuries. It explores a multitude of safety programs for school, business, recreation, transportation, and the home.

**PHHB 4000 METHODS AND MATERIALS IN HEALTH EDUCATION (3 credits)**

This course will provide an opportunity to study, develop and use different materials and equipment in public health. Various methods of teaching health will be practiced and evaluated. Candidates will be able to gain classroom and field experience (service-learning) in planning lessons and presentations.

**Prerequisite(s)/Corequisite(s):** Junior standing, HED 1500 or PHHB 1500

**PHHB 4040 EPIDEMIOLOGY & PREVENTION OF DISEASE (3 credits)**

The course is designed for public health students and others who are interested in public health. The cause, prevention, treatment and control of prevalent communicable and non-communicable disease in a culturally diverse and global society will be emphasized. Special emphasis will be given to diseases and health problems that can be prevented or controlled through public health initiatives.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4050 INTRODUCTION TO RESEARCH IN PUBLIC HEALTH (3 credits)**

This course will assist students to develop the basic skills to read and evaluate applied research to address contemporary problems in public health. The course will provide an introduction to proposal writing, data collection, research design, statistical analysis, and computer application. Unique problems associated with data collection in public health settings such as public health departments, neighborhood health centers, and community based organizations will be addressed.

**Prerequisite(s)/Corequisite(s):** Junior standing

**PHHB 4060 SCHOOL HEALTH PROGRAMS (3 credits)**

The purpose of this course is to provide information and strategies for planning, implementing, and evaluating Coordinated School Health Programs (CSHP) for diverse cultural groups. Content includes an overview of school health programs, the essential functions of each of the eight components, the role of national and state organizations in working with local agencies and school districts in promoting the development of comprehensive school health programs.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4130 COMMUNITY HEALTH (3 credits)**

A survey course of community health issues. The basics of epidemiology/statistical sciences, environmental health, managerial/administrative sciences, and behavioral/social sciences for community health are examined. Public health candidates will gain skills needed to develop and manage community health programs.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4200 A PUBLIC HEALTH APPROACH TO MENTAL HEALTH (3 credits)**

This public health course will help students think critically about the prevention, identification, and treatment of mental illness in the United States. Students will be introduced to concepts from the disciplines of public health, psychology and sociology to understand mental health disorders and their impact on population health. Students will explore health disparities through the lens of cultural, social, behavioral, psychological, and economic factors. Students will recognize that mental health exists on a continuum and develop skills to address environmental influences on behavior. (Cross-listed with PHHB 8206).

**PHHB 4280 SOCIAL MARKETING FOR PUBLIC HEALTH (3 credits)**

This course will introduce students to current theory, practices and resources in the field of social marketing as it relates to public health. Students will analyze and implement social marketing techniques.

**Prerequisite(s)/Corequisite(s):** HED 1500/PHHB 1500, HED 4040/PHHB 4040 and HED 4050/PHHB 4050

**PHHB 4400 HEALTH LITERACY (3 credits)**

This course is designed to provide students with the competencies to reduce problems associated with low health literacy. The two primary foci will be strategies to help patients and other health consumers improve their health literacy, and strategies to help health providers and health educators communicate in a manner that can be understood by all persons regardless of their health literacy

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4420 PUBLIC HEALTH INFORMATICS (3 credits)**

Students will learn the implementation, operation, and application of health information systems. Students will explore the legal and ethical issues surrounding health informatics and patient records, management and communication in health informatics, and social and organizational issues pertaining to health informatics.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 4550 and GERO 8556 and PHHB 8556 and WGST 4550).

**PHHB 4650 GLOBAL HEALTH (3 credits)**

This course will explore contemporary health problems around the world with particular emphasis being placed on problems experienced by developing countries. The political, economic, social, geographical, biological aspects of the problems and possible solutions will be addressed.

**Prerequisite(s)/Corequisite(s):** Junior standing

**Distribution:** Global Diversity General Education course

**PHHB 4700 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with PHHB 8706, SOC 4700, SOC 8706).

**Prerequisite(s)/Corequisite(s):** Junior Standing or permission of the instructor.

**Distribution:** U.S. Diversity General Education course

**PHHB 4880 PUBLIC HEALTH POLICY (3 credits)**

This course provides an overview of the U.S. health system, and an introduction to the skills necessary to address health policy issues. Students will develop a working knowledge of health services terminology, recognize basic health care concepts, distinguish between various components of the health care delivery system and be able to apply concepts learned in the analysis of a public health problem.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4950 PUBLIC HEALTH LEADERSHIP AND ADVOCACY (3 credits)**

This course reviews public health leadership concepts and practices that prepare candidates to fulfill professional roles as advocates and leaders in the health field. Politics and power structure in communities and organizations are addressed. The processes through which changes in the political, economic, organizational, and physical environment related to health status and health behavior are brought about will be addressed. Media advocacy, the legislative process, community organization, and coalition development will be explored as means of environmental change.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500

**PHHB 4960 PUBLIC HEALTH - PLANNING AND ORGANIZATION (3 credits)**

The course is designed to provide public health students an understanding of planning and organization in public health. The use of planning tools including social assessment methods, epidemiological methods, behavioral methods, organizational methods, administrative methods and evaluation procedures for public health initiatives will be included. Grant writing components will be emphasized.

**Prerequisite(s)/Corequisite(s):** HED 1500 or PHHB 1500, Senior standing

**PHHB 4970 PROBLEMS OF HEALTH EDUCATION (1-3 credits)**

This course is designed to provide an opportunity for individuals or groups to study problems in health education.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PHHB 4990 INTERNSHIP IN PUBLIC HEALTH (6 credits)**

This internship provides on-the-job training for public health students in a cooperative program with state and local health departments or other appropriate community and public health agencies. Direct field experience is completed by the student under the supervision of an experienced practitioner in an approved public health agency.

**Prerequisite(s)/Corequisite(s):** Completion of or current enrollment in core courses, GPA of 2.5 or above in required courses, and no grade below a C in required courses, and permission of instructor.

## Real Estate & Land Use Economics (RELU)

**RELU 2410 REAL ESTATE PRINCIPLES AND PRACTICES (3 credits)**

An introductory survey of real estate principles and practices which introduces the terminology, concepts and basic practices in the fields of real estate law, real estate finance, real estate appraisal, real estate property taxation and miscellaneous topic areas. Note: Students cannot receive credit for both RELU 2410 and RELU 3410. (Fall, Spring)

**RELU 3410 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with BSAD 8605).

**RELU 3430 REAL ESTATE BROKERAGE AND SALES (3 credits)**

Overview of real estate brokerage and sales principles, to include buying and selling, leasing, brokerage business operations, contracts, closings, legal requirements, Fair Housing, advertising, and career opportunities.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3450 REAL ESTATE MANAGEMENT (3 credits)**

Commercial and residential property management fundamentals, including leasing space, tenant selection and relations, maintenance and investor relations. (Fall)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 3460 REAL ESTATE LAW (3 credits)**

Upper-level survey course in real estate law, which examines estates in land, conveyances, leases, mortgages, easements, zoning, environmental law, contracts, taxes, foreclosures, landlord-tenant relations, agency, Fair Housing, and Nebraska License Law. (Cross-listed with LAWS 3460)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4390 REAL ESTATE INVESTMENTS (3 credits)**

Methods used to analyze existing commercial real estate investments through traditional, as well as more technical, dynamic programming models.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4400 RESIDENTIAL REAL ESTATE FINANCE (3 credits)**

Methods of financing residential real estate, analysis of mortgage risks, mortgage instruments, mortgage lenders, financial calculations, influences of governmental agencies. (Fall, Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 and junior standing.

**RELU 4410 BASIC APPRAISAL PROCEDURES (3 credits)**

Fundamentals of real estate valuation and appraising; factors affecting value; valuing land, valuing improvements and the valuation of special classes of residential property; appraisal practice, depreciation and obsolescence, appraising rules, the mathematics of appraising; an appraisal of a single family residence is required.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410 AND FNBK 3250 with a C or better

**RELU 4420 INCOME PROPERTY APPRAISAL (3 credits)**

Introduction to the theory and concepts of income capitalization approaches, methods and techniques to valuation of real estate income property. Characteristics of yield on investment real estate; future income projections; mortgage coefficients; purchase and leaseback reversions; Ellwood Tables; capitalization rates and investment yields; types of annuities; and condemnation appraisal. (Spring)

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410; and FNBK 3250

**RELU 4440 CREATING A REAL ESTATE COMMUNITY (3 credits)**

Market analysis and planning for land developments for various types of uses: residential, campus, civic centers, housing for the elderly, urban renewal, shopping centers.

**Prerequisite(s)/Corequisite(s):** RELU 2410 or RELU 3410.

**RELU 4460 COMMERCIAL REAL ESTATE FINANCE (3 credits)**

A foundation course in commercial real estate finance including legal, analytical, institutional and governmental aspects.

**Prerequisite(s)/Corequisite(s):** RELU 2410 and FNBK 3250

**RELU 4500 REAL ESTATE INDEPENDENT STUDY (1-3 credits)**

Individual investigation of specific issues or problems in real estate.

**Prerequisite(s)/Corequisite(s):** Permission of Real Estate Program Director.

**RELU 4510 REAL ESTATE INTERNSHIP (1-3 credits)**

Correlation of theory and practice through part-time employment and weekly seminars; required readings. (Maximum of 4 hours).

**Prerequisite(s)/Corequisite(s):** Permission of program chair or internship coordinator.

## Recreation-Leisure Study (RLS)

**RLS 2440 FOUNDATIONS OF RECREATION AND LEISURE (3 credits)**

A survey approach to the recreation, leisure services, parks professional field to include the historical philosophical bases of the overall profession. Provides the necessary foundational knowledge for majors as well as candidates within other areas of study.

**RLS 2500 OUTDOOR RECREATION (3 credits)**

A survey of the dynamics of outdoor recreation in American life. Designed to guide candidates through a learning experience that results in an introduction to and a broad-based understanding and appreciation of outdoor recreation.

**RLS 3100 SOCIAL ASPECTS OF SPORT AND LEISURE (3 credits)**

A critical examination of the function and significance of sports within the overall leisure behavior patterns of Western society. Recreational sport, sport spectatorship, and competitive athletics are considered from the dominant theoretical perspectives within sociology.

**Prerequisite(s)/Corequisite(s):** Six hours of social science or permission.

**RLS 3500 FOUNDATIONS OF RECREATION THERAPY (3 credits)**

An introduction to therapeutic recreation services as a specialized field within recreation. Course content touches on the majority of the special populations recognized within American society. An in-depth survey approach is utilized.

**RLS 4070 CAMPUS RECREATION MANAGEMENT (3 credits)**

A review of the knowledge, skills, and abilities required for the management of typical campus recreation programs and facilities. This course will prepare students for entry level positions managing campus recreation employees, programs, facilities and services. (Cross-listed with RLS 8076)

**RLS 4100 FACILITY DESIGN AND MANAGEMENT (3 credits)**

This course is designed to acquaint the recreation major or practitioner with the knowledge and certifications necessary to maintain and operate a recreation building including all major activity areas using the latest standards and technology. Attention will be devoted to the design and management process, including terminology, court specifications, handicapped accessibility, and swimming pool operation.

**RLS 4240 RECREATION ADMINISTRATION (3 credits)**

Designed to provide a background of information on public, private, and commercial recreation with special attention to organization, promotion, and development from the administrative aspect. (Cross-listed with RLS 8246)

**Prerequisite(s)/Corequisite(s):** RLS Major and Senior status

**RLS 4300 RECREATION PROGRAMMING AND LEADERSHIP (3 credits)**

An advanced study of recreational programming and leadership through practical applications. Emphasis is placed upon understanding proven programming and leadership knowledge and skills; understanding participant leisure behavior; understanding participant leisure needs; and skill development in ways through which organization, agencies and businesses create services to respond to the leisure needs of the consumer. (Cross-listed with RLS 8306)

**Prerequisite(s)/Corequisite(s):** Junior, Senior or Graduate Standing

**RLS 4400 TRAVEL AND TOURISM (3 credits)**

This course is designed to provide the recreation major or practitioner, and other interested candidates, with an awareness of the major components of the travel and tourism industry, including its costs and benefits to a resident community. (Cross-listed with RLS 8406)

**Prerequisite(s)/Corequisite(s):** Junior Standing.

**RLS 4420 RECREATION FOR THE AGING (3 credits)**

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with RLS 8426, GERO 4420, GERO 8426)

**RLS 4550 PRACTICUM I (6 credits)**

Practical learning experience in leisure service delivery under close University and agency supervision.

**Prerequisite(s)/Corequisite(s):** Senior, 2.5 GPA and department consent.

**RLS 4560 PRACTICUM II (6 credits)**

Practical learning experience in leisure service delivery under close University and agency supervision.

**Prerequisite(s)/Corequisite(s):** Senior, 2.5 GPA and department consent.

**RLS 4970 PROBLEMS OF RECREATION (1-3 credits)**

The purpose of this course is to provide an opportunity for candidates to participate in special conferences on problems in the field of recreation and to further professional improvement and growth beyond the normal four-year undergraduate program.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## Religion (RELI)

**RELI 1000 TOPICS IN RELIGION AND SPIRITUALITY (1 credit)**

As a first year topics course, the main purpose is to introduce students to some aspect of the academic study of religion and spirituality. The specific topics will vary considerably; however, the objectives include training students in study methods generally and how to study religion as a scholarly subject in particular.

**RELI 1010 INTRODUCTION TO WORLD RELIGIONS (3 credits)**

A introductory course in religious studies, designed both to introduce students to ways of understanding religion as a phenomenon in human culture and history and also to survey a wide variety of the religions of the world.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 1050 FIRST YEAR SEMINAR IN RELIGION (3 credits)**

The purpose of this course is to introduce students to a particular topic in the study of religion. Although the topic for this course will vary from semester to semester, students will be expected to read, to write, and to discuss the assigned texts and the ideas they contain. Students will learn basic skills in reading academic literature, writing about significant issues, and speaking articulately about the questions and issues. These skills will be helpful in other university and professional work.

**RELI 2000 ARCHAEOLOGY OF BIBLICAL LANDS (3 credits)**

This course introduces students to the purpose and methods of biblical archaeology and includes a survey of the material culture of the land of the Bible from the Chalcolithic (5th - 4th millennia BCE) to the Persian periods (4th century BCE). Special emphasis will be placed on the relationship between biblical narratives and the archaeological reconstruction of ancient social and natural environments.

**RELI 2010 RELIGION AND CRITICAL THOUGHT (3 credits)**

This class introduces students to critical approaches to the study of religion. Students are exposed to a variety of social scientific, scientific, philosophical, indigenous, and critical literary approaches to the study of wide-ranging religious beliefs and practices. The course is required for majors and recommended for minors in Religion as well as others with high interest in the field of Religious Studies.

**Prerequisite(s)/Corequisite(s):** 3 hours in Religion or permission of instructor.

**RELI 2020 RELIGION AND HUMAN RIGHTS (3 credits)**

This course introduces students to the intersection of religion and human rights. It takes human rights as a moral tradition and asks how it impacts and is impacted by religious moral thought.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2060 THE RELIGION OF ANCIENT EGYPT AND MESOPOTAMIA (3 credits)**

This course is designed to familiarize the student with the religions of ancient Egypt and Mesopotamia. The course will use archaeological discoveries together with ancient Egyptian and Mesopotamian texts to explore the religions of these two civilizations. It will deal with Mesopotamian and Egyptian beliefs surrounding issues such as creation, afterlife, ethics, morality and rituals.

**Prerequisite(s)/Corequisite(s):** Intro to World Religion is recommended but not necessary.

**RELI 2120 HINDU SCRIPTURES (3 credits)**

An introduction to some of the foundational scriptures of Hinduism (Sanatana Dharma) from traditional and modern perspectives, including the Vedas, the Upanishads, and the Bhagavad-Gita.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 2150 HEBREW SCRIPTURES (3 credits)**

A historical introduction to the study of the Hebrew Scriptures from the Biblical to Talmudic period in the light of recent scholarship.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 2160 NEW TESTAMENT: HISTORY, LITERATURE, AND SOCIETY (3 credits)**

Who were Jesus, Peter, Mary, and Paul in the Roman empire of the early first century? How did these Jews of the Second Temple Period become the earliest generation of a 2,000 year history of Christianity? How did early Christian understandings of God and humanity shape or constrain their interpretations of and responses to affliction, healing, and death, both conceptually and in practice? Finding answers to these questions requires students to study the literature of the New Testament and other early Christian literature, along with scholarly analyses of key issues related to authorship, dating, textual analysis, literary genres, historical contexts, and varying interpretations. The purpose of the course is to train students in the content of the texts as well as critical tools related to documentary analysis, archaeological methods, and various literary and social scientific approaches, interdisciplinary tools which also enhance one's skills in a variety of careers and professions.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2170 QUR'AN (3 credits)**

This course provides an introduction to the academic study of the Qur'an, its uses, interpretations, and applications in society from its earliest appearance up to the present.

**Distribution:** Global Diversity General Education course and Humanities and Fine Arts General Education course

**RELI 2190 THE MODERN MIDDLE EAST (3 credits)**

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with HIST 2190, SOC 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RELI 2200 GLOBAL RELIGIOUS ETHICS: THE BASICS (3 credits)**

An introduction to the main types of ethical thought in religious traditions worldwide. The course will consider both historical and contemporary approaches and will relate ideas and practices of religious ethics to contemporary moral problems.

**RELI 2400 RELIGION IN AMERICA (3 credits)**

The role of religion in American culture, seen in the interaction between the inherited religious traditions and the crucial events in American experience and how this affects American identity - past and present.

**Prerequisite(s)/Corequisite(s):** Sophomore or permission of instructor.

**RELI 2500 SPIRITUALITY AND WELLNESS (3 credits)**

This course provides an introduction to the emerging field of spirituality and wellness. Utilizing perspectives from multiple disciplines and incorporating both third-person (research, theory) and first-person (experiential, reflective) approaches, students will explore topics such as: the nature of spirituality; mindfulness, meditation and wellness; spirituality and public health; spiritual wellness on campuses; and ecospirituality.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 3020 NATIVE AMERICAN RELIGIONS (3 credits)**

This course examines the life-ways, oral narratives, ceremonies, and philosophies of selected Native American tribal nations and communities from the major cultural regions of North America, utilizing historical, anthropological, and literary approaches. No single Native spiritual tradition or culture represents all Native North American beliefs and customs. Thus, attention will be given both to similarities among different tribal groups, and also the great diversity among the hundreds of indigenous ways of life on the North American continent, both ancient and modern. Particular topics addressed include the following: healing traditions and maintaining personal and communal balance, pilgrimages to sacred sites, and, critically, Native American creation stories inform the manner in which Native communities approach the natural world, including plants and animals as "other-than-human" persons.

**RELI 3030 SHAMANISM (3 credits)**

Study of the forms and techniques of shamanic experience from its Paleolithic and Neolithic origins to its contemporary practice among indigenous peoples, including its role in the development of human religious traditions and systems of healing.

**RELI 3050 RELIGIONS OF THE EAST (3 credits)**

A study of the major religions that originate in South, Southeast, and East Asia, considering their origins, foundational doctrines, practices, beliefs, rituals and contemporary expressions. Included are the religions of Hinduism, Buddhism, Jainism, Sikhism, Daoism, Confucianism and Shintoism. Knowledge of the religious and spiritual traditions of South, Southeast, and East Asia will help students who intend to travel or work in those regions or who may have friends and colleagues from those regions of the world. A broad grasp of these critical cultural traditions will enhance international, cross-cultural understanding for any career or professional track.

**RELI 3060 RELIGIONS OF THE WEST (3 credits)**

A study of Judaism, Christianity and Islam, with an introduction to their ancient predecessors.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3130 WOMEN AND THE BIBLE (3 credits)**

This course explores the characterization of women in Hebrew and Christian scriptures as well as what we can learn about the lives of women in the ancient world from these and other sources. Attention is also given to the reception and use of these texts in later historical periods including contemporary religious contexts. (Cross-listed with WGST 3120).

**RELI 3180 MODERN CHRISTIAN THOUGHT (3 credits)**

The history of Christian thought from the Enlightenment to Vatican II.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3200 ISLAM AND MUSLIMS (3 credits)**

What do Muslims believe? How do they practice their faith? What role does Islam and what roles do Muslims play in the 21st century? This course provides an introduction to the history, beliefs, and practices of Islam and Muslim communities, including both Sunni and Shi'i traditions, Sufis and Salafis, from the time of Muhammad ibn Abdullah to the 21st century. Students will examine the ways in which we come to 'know' about Islam and how to approach mediated sources with a critical lens. Thus, in addition to highlighting the many important cultural, scientific, medical, artistic, and architectural contributions of Muslim societies throughout the past millennium, critical contemporary issues will also be addressed, including the role of women in Islam, the meaning of jihad, the legal traditions (shari'a and fiqh), the relationship between religion and politics in Islam, and issues of law, gender, myth, violence, colonialism, modernity, and Islamophobia.

**RELI 3330 ROMAN CATHOLIC THEOLOGY TODAY (3 credits)**

An investigation of differences and developments in Roman Catholic theology in last decades of the 20th century, with consideration of the bases in the tradition for the progressive and conservative theologies of today.

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3400 RELIGION AND FILM (3 credits)**

This course will examine the various ways in which religion and film connect, including the representations of religious groups in films, ways in which films replicate or alter religious concepts, and ways in which film as an aspect of popular culture functions analogously to religions in society. Methods used will include the analysis of film technique, auteur criticism, and audience reception analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**RELI 3500 SPECIAL TOPICS IN RELIGION (3 credits)**

The content of this course varies from semester to semester, giving instructor and students an opportunity to investigate various subjects of interest in religious studies. (May be repeated for credit as long as the topic is different.)

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 3960 READINGS IN RELIGION (1-6 credits)**

Individual research in selected areas or particular questions in religious studies.

**Prerequisite(s)/Corequisite(s):** Nine hours in religion and permission of instructor.

**RELI 4000 RELIGIOUS STUDIES INTERNSHIP (1-6 credits)**

A supervised internship enabling students to develop and apply knowledge and gain expertise related to the field of Religious Studies while working at a non-profit, educational, non-governmental or related organization. The host organization for the student must be approved in advance in consultation with the internship coordinator and the Chair of Religious Studies. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Junior or senior. Religious Studies major, Religious Studies minor, or concentration in Religious Studies. Permission of internship coordinator. Not open to non-degree graduate students.

**RELI 4010 SENIOR SEMINAR IN RELIGION (3 credits)**

This course provides a capstone experience in religious studies. It serves as the third writing course and is required for Religious Studies majors. The readings will deepen students' understanding of the field of Religious Studies and how it relates to social concerns, as well as guide students through developing a research project. Students will present research both in writing and verbally, in ways that address scholarship in Religious Studies and that are accessible to a general audience. Student will also have opportunities to reflect on experiential learning and career goals.

**Prerequisite(s)/Corequisite(s):** Five courses in Religion, or permission of instructor.

**RELI 4020 BUDDHIST TRADITIONS (3 credits)**

This course is an exploration of Buddhist history, thought and practices. It begins with the origins, cultural context, and development of Buddhism in South Asia and then traces the path of Buddhism through Southeast Asia, Tibet, China, Korea, Japan and North America.

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**RELI 4030 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 8036, BLST 8036, BLST 4030).

**RELI 4050 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 4010; HIST 8016).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing. Not open to non-degree graduate students.

**RELI 4150 JUDAISM IN THE MODERN AGE (3 credits)**

A critical investigation of Judaism since the Enlightenment emphasizing historical, intellectual and religious-legal developments. Pivotal movements (e.g., Hassidism, Reform, Historical Conservative Judaism, Modern Orthodoxy, Zionism) and major historical events (e.g., the American and French Revolutions, Tsarist oppression, the Holocaust and the establishment of the State of Israel) will be analyzed for their ongoing impact. (Cross-listed with RELI 8156)

**Prerequisite(s)/Corequisite(s):** Junior, three hours in religion, or permission of instructor.

**RELI 4160 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with RELI 8166, HIST 4720, HIST 8726)

**Prerequisite(s)/Corequisite(s):** Junior or instructor permission.

**RELI 4170 HISTORY OF CHRISTIANITY I (3 credits)**

The development of Christian theological, ritual, and social practice from the beginnings of Christianity through the Reformation. History of Christianity from its origins in the first century through the sixteenth century movements for reform. (Cross-listed with RELI 8176).

**RELI 4200 COMPARATIVE RELIGIOUS ETHICS (3 credits)**

An introduction to historical and contemporary approaches to comparative religious ethics, with special focus on specific case studies as encountered in societies and religious communities across the globe. In addition to reading authors from a variety of perspectives (Aristotelians, natural law theorists, philosophers of law, pragmatists, theologians, and historians of religion), students will be introduced to special topics in the field, e.g., religion and public life, religion and law, syncretism, the secular/non-secular divide, etc. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 8206, CACT 8206)

**RELI 4220 VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION (3 credits)**

This course is designed to familiarize the student with the nature of violent conflict, including terrorism, and a variety of the mechanisms for peacebuilding. The course will also explore human rights and the ethics of intervention. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 8226, CACT 8226)

**RELI 4250 WAR, RELIGION, AND HUMAN RIGHTS (3 credits)**

What is the connection between human rights, religion, conflict, and peacebuilding? Does religion cause war or help to stop it? How can human rights violations be prevented or stopped, and can religious actors be engaged in this work? Is the use of force ever appropriate to protect human rights? This course engages all of these questions by examining the ethical thought of multiple religious traditions; the work of human rights organizations; the just war tradition; and questions about sovereignty, peacebuilding, and the use of force worldwide. It includes discussion of historical issues and contemporary case studies. (Cross-listed with RELI 8256).

**RELI 4260 THE END OF THE WORLD: RELIGION AND APOCALYPSE (3 credits)**

This course introduces students to sacred texts and their interpretation by "end of the world" groups across world history. Several ancient, medieval, and contemporary groups are discussed. Special attention is paid to the connections between apocalyptic and political movements, as well as religion and violence. (Cross-listed with RELI 8266).

**RELI 4400 WOMEN IN ISLAM (3 credits)**

This course examines the religious, political and cultural assignments ascribed to Muslim women. Starting with the Qur'an, social, legal, and scriptural norms will be explored through the voices of Muslim women around the world. Passages of the Qur'an, hadiths and the commentaries that lead to the elevation and/or demise of Muslim women and their rights are studied. Examining the role of the female body, sexuality and seclusion within a historical context will lead to an understanding of the gendering of women in Islam. (Cross-listed with RELI 8406)

**Prerequisite(s)/Corequisite(s):** RELI 3200

**RELI 4420 MUSLIMS IN AMERICA (3 credits)**

This course is designed to familiarize the student with the multiplicity of Muslim voices in the United States and to examine the myths created through stereotyping and orienting. The course will also investigate how Muslims in America form identities as hybrids and transnationals and follows the chronological development of American Muslims including their identity construction, religious issues, and politics. (Cross-listed with RELI 8426)

**Prerequisite(s)/Corequisite(s):** RELI 3200 or permission.

**RELI 4500 ANCIENT ISRAEL (3 credits)**

Who were the Israelites? Where did they come from? This is one of the most debated topics in biblical studies. This course examines biblical texts, historical documents, archaeological discoveries, and sociological studies.

**RELI 4550 JESUS IN FILM (3 credits)**

This course is a study of how the life of Jesus of Nazareth has been portrayed in cinema over the past century. Emphasis will be placed upon knowledge of the principal written sources (the canonical gospels), how films emphasize certain themes and offer their own interpretations, the motives or intentions of the actors, and the reception by audiences of some of the main portrayals of Jesus in film. (Cross-listed with RELI 8556).

**RELI 4600 WOMEN AND RELIGION (3 credits)**

This course on women and religion will focus on the intersections of power and oppression that women experience in four of the major world religions - Judaism, Christianity, Buddhism, and Islam. Students will examine the historical, cultural and religious contexts that highlight women's involvement or exclusion from activity and power within each religion. Students will research case studies from around the world to examine tensions within and between religious and secular societies through the lens of gender. (Cross-listed with RELI 8606).

**RELI 4830 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 8836, HIST 4830, RELI 8836).

**RELI 4850 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 8856, HIST 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

## Russian (RUSS)

**RUSS 1110 ELEMENTARY RUSSIAN I (5 credits)**

Elementary Russian I emphasizes the mastery of all four language skills: speaking, listening, reading, and writing, as well as introduces cultural issues in Russia.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**RUSS 1120 ELEMENTARY RUSSIAN II (5 credits)**

Russian 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 1110 with a grade of C- or better or three years of high school Russian. Department permission is needed for transfer credit.

**RUSS 2110 INTERMEDIATE RUSSIAN I (3 credits)**

Russian 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**RUSS 2120 INTERMEDIATE RUSSIAN II (3 credits)**

Russian 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** RUSS 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**RUSS 3030 RUSSIAN CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** RUSS 2120 or placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners.

**RUSS 3040 RUSSIAN GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles, practice in written composition.

**Prerequisite(s)/Corequisite(s):** RUSS 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners.

**RUSS 3050 WOMEN IN RUSSIAN SOCIETY & CULTURE: A HISTORICAL PERSPECTIVE (3 credits)**

This course discusses the history of women in Russia beginning from early Russia (10th Century) to the present. It includes the study of feminist activists, female educational, professional, and employment opportunities, historical and current status of women, and their social, cultural, and intellectual influences on Russian society. Course offered in English. (Cross-listed with WGST 3050).

**Prerequisite(s)/Corequisite(s):** Junior or permission.

**RUSS 3150 INTRODUCTION TO RUSSIAN LITERATURE I (3 credits)**

This course is designed to acquaint students with some of the highlights of Russian literature and develop their abilities to distinguish between various literary styles, ideas, and individual techniques and aesthetics of most prominent Russian authors. Readings in this survey course will include a selection of Russian authors from the 19th and 20th centuries. The main objective of this course is the development of critical reading skills and an understanding of major authors, movements, and themes in Russian literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. The course also focuses on continuing to develop Russian language skills, in particular through reading for comprehension and interpretation of metaphorical meaning. Discussion will help to hone speaking skills.

**Prerequisite(s)/Corequisite(s):** RUSS 2120 or department permission.

**RUSS 3370 RUSSIAN CULTURE AND CIVILIZATION (3 credits)**

A historical view of Russia through its political, literary, musical, religious and philosophical development from the 10th to the 20th centuries.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission.

**RUSS 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work.

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission. Not open to non-degree graduate students.

**RUSS 4940 RUSSIAN MASTERPIECES (3 credits)**

This course introduces Russian literature in translation and will be conducted in English. Readings in this survey course will include a selection of Russian authors from the early 19th century period to the present. The main objective of this course is the development of critical reading skills and an in-depth understanding of major authors, movements, and themes in Russian literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. (Cross-listed with RUSS 8946)

**Prerequisite(s)/Corequisite(s):** ENGL 1160

## Science, Tech, Engr, and Math (STEM)

**STEM 1120 INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING (3 credits)**

This course embraces the visual arts to introduce students to the foundational elements of mathematical and computational thinking. Visual patterns form the basis for explorations in arithmetic and geometric sequences, from which algebraic functions and corresponding functions in computer programs are reasoned.

**Distribution:** Math

## **STEM 2800 SCIENCE EXPERIMENTATION AND ENGINEERING DESIGN (4 credits)**

Science Experimentation and Engineering Design (SEED) is a general science course that introduces STEM (Science, Technology, Engineering, and Mathematics) concepts and their applications through student-developed experiments using high-altitude balloon platforms. The Scientific Method and Engineering Design Process are central to the students' experiences and work in this course, as the course models the interdisciplinary connectedness of academic fields. Students will study and work in active, experiential learning environments through all phases of the near-space experiments: conceptualization, design, launch, data analysis, and reporting. (Cross-listed with TED 2800).

**Distribution:** Natural/Physical Sci General Education lecture&lab

## **Social Sciences (SSCI)**

### **SSCI 2000 SOCIAL SCIENCE ISSUES I (3-5 credits)**

An interdisciplinary course which explores the nature and scope of social science, and seeks an integrated understanding of selected social science topics within the context of contemporary issues. Course topics will vary, but will typically include a multidisciplinary approach.

## **Social Work (SOWK)**

### **SOWK 1000 SOCIAL WORK AND SOCIAL WELFARE (3 credits)**

This course is designed for the student who wants to learn about social welfare and to explore a possible major in social work. The student examines historical and current issues in social welfare, social services, and the social work profession. The course focuses on values, beliefs, and goals of social services and social work, and provides a historical perspective for present activities.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

### **SOWK 1500 SOCIAL WORK AND CIVIC ENGAGEMENT (3 credits)**

This course is designed to acquaint the student with the social work profession, professional roles and functions, and social services delivery systems. Students will have an opportunity to observe and participate in social services activities within Nebraska and Iowa communities incorporated with didactic experiences. Students will also have an opportunity to explore their vocational aptitude for social work practice via interactive encounters with clients and helping professionals.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### **SOWK 2120 RACE, CLASS AND GENDER IN THE UNITED STATES (3 credits)**

This course examines the effects of race, class, and gender on social policy and social injustice. The focus is on how institutional manifestations of racism, classism, and sexism, and how these are interconnected and are mutually reinforcing. The consequences of institutionalized oppressions are examined at the individual, group, family, and societal levels.

**Distribution:** U.S. Diversity General Education course

### **SOWK 3000 APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR (3 credits)**

A course on the use of data and statistical methods to explore and make inferences about society, while critically considering the influence of context and the powers and limitations of quantitative evidence. (Cross-listed with CRCJ 3000, PA 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1120 or 1130 or 1220, or an ACT of 19, or above or permission from the department.

### **SOWK 3010 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3 credits)**

This course is the first part of a two-semester sequence within the Bachelor of Science in Social Work (BSSW) required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan, particularly infancy through adolescence, within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** PSYC 1010, SOC 1010, BIOL 1020, and admission to the BSSW program. Not open to non-degree graduate students.

### **SOWK 3020 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3 credits)**

This course is the second part of a two-semester sequence within the Bachelor of Science in Social Work (BSSW) required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the life span – particularly during young, middle, and late adulthood – within the social environment at the micro- and macro-level social systems (e.g., individuals, families, groups, institutions, organizations, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** SOWK 3010. Not open to non-degree graduate students.

### **SOWK 3110 SOCIAL WELFARE POLICY (3 credits)**

This course is an introduction to social welfare policy analysis. It informs the Bachelor of Science in Social Work (BSSW) student about the history of professional social work, the development of social services in the United States, and the values, beliefs, ethics and social welfare theory that frames professional policy practice. The course examines social welfare policy taking into account historical, political, economic, social, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** PSCI 1000, ECON 1200, HIST 1120, and admission to the BSSW program

### **SOWK 3320 SOCIAL WORK PRACTICE I (3 credits)**

This course introduces students to the values, ethics, knowledge, and skills of generalist social work practice. Using constructs from the Generalist Intervention Model, systems theory, and the strengths-based perspective, students learn about engagement, assessment, planning and contracting, intervention, evaluation, and termination. Diversity and case management are emphasized as part of bringing planned change to client systems, including individuals and families.

**Prerequisite(s)/Corequisite(s):** PSYC 1010, SOC 1010, and admission to the BSSW program.

### **SOWK 3350 SOCIAL WORK PRACTICE II (3 credits)**

This course reinforces the values, ethics, knowledge, and skills of generalist social work practice. Students gain specific knowledge and skills in assessing, intervening and terminating with families. Students will learn about the process of development and implementation of groups.

**Prerequisite(s)/Corequisite(s):** SOWK 3320.

### **SOWK 3890 WRITING FOR SOCIAL WORK (3 credits)**

This course emphasizes the process of critical thinking and analysis and the process of effective professional writing as required for generalist social work practice. Students will apply selected generalist social work concepts to prepare writing samples such as research/term papers, client progress/psychosocial reports, analytical reviews, professional development papers, business communications, and grant proposals. Research and writing skills emphasized are: conducting electronic literature searches, outlining, paragraph and sentence structure, revising, using APA format, and proofreading for correct grammar, word usage, and punctuation.

**Prerequisite(s)/Corequisite(s):** ENGL 1150, ENGL 1160, and admission to the BSSW program.

**SOWK 4010 SOCIAL WORK WITH AMERICAN INDIANS (3 credits)**

This course provides the student with a broad study of the origins, influences and issues of the American Indian which affect social work practice. The usefulness of established social work generalist methods is explored. Alternative methods applicable to culturally diverse people across the lifespan are presented. This is a Service Learning class. (Cross-listed with SOWK 8016).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOWK 4020 SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY (3 credits)**

This course seeks to develop in students an awareness and understanding of some of the social and psychological/cognitive realities influencing the behavior of African American youth and families across the lifespan. The content draws upon theories, research and social work practice skills relevant to African American youth and families, as well as the cognitive process and social systems which impact African youth and families. (Cross-listed with SOWK 8026)

**Prerequisite(s)/Corequisite(s):** Admitted to the BSSW program or permission of the school.

**SOWK 4040 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, GERO 8696, SOWK 8046).

**Prerequisite(s)/Corequisite(s):** Admitted to the BSSW program or [SOWK 1000, junior or senior standing, and permission of the School

**SOWK 4050 ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE (3 credits)**

This course focuses on effective generalist social work practice with clients of ethnic diversity. (Cross-listed with SOWK 8056)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school.

**SOWK 4360 SOCIAL WORK PRACTICE III (3 credits)**

This course is an introduction to a goal-oriented planned change process with an emphasis on task groups, organizations, and communities.

**Prerequisite(s)/Corequisite(s):** SOWK 2120, SOWK 3110, and SOWK 3350.

**SOWK 4400 RESEARCH METHODS IN SOCIAL WORK PRACTICE (3 credits)**

Focus will be on the scientific method as it is applied to social work research. The purpose of all social work research is to answer questions or solve problems. The six phases of the research process will be identified and the basic tasks to be accomplished in each phase will be learned. Special attention will be given to evaluating social work practice.

**Prerequisite(s)/Corequisite(s):** Prior or concurrent STAT 1530, CRCJ 3000, PA 3000, PSYC 3130, SOWK 3000, or STAT 3000

**SOWK 4410 GENERALIST SOCIAL WORK PRACTICUM I (5 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a selected social service agency. The student will be introduced to a variety of social work practice roles, develop professional relationships with client systems and learn to apply a number of interventive modalities to effect change across the life span. In order to facilitate integration of classroom theory with practice, students will attend a seven-week practicum seminar (2 hours per week).

**Prerequisite(s)/Corequisite(s):** Prior: SOWK 2120, SOWK 3020, SOWK 3350. Prior to or concurrent: SOWK 4360.

**SOWK 4420 GENERALIST SOCIAL WORK PRACTICUM II (5 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a social service agency, typically the same agency as in SOWK 4410. This course builds upon opportunities provided and competence achieved in Generalist Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** SOWK 4410 prior or concurrent.

**SOWK 4450 SOCIAL WORK CAREER PREP (1 credit)**

This course is intended as an integrating senior seminar designed to be taken with the final course of practicum. It facilitates the transition from student to professional social worker through the use of specific assignments focused on areas of resume development, continuation of research, awareness of continuing education needs, issues of licensure, and exposure to social work professionals.

**Prerequisite(s)/Corequisite(s):** SOWK 4410 prior or concurrent.

**SOWK 4510 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, COUN 8516, SOWK 8516).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. Not open to non-degree graduate students.

**SOWK 4530 SCHOOL SOCIAL WORK (3 credits)**

This course explores the field of social work practice in school settings, including the history of social work practice in schools, school environment, roles of school social workers, mandated foundations for school social work services, eligibility for special education and 504 plans, theories of practice that include school and community based models, and interventions for target populations in schools. (Cross-listed with SOWK 8536).

**Prerequisite(s)/Corequisite(s):** Admission to MSW program OR permission of the school. Not open to non-degree graduate students.

**SOWK 4620 TRAUMA AND RESILIENCE (3 credits)**

This course provides an overview of issues related to trauma including: the factors related to development of trauma, definitions of trauma, the impact of trauma on individuals, families and communities, and the programs and practices that are most effective and appropriate regarding the social work role in responding to trauma. (Cross-listed with SOWK 8626)

**Prerequisite(s)/Corequisite(s):** SOWK 3320

**SOWK 4640 SOCIAL WORK IN CHILD WELFARE (3 credits)**

This course examines the history, challenges, and issues of governmental intervention in families to protect at-risk children. The course concentrates on the effects of the 1980 federal legislation (PL 96-272) on child welfare delivery systems and practice. It provides a comprehensive overview of child welfare services, including child protective services, in-home services, foster care, group care, intergenerational childcare, and adoption. It also provides an overview of the juvenile justice system and its impact on children and their families.

**Prerequisite(s)/Corequisite(s):** Admission to the Bachelor of Science in Social Work (BSSW) program or permission of the Grace Abbott School of Social Work.

**SOWK 4650 SOCIAL WORK IN MENTAL HEALTH (3 credits)**

This is an introductory course to develop basic knowledge and skills of mental health concepts, interventions, and services for social workers. The focus is on history, contemporary trends, legal and practice implications, human rights, social justice, assessment and delivery of culturally competent social services.

**Prerequisite(s)/Corequisite(s):** Admission to the Bachelor of Science in Social Work (BSSW) program or permission of the Grace Abbott School of Social Work.

**SOWK 4660 SOCIAL WORK WITH INDIVIDUALS WITH DISABILITIES (3 credits)**

This is an introductory course to increase awareness of intellectual and developmental disability issues across the lifespan that affect social work practice. The focus is on history, contemporary trends, legal and practice implications, human rights, social justice, assessment, and delivery of culturally competent services.

**SOWK 4680 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 8686, COUN 4680, COUN 8686).

**SOWK 4690 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, COUN 8696, SOWK 8696).

**SOWK 4800 SOCIAL WORK AND THE LAW (3 credits)**

This course presents the fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include: the legal system, legal research methods, professional ethical/legal responsibilities and liabilities, family law, elder law, criminal law, juvenile law, personal injury law, employment discrimination law, capacity to make contracts and wills, rights of institutionalized patients, and rights of handicapped children to an education. (Cross-listed with SOWK 8806).

**Prerequisite(s)/Corequisite(s):** SOWK 3110

**SOWK 4810 SPIRITUALITY AND SOCIAL WORK PRACTICE (3 credits)**

Social work literature defines spirituality as the human striving for a sense of meaning, purpose, values, and fulfillment. Spirituality is expressed through diverse forms throughout a client's lifespan; it is central to clients' understanding of suffering and their attempts to resolve it. This course examines major issues pertaining to spiritually-sensitive social work practice with clients of diverse religious and non-religious (i.e., outside sectarian institutional contexts) perspectives. (Cross-listed with SOWK 8816)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW program or permission of the school

**SOWK 4820 GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE (3 credits)**

This course prepares students to work in a global setting. Students examine theories, concepts, and skills related to social development, cross-cultural engagement, and issues related to particular countries. The course is designed with two elements: 1) On-campus classroom learning focused on global social work knowledge, and, 2) Field-based labs that involve direct engagement with an international population. Students select one lab: i) faculty-led trip to China for two-weeks, ii) refugee resettlement service-learning project in Omaha. (Cross-listed with SOWK 8826).

**SOWK 4830 CRISIS INTERVENTION (3 credits)**

The prevalence of crisis experiences within our society and lifespan development necessitates that social workers acquire a knowledge and skill-base for effective and professional crisis intervention practice. Students will study the ABC Model of Crisis Intervention and how to ethically practice with diverse and vulnerable populations. Students will apply crisis intervention theory and models of intervention to various concern areas including but not limited to: suicide, sexual assault, domestic violence, substance abuse, grief and loss, and violence. A systems, strengths, and cultural emphasis will be applied to the various crisis situations covered. (Cross-listed with SOWK 8836)

**Prerequisite(s)/Corequisite(s):** SOWK 3320

**SOWK 4850 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, GERO 8856, SOWK 8856.)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school

**SOWK 4880 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with Grace Abbott School of Social Work program objectives, faculty expertise, and student needs. (Cross-listed with SOWK 8886)

**Prerequisite(s)/Corequisite(s):** Admission to BSSW or permission of the school.

**SOWK 4890 SPECIAL STUDIES IN SOCIAL WORK (1-4 credits)**

This independent study course allows students to pursue a special selected area or topic within social welfare in order to deepen knowledge and/or skills in that particular area.

**Prerequisite(s)/Corequisite(s):** Admission to BSSW program or permission of the school.

**SOWK 4980 SENIOR HONORS PROJECT/THESIS (3-6 credits)**

An independent research project supervised by an approved faculty member. The senior honors project must be approved by the CPACS Honors Coordinator.

**Prerequisite(s)/Corequisite(s):** Senior in Honors Program and permission of the School.

## Sociology (SOC)

**SOC 1010 INTRODUCTORY SOCIOLOGY (3 credits)**

An introduction to the study of human societies. The course presents the fundamental concepts and theories that make up the sociological perspective. These serve as tools for the analysis of social inequality, social institutions and social change.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**SOC 2100 SOCIAL PROBLEMS (3 credits)**

An analysis of the origins of social problems in American society. Attention is given to the nature, consequences and solutions of selected social problems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**SOC 2120 SOCIOLOGICAL THEORY (3 credits)**

SOC 2120 is an intellectual history of sociology as an academic discipline surveying outstanding contributions to its body of theory. The social contexts in which a variety of classical and contemporary theoretical traditions have arisen will be considered. Stress is placed on understanding and applying different approaches to sociological analysis through detailed textual interpretation of theoretical writings.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Sociology major or permission of instructor. Not open to non-degree graduate students.

**SOC 2130 SOCIAL STATISTICS (3 credits)**

An introduction to the fundamental statistical techniques used in the analysis of social data, including descriptive and inferential statistics. The focus is on the production and interpretation of statistical information in the study of social life.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1220, MATH 1310, or MATH 1530 or permission of instructor.

**SOC 2134 SOCIAL STATISTICS LAB (1 credit)**

A computer-based laboratory course to be taken in conjunction with SOC 2130. The focus is on using computer software to produce and interpret statistical information in the study of social life.

**Prerequisite(s)/Corequisite(s):** MATH 1120, MATH 1130, MATH 1220, MATH 1310, or MATH 1530 and SOC 2130 (taken previously or concurrently) or permission of instructor. Not open to non-degree graduate students.

**SOC 2150 SOCIOLOGY OF FAMILIES (3 credits)**

This course provides a description and analysis of contemporary families from a sociological perspective. A life course perspective traces the development of family life, with special attention to change, choice, and diversity. Topics such as family structure, the functions of the family as an institution, family comparisons across culture and time, and difficulties faced by families in contemporary society will also be explored.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**SOC 2190 THE MODERN MIDDLE EAST (3 credits)**

An interdisciplinary study of the social, religious, and historical dimensions of contemporary issues and events which make the Middle East cultural and geographic region a center of global tensions. After providing a background of how Islam spread in and unified the region, students will study factors which have shaped the Middle East from the late Ottoman period to the present, analyzing the principal sociocultural and political economic developments in the Middle East from the early 19th century to the early 21st century. (Cross-listed with RELI 2190, HIST 2190).

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**SOC 2300 SPORT & SOCIETY (3 credits)**

This course provides a sociological examination of the contemporary sports world and the ways that the institution of sport both reflects and shapes society. The importance of sports to culture and socialization, the interaction between sports and other social institutions, and the unique role that sports plays in both perpetuating and contesting inequalities of race, gender, class, identity, and ability will be explored.

**Distribution:** Social Science General Education course

**SOC 2400 SOCIOLOGY ON FILM (3 credits)**

This course applies the sociological perspective to feature and documentary movies to critically explore social issues presented on film. Students will develop their sociological imaginations as they are introduced to essential sociological concepts such as culture, society, the social construction of reality, socialization, power and inequality, social institutions, and social problems as depicted in classic, contemporary, and foreign film. As social issues are serious and often controversial, the films examined may also be controversial and contain mature themes.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course

**SOC 2800 MAJOR SOCIAL ISSUES (3 credits)**

The course examines a major social issue from a sociological perspective with content and materials designed for non-majors. The topics will vary from semester to semester, so the course can be taken more than once.

**SOC 3300 SOCIOLOGY OF GENDER (3 credits)**

This course critically examines the meaning, purpose, and consequences of gender, by using sociological methods and theories to explore the institutions that structure gender relationships and identities, and form the contexts that shape social life in the United States. Particular attention will be given to how social institutions like the state, the economy, family and the mass media shape the definitions of femininity and masculinity, as well as how the gender system intersects with other structures of inequality - race, class, and sexual orientation.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3450 SOCIAL PSYCHOLOGY (3 credits)**

Social interaction studied in situations of (1) social influences on individuals, (2) dyads or face-to-face groups, and (3) larger social systems. The concepts, theories, data, research methods and applications of varied substantive topics are examined. (Cross-listed with PSYC 3450).

**Prerequisite(s)/Corequisite(s):** SOC 1010 or PSYC 1010

**SOC 3510 RESEARCH METHODS (3 credits)**

This course is a basic introduction to the principles, methods and techniques of empirical social research. The common methods used by sociologists and anthropologists are addressed such as surveys, interviews, and observation.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor

**SOC 3514 RESEARCH METHODS LAB (1 credit)**

This is a laboratory course to be taken in conjunction with SOC 3510.

The focus is on applying methodology and basic data analysis learned in SOC 3510 and the development of a sociological research proposal.

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing, and SOC 3510 (taken previously or concurrently); or permission of instructor.

**SOC 3610 APPLIED ORGANIZATIONAL SOCIOLOGY (3 credits)**

A foundational applied organizational sociology course that focuses on the understanding, analysis, and applications of basic knowledge of organizational structures and systems for solving organizational problems, enhancing organizational performance, and preparing students for leadership roles in organizations.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3690 SOCIAL INEQUALITY (3 credits)**

Considers social inequality from a sociological vantage point, introducing students to the structure of inequality, power, and privilege. Attention is paid to the intersections of various forms of inequality, including an examination of class, race, ethnicity, gender, sexuality and sexual orientation, immigration, age, ability, etc. The consequences of social inequality for life chances and social mobility are examined.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3700 INTRODUCTION TO LGBTQ STUDIES (3 credits)**

Introduces key themes and critical frameworks in Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) Studies. This course examines scholarly contributions from a range of academic disciplines and traces some of the ways that LGBT Studies has influenced cultural and social theory more broadly. Topics include LGBTQ histories and social movements; forms of oppression including heterosexism, homophobia, and transphobia; resistance to oppression; queer activism; intersecting identities; and representations in literature, art, and popular media.

**Prerequisite(s)/Corequisite(s):** SOC 1010 or WGST 2010 or WGST 2020; or permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3800 WORK AND SOCIETY (3 credits)**

This course explores the social organization of work in the United States, from pre-industrial times to the present. It addresses how and why current work structures and practices emerged historically within a global context, and the social implications of these structures for various groups (based on race/ethnicity, immigration status, sexuality, and social class). The course grapples with the big questions: "How work is organized the way it is right now, how did we get here, and what might it look like in the future?"

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor.

**SOC 3820 MEDICAL SOCIOLOGY (3 credits)**

The study of the social patterning of health and illness, including inequalities in health by stratifying elements such as race, class, and gender. Examines the social definition of health, illness, and the social position of being a sick person in society. Also examines the interaction individuals have with health care providers and the structure of medicine in the U.S. and around the world. Offers a critical examination of the social institution of medicine.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 3840 WORLD POPULATION AND SOCIAL ISSUES (3 credits)**

This course introduces students to the scientific study of populations across the world and the social issues derived from population change. It includes basic training on demographic methods and the use of data sources. It covers concepts and theories that connect population dynamics to world economic development, global inequality, refugee and immigration issues, the status of women, intergenerational competition, and population pressure on food and the environment.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing, or permission of instructor. Six hours of social science, or permission of instructor.

**Distribution:** Global Diversity General Education course

**SOC 3900 RACE AND ETHNIC RELATIONS IN THE U.S. (3 credits)**

The course explores historical and contemporary meanings of race and ethnicity and introduces students to the ways sociologists think about 'race,' race relations and racism. It views current theoretical issues, and focuses on the recent histories and the current position of several major racial-ethnic populations in the U.S.: African Americans, Latino/a Americans, Native Americans, Asian Americans, and white/European ethnics. Emphasis is on how race/ethnicity has structured groups' experiences in relation to social institutions like health, education, culture and media, the legal system, and the economy.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and sophomore standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4130 SOCIOLOGY OF DEVIANCE (3 credits)**

This course introduces students to the sociological study of behaviors that have been labeled as "deviant" because they presumably violate social norms. The course takes a constructionist approach, critically analyzing how deviance is socially defined, organized, and managed. Students will be challenged to see the diversity and pervasiveness of deviance in society and to question the labelling of behaviors, individuals, and powerless groups as deviant. We will explore the social processes, powerful actors, and social institutions that create deviance as well as efforts to resist definitions of deviance. (Cross-listed with SOC 8136).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4140 URBAN SOCIOLOGY (3 credits)**

This course examines classical and contemporary sociological theories on city formation, the urbanization process, and the interaction of society and the built environment. Topics covered include suburbanization, gentrification, residential segregation, social networks, crime, housing, city culture, and public policy. The focus is on U.S. cities with selected comparisons to other world regions. Students will also get basic knowledge and exposure to research methods to study urban areas locally. (Cross-listed with SOC 8146).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission from the instructor.

**SOC 4150 AMERICAN FAMILY PROBLEMS (3 credits)**

This course explores the problems and issues faced by contemporary American families, such as racism and sexism; the challenges of childhood and adolescence; divorce and remarriage; work and family conflict; and family violence. The difficulty of defining both "family" and "problems" is addressed throughout the course. (Cross-listed with SOC 8156)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Junior standing, or permission of instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4170 SOCIOLOGY OF FATHERHOOD (3 credits)**

This course examines the existing social science research on fatherhood, exploring topics such as the evolution, history, demography, and politics of fatherhood; father involvement and its relationship to both children's and men's well-being; the effects of diversity and family structure on fatherhood; and public policy surrounding fatherhood. (Cross-listed with SOC 8176)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission of instructor. Not open to non-degree graduate students.

**SOC 4180 OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK (3 credits)**

This course examines what makes individuals and groups happy and satisfied with their jobs, and the factors that can turn "a dead-end job" into a meaningful pursuit that lasts decades. The course utilizes a life course approach and covers early socialization experiences to retirement transitions. It also employs a sociological lens to explore how individual experiences in the work realm are affected by stratification (such as race/ethnicity, gender, sexuality, social class, and parental status) and as well as by occupational norms and structures, workplace relationships, and culture and practices at the organizational and societal levels. (Cross-listed with SOC 8186).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing, or permission of instructor

**SOC 4200 SOCIOLOGY OF THE BODY (3 credits)**

This course offers an overview of contemporary sociological theories of the body and uses these theories to explore substantive issues pertaining to the discourses, practices, and politics of the body in modern societies.

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 4210 DISABILITY AND SOCIETY (3 credits)**

This course takes a sociologically grounded but interdisciplinary look at the past, present, and potential future of disability. Along the way, competing models and theories of disability are critically explored and substantive issues pertaining to the social experiences and social responses to people with disabilities are discussed. (Cross-listed with SOC 8216)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 4240 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 8246, LLS 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**Distribution:** Global Diversity General Education course

**SOC 4250 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 8256, LLS 4250, LLS 8256).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**Distribution:** Global Diversity General Education course

**SOC 4310 SOCIOLOGY OF SEXUALITIES (3 credits)**

This class focuses on the social construction of sexualities - especially heterosexual sexualities, bisexual sexualities, and homosexual sexualities. A primary focus of the class will be LGBT/Queer Studies. The class examines how sexual desires/identities/orientations vary or remain the same in different places and times, and how they interact with other social and cultural phenomenon such as government, family, popular culture, scientific inquiry, and race, gender, and class. (Cross-listed with SOC 8316)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and Junior standing; or permission of the instructor. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**SOC 4350 WORK & FAMILY (3 credits)**

This course examines the contemporary problems that individuals, families and communities in the U.S. have in integrating work and family/personal life. (Cross-listed with SOC 8356)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor.

**SOC 4440 HUMAN CONNECTION, LONELINESS, & HEALTH (3 credits)**

This course examines the "loneliness epidemic" through a sociological perspective and is based on the premise that loneliness is a public health issue, as research consistently shows it is associated with a vast array of physical and mental health outcomes. After discussing the extent of loneliness and how to define it by distinguishing it from other types of social pain, the course covers: 1) the extent and nature of loneliness and its cultural/social sources; 2) the pathways from loneliness to health outcomes; and 3) possible interventions to reduce loneliness and improve public health. (Cross-listed with SOC 8446).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of the instructor.

**SOC 4550 ORGANIZATIONAL DIVERSITY AND INCLUSION (3 credits)**

This course provides advanced-level knowledge of the structural understanding, assessment, analysis, and management of social diversity as well as successful inclusion strategies in the workplace. Concepts and theories dealing with structural basis of the creation of difference, consequences of difference, inclusion, affirmative action, and diversity consulting skills are fully examined in this course. This course will prepare students for successful leadership in diverse organizational environments. (Cross-listed with SOC 8556)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4620 APPLIED FORMAL ORGANIZATIONS (3 credits)**

An advanced-level applied organizational sociology course that uses organizational theory, concepts, research, and practice to examine the structural bases of organizational effectiveness, efficiency, survival, and actions of organizational members. The course is designed to prepare students for organizational leadership using advanced knowledge and skills of organizational sociology. (Cross-listed with SOC 8626).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4700 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with SOC 8706, PHHB 4700, PHHB 8706)

**Prerequisite(s)/Corequisite(s):** Junior Standing or permission of the instructor.

**Distribution:** U.S. Diversity General Education course

**SOC 4740 SOCIAL JUSTICE AND SOCIAL CHANGE (3 credits)**

This course investigates the economic, political and social constraints on equality present in local, national and global arrangements. Students will gain a theoretical understanding of these conditions as well as those that lead to social change, spanning from day-to-day resistance techniques to large scale social movements. Students will participate in a service learning or applied project as they explore contemporary social justice issues and learn both theoretical and practical tools needed to become successful change makers, activists, or community organizers. Examples of social justice movements or campaigns form the basis for understanding injustice at a local, national, and global level. (Cross-listed with SOC 8746)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4760 ENVIRONMENTAL SOCIOLOGY (3 credits)**

This course is an introduction to environmental sociology, a field of sociology that explores the interaction between the environment and society. Environmental sociologists consider how political, social, and economic factors have come to shape our patterns of interaction with the natural and built environment. Students will be expected to use the sociological perspective to understand the landscape of environmental problems, focusing on such issues as environment and health, disaster, environmental policy, climate change, environmental risk, human and animal interactions, sustainability, environmental justice and social movements. (Cross-listed with SOC 8766).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**SOC 4770 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, PSCI 8776, SOC 8776).

**Prerequisite(s)/Corequisite(s):** SOC 1010, junior standing or permission from instructor

**SOC 4780 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 8786, LLS 4780, LLS 8786).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing or permission of instructor

**Distribution:** Global Diversity General Education course

**SOC 4800 CONTEMPORARY TOPICS IN SOCIOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8806)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4830 SOCIOLOGY OF MENTAL HEALTH & ILLNESS (3 credits)**

This course will apply the sociological perspective to various topics regarding mental health and illness. The course will cover topics such as the social construction of mental illness, the social epidemiology of mental illness, labeling and stigma of those with a mental illness, and mental health policy/treatment. (Cross-listed with SOC 8836)

**Prerequisite(s)/Corequisite(s):** SOC 1010, and junior standing; or permission of the instructor.

**SOC 4850 SOCIOLOGY OF RELIGION (3 credits)**

This course looks at religion as a social and cultural phenomenon, examining how religious beliefs, practices, institutions and movements shape and are shaped by their social context. Topics include: sociological theories and explanations of religion and spirituality; definitions of religion and the distinction between religion and other ideologies or worldviews; the measurement of religiosity and the scientific study of religion; trends in religiosity, spirituality, and the religious landscape historically and globally; sociological insights gained from the study of new religions, secularization, fundamentalism, and other issues related to contemporary religious experience. (Cross-listed with SOC 8856)

**Prerequisite(s)/Corequisite(s):** SOC 1010 or permission of instructor.

**SOC 4880 CONTEMPORARY TOPICS IN SOCIOLOGY (ONE CREDIT HOUR) (1 credit)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8886).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4890 CONTEMPORARY TOPICS IN SOCIOLOGY (TWO CREDIT HOURS) (2 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 8896).

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 4900 SENIOR THESIS (4 credits)**

This is a capstone research and writing course designed for Sociology majors who are in their senior year. The major purpose of the course is to produce an original thesis of 20-25 pages, which will be developed through a series of assignments. Students will choose their own thesis topics with the purpose of reflecting on and synthesizing knowledge about sociological concepts, theories, and research methods. This course meets the University requirement of a third writing course.

**Prerequisite(s)/Corequisite(s):** SOC 1010, 2120, 2130, 2134, 3510, 3514, Sociology major, and senior standing; or permission of instructor. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**SOC 4910 INTERSHIP IN SOCIOLOGY (1-3 credits)**

This course offers students an opportunity to experience sociology and/or anthropology through direct involvement in non-profit, for profit, government, or other organization. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Senior standing and permission of instructor.

**SOC 4990 INDEPENDENT STUDY IN SOCIOLOGY (1-3 credits)**

Guided readings and/or independent research in a special sociological topic under the supervision of a Sociology faculty member. A formal contract specifying the nature of the work to be completed must be signed before enrolling in the course. May be taken for a maximum of six hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

## Spanish (SPAN)

**SPAN 1100 ELEMENTARY SPANISH I FOR HEALTHCARE PROFESSIONALS (5 credits)**

Spanish 1100 presents an introduction to the Spanish language and fosters the mastery of all linguistic skills; i.e., speaking, listening, reading, and writing, via a communicative approach. It also promotes an understanding of the target language's culture with an emphasis on sociocultural issues relevant to healthcare services.

**SPAN 1110 ELEMENTARY SPANISH I (5 credits)**

Elementary Spanish I emphasizes the mastery of all four language skills (speaking, listening, reading, and writing) and introduces cultural topics from across the Spanish-speaking world.

**Distribution:** Humanities and Fine Arts General Education course and Global Diversity General Education course

**SPAN 1120 ELEMENTARY SPANISH II (5 credits)**

Spanish 1120 is the second course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 1110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 1200 ELEMENTARY SPANISH 2 HEALTHCARE PROFESSIONALS (5 credits)**

Spanish 1200 is built on the content introduced in Spanish 1100 and presents to students more complex communicative tasks that are typical of the interactions between patient/client and healthcare providers. The course fosters the mastery of all linguistic skills; i.e., speaking, listening, reading, and writing, via a communicative approach. It also promotes an understanding of the target language's culture with an emphasis on sociocultural issues relevant to healthcare services.

**Prerequisite(s)/Corequisite(s):** SPAN 1110 or SPAN 1100 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2110 INTERMEDIATE SPANISH I (3 credits)**

Spanish 2110 is the third course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 1120 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2120 INTERMEDIATE SPANISH II (3 credits)**

Spanish 2120 is the fourth course in the 16-hour Arts and Sciences Foreign Language requirement. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing.

**Prerequisite(s)/Corequisite(s):** SPAN 2110 with a grade of C- or better, or placement by department diagnostic exam. Department permission is needed for transfer credit.

**SPAN 2130 ACCELERATED SECOND-YEAR SPANISH (6 credits)**

This accelerated course combines the content of Intermediate Spanish I and Intermediate Spanish II. It is communicative in approach and emphasizes the mastery of all language skills including speaking, listening, reading, and writing. Successful completion of this course fulfills the College of Arts and Sciences foreign language requirement. The entire course must be completed to receive credit.

**Prerequisite(s)/Corequisite(s):** SPAN 1120 or placement by Department of Foreign Languages diagnostic examination. Department permission is needed for transfer credit.

**SPAN 2150 INTRODUCTION TO HISPANIC LITERATURES AND CULTURES (3 credits)**

In this course, students become acquainted with canonical texts within the Spanish and Spanish American literary traditions. The course focuses on developing reading and writing skills, and on helping students distinguish between literal and metaphorical meanings, which serves as a preparation for the development of more advanced interpretive skills.

**Prerequisite(s)/Corequisite(s):** Placement exam results or advisor permission

**SPAN 3010 SPANISH FOR HERITAGE SPEAKERS I (3 credits)**

This course is designed to offer Spanish-speaking students an opportunity to study Spanish in an academic setting. Students will acquire Spanish literacy skills, develop their academic language skills in Spanish, and learn more about the Spanish language and their cultural heritage.

**Prerequisite(s)/Corequisite(s):** Placement exam results or adviser permission

**SPAN 3020 SPANISH FOR HERITAGE SPEAKERS II (3 credits)**

This course will continue to build upon the Spanish language skills students have covered in Spanish for Heritage Speakers I. Students will develop strategic academic vocabulary, learn to critically analyze a text, produce a variety of written texts, and acquire new information in different academic content areas.

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or adviser permission

**SPAN 3030 SPANISH CONVERSATION (3 credits)**

Practice in a variety of conversational situations and levels.

**Prerequisite(s)/Corequisite(s):** SPAN 2120 or placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners. Heritage and native students should not enroll.

**SPAN 3040 SPANISH GRAMMAR AND COMPOSITION (3 credits)**

Review of grammatical principles and practice in written composition.

**Prerequisite(s)/Corequisite(s):** SPAN 2120, placement by Department of Foreign Languages diagnostic examination, or departmental permission. The course is for second-language learners. Heritage and native students should not enroll.

**SPAN 3050 LATIN AMERICA IN CONTEXT: HEALTH, BUSINESS, ENVIRONMENT, AND SOCIETY THROUGH ORAL PRACTICE (3 credits)**

This course focuses on the development and intensive practice of oral expression in Spanish, and is intended for students interested in the fields of business, health, education, environmental sciences, social work, and cultural studies, who are either heritage speakers of Spanish or who are completing a major/minor in Spanish. The class provides a broad context of current relevant issues in Latin America, including politics and society; the state of the economy after decades of neoliberalism; racism; indigenous and Afro-descendent identities; domestic and gender violence; health and disabilities; adult, youth, & child immigration; and ecology and the environment. (Cross-listed with LLS 3050).

**Prerequisite(s)/Corequisite(s):** SPAN 3010 or SPAN 3030 & SPAN 3040

**SPAN 3060 READINGS IN SPANISH (3 credits)**

This course aims to increase students' fluency in reading and to develop comprehension skills that will help them in advanced language studies. The course will also enrich students' vocabulary through the use of a variety of primary sources; many genres will be sampled.

**Prerequisite(s)/Corequisite(s):** SPAN 2120: Intermediate Spanish II. Not open to non-degree graduate students.

**SPAN 3170 SURVEY OF SPANISH LITERATURE I (3 credits)**

Introduction to the principal authors and works of Spanish literature from El Cid to the 17th century.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or departmental permission. Not open to non-degree graduate students.

**SPAN 3180 SURVEY OF SPANISH LITERATURE II (3 credits)**

Spanish 3180, Introduction to Spanish Literature II, aims to familiarize students with the most important writers and literary movements from the 18th to the 21st centuries, giving an overview of the history, society and culture of these times. This course will also focus on the continued development of students' listening, speaking, reading, and essay skills. In pursuit of these goals, students will have the opportunity to read not only the specific texts but critical and introductory articles that will help them situate themselves within this particular historical and literary context. Students will also have to write essays, take tests, and develop their critical skills.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or departmental permission.

**SPAN 3410 SPANISH CIVILIZATION (3 credits)**

History, geography, national economy, politics, society, education, art, music and literature of Spain.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060.

**SPAN 3420 LATIN AMERICAN CIVILIZATION (3 credits)**

What do we know about Latin American culture, geography, politics and languages? How has Latin America been imagined from the United States? Does it make sense to think of Latin America as one space brought together by a similar history or is it better to imagine it as twenty particular countries with intersecting pasts and futures? This course will attempt to answer these questions by introducing you to a number of key topics and debates common to contemporary Latin American culture, including issues such as democracy, class, race/ethnicity, gender/sexuality, religion, family and globalization. (Cross-listed with LLS 3420).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060.

**SPAN 3510 SPANISH PHONETICS AND PHONOLOGY (3 credits)**

Introduction to basic concepts in phonetics and phonology, and intensive practice in Spanish pronunciation.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3040. Not open to non-degree graduate students.

**SPAN 3570 SPANISH FOR HEALTHCARE PROFESSIONALS (3 credits)**

Spanish for Healthcare Professionals provides an introduction of specialized communication in the healthcare context. Course objectives include the development of essential informal and formal vocabulary and expressions, and sociocultural competencies necessary for successful interaction with patients and other healthcare providers.

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 or SPAN 3010, SPAN 3020

**SPAN 3580 BUSINESS SPANISH (3 credits)**

An introduction to the Spanish business world. Students will acquire the necessary skills and strategies to understand the differences in business practices and cultures between the US and Spanish-speaking countries. No prior business knowledge is required.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040, or permission from a Spanish advisor.

**SPAN 4020 LANGUAGE ENHANCEMENT THROUGH VOCABULARY LEARNING (3 credits)**

This class aims to expand students' vocabulary in Spanish. This will be achieved through doing an overview of current research that investigates how vocabulary is learned; identifying effective vocabulary learning strategies; and exploring topics not commonly encountered in Spanish classes such as commerce and science. The course also includes points of contact with the Spanish-speaking community in Omaha, where students can participate in interactions that connect what has been learned in the classroom to language use in real life. (Cross-listed with SPAN 8026).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060 OR SPAN 3010, SPAN 3020, and SPAN 3060

**SPAN 4030 ADVANCED SPANISH CONVERSATION (3 credits)**

This course targets the development of oral skills in Spanish through the incorporation of complex and sophisticated conversational structures and nuanced lexicon. In particular, the course focuses on presentational (i.e., expressing or exposing ideas or opinions), and interpersonal speaking (i.e., engaging in conversation where learners narrate and describe in the major time frames of past, present, and future in paragraph-length discourse with control of aspect). (Cross-listed with SPAN 8036)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060 or departmental permission

**SPAN 4040 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics. (Cross-listed with SPAN 8046).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020 and SPAN 3060; Majors only, senior standing. Not open to non-degree graduate students.

**Distribution:** Writing in the Discipline Single Course

**SPAN 4060 INTRODUCTION TO TRANSLATION AND INTERPRETATION (3 credits)**

This course offers an introduction to the translation and interpretation field. Course objectives include (a) understanding translation theory; (b) comprehending the role of communication in translation and interpretation; (c) targeting common grammatical and pragmatic errors; (d) increasing vocabulary knowledge in a variety of fields; and (e) gaining an increased awareness of the rigor and demands innate to the translation and interpretation fields. (Cross-listed with SPAN 8066).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060

**SPAN 4070 HISPANIC BILINGUALISM (3 credits)**

This course explores bilingualism among Spanish speaking populations. Topics include societal bilingualism, the history of Spanish and language policy in Spain, Latin America, and the U.S., psychological aspects of bilingualism, monolingual vs. bilingual acquisition, first vs second language acquisition, and Spanish as a heritage language in the U.S. (Cross-listed with SPAN 8076).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, SPAN 3060 or SPAN 3010, SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4080 INTRODUCTION TO HISPANIC LINGUISTICS (3 credits)**

This course introduces students to the field of linguistics by exploring the following areas: phonetics and phonology (sound systems), morphology (word formation), historical linguistics (language development over time), and sociolinguistics and pragmatics (language in society and context), among others, as framed within the study of the Spanish language. (Cross-listed with SPAN 8086).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040 OR SPAN 3010 and SPAN 3020

**SPAN 4120 HISPANIC SOCIOLINGUISTICS (3 credits)**

This course introduces sociolinguistics, the study of the relationship between language and society, with an emphasis on the Spanish language. Its focus will be on correlational linguistics (how social factors such as age, gender and socioeconomic status affect language) and language and society (the role language plays in human conduct and social organization). Course topics will include the concept of speech communities, sociolinguistic variables, phonological and syntactic variation as well as languages in contact, bilingualism, Spanish in the U.S., Spanish as a heritage language, and language attitudes and ideologies. (Cross-listed with SPAN 8126).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4130 SPANISH IN THE UNITED STATES (3 credits)**

This course looks at Spanish in the U.S. from a sociolinguistic perspective. Course topics include: Dialectal/regional differences, dialect contact, Spanish- English bilingualism and code-switching, "Spanglish", language maintenance, language ideologies surrounding Spanish in the U.S., and Spanish in public spheres (e.g., TV, movies, radio, music, stand-up comedy). (Cross-listed with SPAN 8136).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060 and SPAN 4080 or instructor permission

**SPAN 4140 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 8146, LLS 4140).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060

**SPAN 4150 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 8156, CACT 8416)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 and SPAN 3060 or permission of instructor

**SPAN 4170 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 8176, LLS 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, or SPAN 3010, SPAN 3020; SPAN 3060.

**SPAN 4220 THE STRUCTURE OF SPANISH (3 credits)**

This course introduces students to the structure of the Spanish language with a focus on its morphology and syntax as seen in the study of constituents of a sentence, lexical categories, content and function words, the pronominal system, the structure of simple and complex sentences, and the verbal system, among others. It reviews frequent syntactical errors in Spanish L2 and Heritage learners with the purpose of advancing their linguistic competence. (Cross-listed with SPAN 8226).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and 3040 or SPAN 3010 and SPAN 3020

**SPAN 4800 INTERNSHIP IN SPANISH (3 credits)**

This course is a supervised internship in a professional setting with a for-profit, government or non-profit organization. Students will receive hands-on experience involving translation, interpretation, community outreach, planning of educational opportunities or community events in Spanish. Internship specific projects and goals will be decided between employer and student and approved by the Spanish internship director. Some internships will be paid, but most will not.

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, SPAN 3060, junior or senior standing, and internship director permission. Not open to non-degree graduate students.

**SPAN 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign language faculty. As independent study courses are intended to enrich a student's regular academic program, they may not be taken as substitutes for scheduled classroom courses of the same nature, nor should they be taken by majors or minors in the department prior to fulfilling required course work..

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**SPAN 4950 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrower field of the literature and/or cinema of the Spanish-speaking world. (Cross-listed with SPAN 8956)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060

**SPAN 4960 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the Spanish-speaking world. (Cross-listed with SPAN 8966)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060.

**SPAN 4970 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Spanish-speaking world. (Cross-listed with SPAN 8976)

**Prerequisite(s)/Corequisite(s):** SPAN 3030 or SPAN 3010, SPAN 3040 or SPAN 3020, and SPAN 3060

## Special Education & Communication Disorders (SPED)

**SPED 1110 AMERICAN SIGN LANGUAGE I (3 credits)**

This is the beginning course in a five course series teaching American Sign Language. Candidates will be introduced to use of body language/mime, basic sentence types, manual alphabet, manual numbers/number systems, basic vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** co-requisite SPED 1114

**SPED 1114 AMERICAN SIGN LANGUAGE I LAB (1 credit)**

This is the co-requisite lab course for SPED 1110, American Sign Language I. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 1110

**SPED 1120 AMERICAN SIGN LANGUAGE II (3 credits)**

This is the second course in a five course series teaching American Sign Language. Candidates will continue to develop the use of body language/mime, basic sentence types, manual alphabet, manual numbers/number systems, and intermediate vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 1124; SPED 1110 and SPED 1114 with a grade of C or higher.

**SPED 1124 AMERICAN SIGN LANGUAGE II LAB (1 credit)**

This is the co-requisite lab course for SPED 1120, American Sign Language II. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** SPED 1110 and SPED 1114 with a grade of C or higher; Co-requisite: SPED 1120.

**SPED 1500 INTRODUCTION TO SPECIAL EDUCATION (3 credits)**

This course is designed to help students explore issues and perspectives related to children, adolescents, and young adults with a variety of ability and disability experiences. It provides an introduction to the historical factors, legislation, terminology, etiology, characteristics that are commonly encountered when addressing the needs of diverse students with disabilities ranging from mild, moderate to severe.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**SPED 2100 PROFESSIONALISM & ETHICS OF INTERPRETING (3 credits)**

This survey course provides an introduction to the profession and ethics of sign language interpreting. The student learns what is expected of an interpreter (roles, functions, responsibilities) and applies this knowledge to a variety of settings. Information about the history of the profession, professional organizations, and settings where interpreters work is presented. Students will be introduced to Demand/Control Schema as a foundation for assessment ethical scenarios.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA and/or special permission from the instructor.

**SPED 2110 AMERICAN SIGN LANGUAGE III (3 credits)**

This is the third course in a five course series teaching American Sign Language (ASL). Candidates will continue to develop the use of body language/mime, sentence types, and advanced-intermediate vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1120 and SPED 1124 with a grade of C or higher; co-requisite: SPED 2114.

**SPED 2114 AMERICAN SIGN LANGUAGE III LAB (1 credit)**

This is the co-requisite lab course for SPED 2110, American Sign Language III. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1120 and SPED 1124 with a grade of C or higher; co-requisite: SPED 2110.

**SPED 2120 AMERICAN SIGN LANGUAGE IV (3 credits)**

This is the fourth course in a five course series teaching American Sign Language (ASL). Candidates will continue to develop the use of body language/mime, sentence types, and advanced vocabulary (n=300).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2110 and SPED 2114 with a grade of C or higher; co-requisite: SPED 2124.

**SPED 2124 AMERICAN SIGN LANGUAGE IV LAB (1 credit)**

This is the co-requisite lab course for SPED 2120, American Sign Language IV. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Co-requisite SPED 2120, minimum cumulative 2.75 GPA, SPED 2110 and SPED 2114 with a grade of C or higher, or comparable coursework and/or demonstrated proficiency.

**SPED 2200 HISTORY, PSYCHOLOGY AND SOCIOLOGY OF DEAFNESS (3 credits)**

This is an introductory course which surveys historical, psychological, and sociological aspects of deafness. This course introduces students to aspects of Deaf Culture and the Deaf Community. It will also examine current issues and trends and future directions in the education of children who are deaf or hard of hearing. Basic concepts, theories, research, and philosophical debates are explored through assigned readings, independent work, and classroom activities.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA.

**Distribution:** U.S. Diversity General Education course

**SPED 2300 SPECIAL EDUCATION LAW & INDIVIDUAL EDUCATION PROGRAMS (3 credits)**

This course provides an overview of special education policy and law with an emphasis on components of individual education programs (IEPs), the special education referral process, and preparing for IEP meetings. Content knowledge will include IEP components and their function. Students will apply this knowledge to IEP component writing and development practice.

**Prerequisite(s)/Corequisite(s):** SPED 1500

**SPED 3000 SPECIAL STUDIES (1-3 credits)**

This course is designed to allow candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities is mutually agreed upon by the candidate and instructor.

**Prerequisite(s)/Corequisite(s):** Permission by instructor

**SPED 3020 DATA COLLECTION TECHNIQUE: ROLE IN TEACHING LEARNING PROCESS (3 credits)**

This is a course on formal and informal assessment for Special Education. Candidates will learn how to collect assessment data to be used for data based decision making.

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400, Co-requisite SPED 4640 & SPED 4000 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 3100 ENGLISH/ASL COMPARATIVE LINGUISTICS (3 credits)**

This course offers a study of the fundamental concepts of linguistics and its application to the study of American Sign Language. Candidates will compare and contrasting English and American Sign Language structure. Focus will be on the fundamental areas of linguistic inquiry, which include phonology, morphology, syntax, semantics, and the use of language. Using current research, candidates will begin to think critically about the structure of ASL and its recognition as a language. Candidates will be expected to translate between English and signed languages to deepen understanding the study of linguistics. A video will supplement the textbook by providing examples of signs/concepts discussed in the course.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2120 ASL IV or comparable course work, or demonstrated proficiency.

**SPED 3110 AMERICAN SIGN LANGUAGE V (3 credits)**

This is the fifth course in a series teaching American Sign Language. Focus will be on cognitive processing, fingerspelling and communicating personal experiences. Students will develop translations between English and ASL to demonstrate knowledge and understanding of both languages. This course is one of many that prepares candidates to be dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2120 and SPED 2124 with a grade of C or higher; co-requisite: SPED 3114.

**SPED 3114 AMERICAN SIGN LANGUAGE V LAB (1 credit)**

This is the fifth lab course in a series teaching American Sign Language. The lab course will focus on aspects of receptive and expressive fingerspelling, numeral incorporation and classifiers of ASL. Students will demonstrate conversational skills incorporating ASL representative, descriptive and instrumental classifiers. Students will complete a minimum of 10 hours in the ASL Lab interacting in a small group setting with a Deaf mentor.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative 2.5 GPA and SPED 2120, SPED 2124, or permission of instructor. Not open to non-degree graduate students.

**SPED 3120 ACADEMIC INTERPRETING (3 credits)**

In this course candidates will focus on skills required for interpreting in a variety of academic settings. Candidates will learn to produce appropriate and equivalent interpreted messages between signed and spoken communication. Candidates will observe and analyze spoken and signed language used in the classroom and in extracurricular activities. Candidates will understand the interpreter's role as part of the educational team and how that impacts their work with students. Also included will be review and deeper exploration of communication styles, modes and language used by children.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 3130 COMMUNITY INTERPRETING (3 credits)**

In this course students will learn skills in producing equivalent ASL and/or English messages in both consecutive and simultaneous interpreting. Students will interpret for adults and children moving from monologues to dialogues developing fluency, speed and accuracy. Students will continue to develop their English vocabulary, ASL vocabulary, interpreting analysis skills and strategies for team interpreting within the genres of medical and mental health, employment and vocational settings, social services, business and insurance.

**Prerequisite(s)/Corequisite(s):** GPA 2.75 or better and SPED 3110, or special permission from the instructor.

**SPED 3140 DISCOURSE ANALYSIS AND SOCIOLINGUISTICS FOR INTERPRETERS (3 credits)**

During the course students will analyze language use in spoken English and American Sign Language (ASL) so that features of language use rise to the level of explicit awareness. Students collect, transcribe, and analyze various speech activities while reading and discussing theoretical notions underlying language use.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 2110 and SPED 2114 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 3150 COGNITIVE PROCESSING IN ASL AND ENGLISH (3 credits)**

This course presents practice of cognitive skills used in the process of interpreting. Skills include visualization, prediction, listening, memory, abstracting, closure, dual tasking, and processing time. Integration and application of these skills will lead to a self-monitoring process that will allow for self-assessment and commentaries on work performed. This course will prepare candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Minimum cumulative 2.75 GPA, and SPED 2110 and SPED 2114 or instructor permission. Not open to non-degree graduate students.

**SPED 3800 DIFFERENTIATION AND INCLUSIVE PRACTICES (3 credits)**

This course is designed to examine characteristics of students with various learning needs and how to apply principles of Universal Design for Learning (UDL) to meet their needs in an inclusive environment. This course will expand the special education content knowledge of general education teachers so they can meet the needs of all students by planning lessons using the UDL framework. The purpose of this course is for general education teacher candidates to gain content knowledge about special education policies and procedures to utilize various educational, emotional, and social accommodations necessary to provide unique and effective educational or alternative responses for students with various learning needs.

**Prerequisite(s)/Corequisite(s):** TED 2400 or EDUC 5250; Minimum 2.75 GPA. Not open to non-degree graduate students.

**SPED 4000 PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This practicum will examine special education methods, techniques and strategies used with children and youth with disabilities in a variety of K-12 school settings. Classroom practice and application of instructional planning and implementation, assessment techniques and behavior management will be emphasized. Collaboration and consultation models will also be included in this experience.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 & EDUC 2520 or SPED 1500 & TED 2400; GPA 2.75 or higher. Co-requisites: SPED 3020 & SPED 4640. Not open to non-degree graduate students.

**SPED 4010 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health.

The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, COUN 8016, SPED 8016).

**Prerequisite(s)/Corequisite(s):** SPED 1500 or EDUC 2510, TED 2300, Minimum 2.75 GPA. Not open to non-degree graduate students.

**SPED 4040 WORKSHOP IN SPECIAL EDUCATION OR SPEECH-LANGUAGE PATHOLOGY (1-6 credits)**

The purpose of this course is to provide workshops or special seminars in the area of special education and communication disorders. This course will prepare graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with SPED 8046).

**SPED 4110 SIGNED ENGLISH AND OTHER SYSTEMS (3 credits)**

This course examines the communication methods and modes used in educational settings with people who are deaf or hard of hearing. Candidates will gain understanding and specific skills in the Auditory-Verbal approach, Total Communication, Signing Exact English, Cued Speech, Conceptually Accurate Signed English, and Oral Transliteration. Information will be shared about the latest technology and resources available to aid communication in the classroom.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor.

**SPED 4150 READING AND WRITING INSTRUCTION FOR STUDENTS WITH DISABILITIES (3 credits)**

This course is designed to provide preservice teacher candidates skills and strategies for instructing students with high incidence disabilities that struggle to acquire literacy skills. Emphasis is placed on diagnosis and assessment of specific reading and writing difficulties to determine effective instructional strategies. Instructional strategies will address modifications directed at teaching oral language, reading, writing, and spelling skills.

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing). Not open to non-degree graduate students.

**SPED 4180 INTERPRETING IN SPECIALIZED SETTINGS (3 credits)**

This course focuses on interpreting/transliterating for special populations in a variety of specialized settings. Video relay, Deaf-Blind, Mental Health, Legal, Religious, Multi-cultural and Theatrical settings are among the specialized settings in which interpreting students will participate in additional training.

**Prerequisite(s)/Corequisite(s):** GPA 2.75 or better and SPED 3110 or special permission from the instructor. Not open to non-degree graduate students.

**SPED 4220 TEACHING SPEECH TO THE DEAF/HARD OF HEARING (3 credits)**

This course will provide an investigation of the speech skills of the deaf/hard of hearing child, preschool through high school. Current theories and practices in teaching speech will be examined. This course will also present methods for assessing speech problems in deaf/hard of hearing children, making the necessary adaptations and modifications, and integrating technology.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; EDUC 2510 or SPED 1500 or permission of the instructor.

**SPED 4230 LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS (3 credits)**

This course is designed to introduce the candidate to the nature and structure of language, current theories of language, normal first and second language development, language disorders, multicultural issues in language assessment, and contemporary classroom management of language deficits. The topics will be examined from an educational perspective to enhance the teachers knowledge of language and to facilitate classroom management of language deficits exhibited by exceptional children in grades pre-K through 12. (Cross-listed with SPED 8236).

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 1500 or ECI major; TED 2300 or TED 2380 or permission of the instructor

**SPED 4240 TEACHING/INTERPRETING LANGUAGE TO DEAF/HARD OF HEARING (5 credits)**

This course is designed for candidates seeking to be teachers of the Deaf/Hard of Hearing or sign language interpreters. It will examine specific programs, methods, and techniques employed in fostering literacy and signacy with D/HH children from primary through secondary levels. Current theories and practices in reading and language arts instruction will be examined. This course will also present methods for assessing reading and writing, differentiating instruction, integrating technology, and collaborating with families.

**Prerequisite(s)/Corequisite(s):** D/HH Endorsement: minimum 2.75 GPA; SPED 2110; EDUC 2510 or SPED 1500; TED 2400. Sign Language Interpreting Concentration: minimum 2.75 GPA; SPED 2110; or permission of the instructor.

**SPED 4280 TEACHING AMERICAN SIGN LANGUAGE AS A WORLD LANGUAGE (3 credits)**

This course provides a hands-on experience in the design and implementation of ASL instruction and curriculum. The course will address methods, materials, program evaluation, and teaching approaches for preparing professional instructors of ASL.

**Prerequisite(s)/Corequisite(s):** Min 2.75 GPA & proficiency in ASL. Prof shown by one of the following: complete ASL I-V courses, personal interview w/instructor, or a min level of 3 on ASL Proficiency Interview or Sign Comm Proficiency Interview. Not open to non-degree grad students.

**SPED 4310 VOICE-TO-SIGN (3 credits)**

This course begins consecutively interpreting monologues from the source language (English) to the target language (ASL). Students will listen to entire English monologues, process them, analyze them, and then choose appropriate ASL to match the message. The course provides instruction on refining and enhancing voice-to-sign skills, specifically simultaneously producing equivalent ASL messages from spoken English source messages. Students will learn to sign simultaneously and consecutively when viewing video or listening to audio of native English speakers from a variety of settings.

**Prerequisite(s)/Corequisite(s):** Minimum GPA 2.75 or better, and SPED 3110 or special permission from the instructor.

**SPED 4320 SIGN-TO-VOICE (3 credits)**

This course provides instruction on refining and enhancing sign-to-voice skills, specifically simultaneous sign-to-voice transliterating and interpreting. Students will learn to voice simultaneously and consecutively when viewing video of native signers who use a variety of signing modalities to communicate. Students will develop the ability to produce an equivalent English message from ASL source messages.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; SPED 3110 or special permission from the instructor.

**SPED 4350 TEACHING CONTENT SUBJECTS TO DEAF/HARD OF HEARING (4 credits)**

This course will describe, investigate, and put into practice instructional strategies employed in developing knowledge and concepts in social studies, science, and mathematics. The scope of the course will be preschool through high school. Curricula and materials used with K-12 students who are deaf or hard of hearing will be reviewed and evaluated.

**Prerequisite(s)/Corequisite(s):** Minimum 2.75 GPA; EDUC 2510 or SPED 1500; TED 2400 or permission of the instructor.

**SPED 4640 METHODS AND MATERIALS IN SPECIAL EDUCATION (3 credits)**

This course is designed to describe the various instructional methods that have been used successfully in supporting students with disabilities in a variety of settings. This course is also intended to provide pre-service and in-service candidates with knowledge and evidence-based teaching strategies essential for modifying the learning environment and individualizing instruction for students with disabilities. In addition, teaching methods will focus on academic curriculum lesson planning, development of IEPs, selection of instructional methods and materials, and universal design for learning (UDL). (Cross-listed with SPED 8646).

**Prerequisite(s)/Corequisite(s):** SPED 1500, TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing); Co-requisite courses SPED 3020 & SPED 4000. Not open to non-degree graduate students.

**SPED 4650 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living. (Cross-listed with SPED 8656)

**Prerequisite(s)/Corequisite(s):** SPED 1500. Not open to non-degree graduate students.

**SPED 4700 CLINICAL PRACTICE IN SPECIAL EDUCATION (6 credits)**

This course provides candidates with experience teaching students with exceptionalities. Observation, participation, and actual teaching in an individually selected placement will be a part of the candidate's involvement in this course. This course is intended for candidates who are completing a dual endorsement program (special education and another endorsement).

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75 and completion of all required coursework in special education. Co-Requisite: TED 4650. Not open to non-degree graduate students.

**SPED 4710 INTERACTIONS AND COLLABORATION (3 credits)**

This course is offered to investigate the building blocks of collaboration. Effective interpersonal communication and collaboration skills are presented as the foundation necessary to build relationships among school personnel, families and community members. (Cross-listed with SPED 8716).

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 4720 CLINICAL PRACTICE IN SPECIAL EDUCATION (12 credits)**

This course provides candidates with a practical experience teaching students with disabilities. Observation, participation, and actual teaching in an individually selected placement will be a part of the candidate's involvement in this course.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of all required course work in special education.

**SPED 4724 SPECIAL EDUCATION CLINICAL TEACHING ORIENTATION (0 credits)**

This course is the special education clinical teaching orientation that is paired with the Clinical Teaching in Special Education course.

**Prerequisite(s)/Corequisite(s):** GPA = 2.75 or better, Completion of all required course work in special education. Co-requisite SPED 4720 or SPED 4730

**SPED 4730 ADVANCED CLINICAL PRACTICE IN SPECIAL EDUCATION (3 credits)**

A second semester of special education clinical practice experience in a placement working with exceptional children. Observation, participation and actual teaching will be part of the candidate's experience.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75; SPED 4720 and permission

**SPED 4740 EDUCATIONAL INTERPRETING PRACTICUM AND SEMINAR (6 credits)**

The practicum candidate will work with a mentor to begin developing professional relationships while developing the ability to interpret simultaneously signed and spoken messages. Candidates will also share experiences in seminars with an instructor where discussion will focus on linguistic issues in interpretation, ethical dilemmas, and situational concerns.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of SPED 3120, SPED 3130, SPED 4180, and SPED 4240

**SPED 4760 COMMUNITY INTERPRETING PRACTICUM AND SEMINAR (6 credits)**

The practicum candidate will work with a mentor in various community settings to begin developing professional relationships while developing the ability to interpret simultaneously signed and spoken messages. Candidates will also share experiences in seminars with an instructor where discussion will focus on linguistic issues in interpretation, ethical dilemmas, and situational concerns.

**Prerequisite(s)/Corequisite(s):** GPA minimum of 2.75, Completion of SPED 3120, SPED 3130, SPED 4180, and SPED 4240. Not open to non-degree graduate students.

**SPED 4800 SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH (3 credits)**

This course is designed to prepare teacher candidates and graduate candidates with the understanding of the psychological, biological and environmental factors that affect the social-emotional development of children and adolescents. Emphasis is placed on the interaction of these factors for children with exceptional learning needs and the implications for the learning environment. (Cross-listed with SPED 8806).

**Prerequisite(s)/Corequisite(s):** SPED 1500 or EDUC 2510, TED 2300, Minimum 2.75 GPA

**SPED 4810 BEHAVIOR INTERVENTIONS AND SUPPORTS (3 credits)**

This course introduces a variety of practical interventions that teachers may use to support the positive classroom behavior of all students within a tiered model. Universal, targeted, and individualized strategies are presented. (Cross-listed with SPED 8816).

**Prerequisite(s)/Corequisite(s):** SPED 1500 and TED 2400 and 2.75 NU GPA and passing Praxis Core scores (Math, Reading and Writing)

**SPED 4820 EARLY CHILDHOOD INCLUSIVE EDUCATION SYSTEMS, POLICY, AND ADVOCACY (1 credit)**

The purpose of this course is to provide an overview of the history and perspectives of key developmental theories, laws, and policies related to inclusive early childhood education. Particular attention will be paid to culturally responsive approaches to ECIE, local, state, federal, and global policy, professional roles, ethics, and advocacy. Emphasis is on current research, theory, and evidence-based practice.

**Prerequisite(s)/Corequisite(s):** TED 2250. Not open to non-degree graduate students.

**SPED 4830 ASSESSMENT IN EARLY CHILDHOOD INCLUSIVE EDUCATION (3 credits)**

This course is designed to help students develop skills for effective and culturally responsive assessment and evaluation of infants, toddlers, and young children. Such assessment is vital for understanding developmental needs of young children, planning appropriate curriculum and interventions, identifying children's special needs, evaluating early childhood programs, and providing accountability information to funders and stakeholders.

**Prerequisite(s)/Corequisite(s):** Admission to Educator Preparation program, TED 2250. Not open to non-degree graduate students.

**SPED 4850 HEALTH AND WELL-BEING OF INFANTS AND TODDLERS (3 credits)**

This course is designed to help students gain knowledge and skills that will enable them to promote the healthy development of infants and young children. There will be an emphasis on effective and culturally responsive collaboration with families and caregivers.

**Prerequisite(s)/Corequisite(s):** Admission to the Educator Preparation program and TED 2250. Not open to non-degree graduate students.

**SPED 4860 RESPONSIVE AND REFLECTIVE TEACHING IN EARLY CHILDHOOD (3 credits)**

This course will prepare early childhood inclusive education majors to plan and deliver supports to a diverse array of young children (birth to age 8) and their families. Candidates will be trained in evidence-based practices used for promoting language, problem-solving, motor skills, adaptive behavior, play, and social/emotional growth in young children. There is an emphasis on anti-bias approaches to education, as well as educators' reflections upon their practices.

**Prerequisite(s)/Corequisite(s):** Admission to the Educator Preparation program, TED 2250. Not open to non-degree graduate students.

**SPED 4870 PRACTICUM WITH INFANTS AND TODDLERS (3 credits)**

This advanced practicum is a guided experience for candidates pursuing an emphasis in the area of Early Childhood Inclusive Education (ECIE) birth through age 3. Candidates will be required to demonstrate competencies related to promoting the development of infants and toddlers, and the skills and confidence of their families/caregivers. This is the last practicum course prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** Completion of ECIE undergraduate courses: TED 2250, TED 2350, SPED 4230, TED 4250, SPED 4830, SPED 4860; GPA 2.75 or higher. Co-requisites: TED 4210 and SPED 4850. Not open to non-degree graduate students.

## Statistics (STAT)

**STAT 1100 DATA LITERACY AND VISUALIZATION (3 credits)**

Designed to help students become familiar with different types of data that are available in business, non-profit and governmental organizations. Students will learn basic data organization and manipulation as well as appropriate visualization techniques including charts, maps, and dashboards using cutting edge software tools. Students will apply this knowledge and skills to real-world data and develop skills in presentation of research results, strategic decision making and forecasting analysis.

**Distribution:** Math

**STAT 1530 ELEMENTARY STATISTICS (3 credits)**

An elementary introduction to the basic concepts of probability, descriptive statistics, and statistical inference, including point estimation, confidence intervals, and hypotheses testing.

**Prerequisite(s)/Corequisite(s):** One of the following within the last two years: ALEKS score of at least 3, ACT Math sub score at least 19, Math SAT at least 460, Math SAT2016 at least 500, Accuplacer score at least 3, or MATH 1000 or MATH 1210 (each with a C- or better)

**Distribution:** Math

**STAT 3000 STATISTICAL METHODS I (3 credits)**

An introduction to descriptive statistics, measures of central value and dispersion, probability and distributions, population and sample, simple linear regression, statistical inference: point estimation, confidence intervals, hypotheses testing, two population comparison, goodness-of-fit tests, analysis of variance. Statistical software like Minitab or Excel will be utilized in the course. (Cross-listed with STAT 8005).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent with a grade of C- or better.

**STAT 3800 APPLIED ENGINEERING PROBABILITY AND STATISTICS (3 credits)**

An introduction to the application of probability and statistics to engineering problems. Topics include: probability and probability distributions, mathematical expectation, distribution of random variables, binomial, Poisson, hypergeometric, gamma, normal, and t-distributions, Central Limit Theorem, confidence intervals, hypothesis testing. If time allows, some linear regression and contingency tables. Credit for both MATH 4740 and STAT 3800 will not be given. (Cross-listed with STAT 8805)

**Prerequisite(s)/Corequisite(s):** MATH 1970

**STAT 4410 INTRODUCTION TO DATA SCIENCE (3 credits)**

Topics covered in this course include Data Technology, Methods of gathering and cleaning structured or unstructured data, Exploratory data analysis & Dynamic and interactive data visualization, Modeling data for prediction, forecasting or classification. (Cross-listed with STAT 8416)

**Prerequisite(s)/Corequisite(s):** MATH 4740 with at least C- or concurrent or STAT 3800 with at least C- or permission of instructor. Students enrolling in this course should be comfortable with computer programming & have knowledge of data structures & preliminary statistical methods.

**STAT 4420 EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (3 credits)**

Topics covered in this course include Exploratory Data Visualization for categorical/qualitative single/multivariate data, Grammar of Graphics, Organizing Data for Visualization, Methods of Displaying Data that include dynamic and interactive visualization, Visual Diagnostics of Statistical Models and Visual Statistical Inference. Students planning to enroll in this course should be comfortable with computer programming and have knowledge of data structures and preliminary statistical methods. (Cross-listed with STAT 8426)

**Prerequisite(s)/Corequisite(s):** STAT 3800 or STAT 8805 or MATH 4740 or MATH 8746 with a grade of C- or better or another introductory probability/statistics course with a grade of C- or better, and MATH 3200 or CSCI 1620 with a grade of C- or better, or permission of instructor.

**STAT 4430 LINEAR MODELS (3 credits)**

This is an introduction to linear statistical models which will include: simple linear regression models, multiple linear regression models, ANOVA models including one way ANOVA, randomized block design, and other designs. Also, logistic regression models, Poisson regression models, bootstrapping/resampling models, survival analysis. Some necessary linear algebra and mathematical statistics ideas will be covered in the course also. If time allows, some mixed models and/or survival models. Much use of computer software will be made. (Cross-listed with STAT 8436)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a C- or better or STAT 3800 or STAT 8805 w/ a C- or better or instructor permission based on students' having taken a basic statistics course w/ a grade of C- or better & having at least a basic knowledge of calculus.

**STAT 4440 TIME SERIES ANALYSIS (3 credits)**

The objective of this course is to learn and apply statistical methods for the analysis of data that have been observed over time. Topics covered include: Models for Stationary and Non-Stationary Time Series, Model Specification, Parameter Estimation, Model Diagnostics, Forecasting, Seasonal Models, Time Series Regression, and Spectral Analysis. Statistical software will be used. (Cross-listed with STAT 8446)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or another introductory probability/statistics course w/ a C- or better, or permission of instructor.

**STAT 4450 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, MATH 8456, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

## Supply Chain Management (SCMT)

**SCMT 2000 SURVEY OF SUPPLY CHAIN MANAGEMENT (3 credits)**

The principles and methods involved in supply chain management with emphasis on creating customer value. This course makes extensive use of company tours, plant visits and industry professionals to introduce students to the global dimensions of supply chain management and related disciplines such as IT, HR management, marketing, transportation, logistics, operations management, project management and production scheduling.

**Prerequisite(s)/Corequisite(s):** Sophomore standing and 2.33 GPA. Not open to non-degree graduate students.

**SCMT 3000 MANAGERIAL ACCOUNTING FOR SUPPLY CHAIN MANAGEMENT (3 credits)**

This course highlights the important role of a managerial accountant in managing a global supply chain and covers the key accounting techniques for supply chain management. (Cross-listed with ACCT 3000)

**Prerequisite(s)/Corequisite(s):** ACCT 2020 with a grade of C (2.0) or better or ACCT 2000 with a grade of C (2.0) or better and cumulative GPA of 2.5 or higher. ENGL 1160 with a grade of 'C' (2.0) or better or concurrent enrollment in ENGL 1160. Not open to non-degree graduate students.

**SCMT 3410 SUSTAINABLE SUPPLY CHAIN MANAGEMENT (3 credits)**

Sustainable supply chain management is the design and management of business processes within and across organizational boundaries to meet the needs of the end customer. The overall goal of this course is to provide students with an understanding of present day issues and policies related to establishing a sustainable, competitive advantage through efficient use of resources and collaboration with external business partners. Students will develop critical thinking skills focused on business process analysis and the use of key performance indicators. (Cross-listed with MGMT 3410, MKT 3410).

**Prerequisite(s)/Corequisite(s):** Sophomore standing; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 3500 OPERATIONS MANAGEMENT (3 credits)**

The course is designed to introduce students to strategic, tactical, and control decisions in manufacturing and service operations. Students will learn how operations integrate all other business processes for competitive advantage. It covers current applications of quality concepts, business process reengineering, supply-chain management, lean systems, and ERP systems for business operations efficiency and effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 2130 or 3160, ENGL 1160/ENGL 1164 or concurrent enrollment in ENGL 1160/1164 each with "C" or better and 2.5 GPA

**SCMT 4060 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with BSAD 8066, MGMT 4060).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 or SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4070 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with BSAD 8076).

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4160 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross-functional nature of ERP software. In the process of learning about ERP systems, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, ISQA 8166)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**SCMT 4170 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with BSAD 8176).

**Prerequisite(s)/Corequisite(s):** SCMT 3410/MKT 3410/MGMT 3410 Sustainable Supply Chain Management; Cumulative GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4330 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, BSAD 8336)

**Prerequisite(s)/Corequisite(s):** MGMT3490 with a C+ or better and a 2.5 GPA; or permission of the instructor. Not open to non-degree graduate students.

**SCMT 4350 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with BSAD 8356).

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4370 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with BSAD 8376).

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor. Not open to non-degree graduate students.

**SCMT 4380 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, BSAD 8386)

**Prerequisite(s)/Corequisite(s):** SCMT 3410; GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4450 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, BSAD 8456)

**Prerequisite(s)/Corequisite(s):** MGMT 3490 with a grade of C+ or above, at least a cumulative GPA of 2.5, or permission of instructor.

**SCMT 4460 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with BSAD 8466).

**Prerequisite(s)/Corequisite(s):** SCMT 3410/MKT 3410/MGMT 3410 Sustainable Supply Chain Management; Cumulative GPA of 2.5 or better; or by permission of instructor. Not open to non-degree graduate students.

**SCMT 4540 SUPPLY CHAIN MANAGEMENT INTERNSHIP (1-3 credits)**

Students engage in part-time employment in supply chain management to gain relevant business experience and to practice the skills and concepts learned in the classroom. Work assignment must encompass duties related to the field of supply chain management (i.e., purchasing, scheduling, supplier relations, materials management, or logistics).

**Prerequisite(s)/Corequisite(s):** SCMT 3410, GPA of 2.5 or better, AND permission of instructor. Not open to non-degree graduate students.

## Sustainability (SUST)

**SUST 1000 INTRODUCTION TO SUSTAINABILITY (3 credits)**

Introduction to Sustainability explores from multiple perspectives the interconnectedness of earth's physical, ecological, and human systems, and how to maintain and improve earth's resources and systems for current and future generations.

**Distribution:** Global Diversity General Education course and Social Science General Education course

**SUST 4090 SPECIAL TOPICS IN SUSTAINABILITY (1-5 credits)**

This is a variable credit lecture and/or laboratory course pertaining to a specific topic in sustainability and not available in the regular curriculum. May be repeated as topics change.

**Prerequisite(s)/Corequisite(s):** Junior or senior standing or permission of instructor. Other pre-requisites may apply: please consult with instructor of course.

**SUST 4800 INTERNSHIP IN SUSTAINABILITY (1-6 credits)**

This course offers students an opportunity to experience sustainability studies through direct involvement in career-oriented sustainability organizations. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**SUST 4900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings or independent research in a well-defined field within sustainability carried out under the supervision of a faculty member. As independent study courses are intended to enrich a student's regular academic program, they may not normally be taken as substitutes for scheduled classroom courses of the same nature. May be repeated, for credit, up to six hours, under a different topic.

**Prerequisite(s)/Corequisite(s):** Permission of instructor required.

# Teacher Education (TED)

## **TED 1010 INTRODUCTION TO EDUCATION (3 credits)**

The course will provide an introduction to the education profession through career exploration and initial exposure to the dynamics of PK-12 classroom teaching. The course will provide an overview of ethics and professionalism, pre-service preparation, societal influences, classroom practices, and the governance structures which impact teachers and schools. The course has a required field experience.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## **TED 1100 INQUIRY-BASED THINKING IN STEM (3 credits)**

This course provides students with hands-on science content experiences that model the inquiry-based thinking used in science, technology, engineering and mathematics careers. Students will undertake interdisciplinary science modules to understand prairie ecosystems and to study how living things (such as animals, plants, and microbes) interact with non-living things (such as water, soil, and energy) within a dynamic system. Students will study the prairie at UNO's Glacier Creek Preserve facility from an interdisciplinary perspective, investigating the geology, biology and chemistry of the prairie environment, while using information science to analyze data and model prairie systems.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Natural/Physical Science General Education course

## **TED 2050 INTRODUCTION TO TEACHING ENGLISH AS A SECOND LANGUAGE (3 credits)**

This course offers teacher candidates an introduction to the linguistic, social, political, and cultural factors that impact the teaching of English Language Learners (ELLs) entering the United States school system. As dedicated practitioners, reflective scholars, and responsible citizens, undergraduate students will study best practices for ELLs in the mainstream classroom that promotes language and cultural understanding among students and teachers.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## **TED 2060 EQUITY, LANGUAGE, AND CULTURAL LITERACY (3 credits)**

This course explores the relationship among equity, language, and cultural literacy and its implications for programming and advocacy within school and community contexts. As dedicated practitioners, reflective scholars, and responsible citizens, undergraduate students study the impact these relationships have for historically underrepresented groups in the United States.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## **TED 2100 EDUCATIONAL FOUNDATIONS (3 credits)**

The course will provide prospective teacher candidates with the philosophical, ethical, historical, and social foundations that will enable them to understand their role as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. Also, the prospective teacher candidates will study and understand the national and state standards relevant to P-12 education and to teacher preparation in the USA. Each prospective candidate will acquire competency in using educational technologies such as Internet based course delivery systems, database software, and digital portfolios.

**Prerequisite(s)/Corequisite(s):** 2.50 GPA

**Distribution:** Writing in the Discipline Single Course

## **TED 2160 INTRODUCTION TO LIBRARY SERVICES (3 credits)**

This course introduces students to the discipline and profession of library and information science and to the wide array of information organizations whose purpose is to gather, organize, and transfer information to patrons in a diverse society.

## **TED 2200 HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (3 credits)**

This course is designed to increase multicultural knowledge and positively impact the diversity disposition of prospective teacher candidates. It is also designed to help them become more aware of ways to motivate and positively impact the youths they will encounter in their future classrooms. Prospective teacher candidates will examine existing attitudes toward various groups by race, ethnicity, age, gender, disability, and social class with the goal of becoming dedicated practitioners, reflective scholars, and responsible citizens who can meet their professional responsibilities.

**Prerequisite(s)/Corequisite(s):** 2.50 GPA

**Distribution:** U.S. Diversity General Education course

## **TED 2250 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides an overview of early childhood education from theoretical, historical, and contemporary perspectives. Particular emphasis in the course is placed on key approaches to early childhood education, research on how children learn, and developmentally appropriate practice for children in the birth-to-age-five range. Observations are required as part of the course and will be conducted outside of class time.

## **TED 2300 HUMAN GROWTH AND LEARNING (3 credits)**

This course will examine human growth and learning from conception through adolescence. It will focus on how current educational practices and theories of development and learning impact and influence each other. The course includes field-based and laboratory experiences for the students.

**Prerequisite(s)/Corequisite(s):** Admission to Teacher Preparation. Not open to non-degree graduate students.

## **TED 2310 FAMILY-CENTERED PARTNERSHIPS (3 credits)**

This course will examine the purposes and methods for developing family-centered partnerships for young children. Candidates will develop the skills necessary for the planning, designing, implementing, and evaluating effective family engagement in early childhood settings. Candidates will also explore characteristics of diverse families by engaging in service learning and exploring diverse settings in the community.

**Prerequisite(s)/Corequisite(s):** TED 2250

## **TED 2350 PLAY IN EARLY CHILDHOOD INCLUSIVE EDUCATION (3 credits)**

The purpose of this course is to provide theoretical and empirical bases for observing and understanding children in play; an understanding of cognitive, social, and communicative stages related to developmental theory through play; and opportunity to consider biological, cultural, and environmental influences on children's play and development, as well as, play play experiences for young children. This course is designed primarily to prepare early childhood inclusive education teachers to develop the knowledge, skills, and dispositions to understand and use play as part of early childhood education and care programming for all young children.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## **TED 2360 CHILDREN'S LITERATURE (3 credits)**

This course focuses on children's literature as a significant component of a 21st Century educational environment through the use of multiple literacies, e.g., cultural, information, visual, and digital literacy strategies. An emphasis will be based on research-based literacy strategies and literature that supports culturally relevant teaching.

**Prerequisite(s)/Corequisite(s):** Admission to Teacher Preparation Program

## **TED 2370 THE CREATIVE ARTS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course prepares the early childhood teacher candidate to implement and use the creative and expressive arts in the classroom and to develop and assess conceptual understanding and building the vocabulary of children.

**Prerequisite(s)/Corequisite(s):** Admission to the Early Childhood Inclusive major program and TED 2250. Not open to non-degree graduate students.

**TED 2380 DEVELOPMENT AND LEARNING IN ADOLESCENCE (3 credits)**

This course will examine human growth and learning from early through late adolescence, to help students gain an understanding of the biological, social, and cultural influences on the developing child in the second decade of life. The class will focus on how current educational practices and theories of development and learning impact and influence each other. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Prerequisites of TED 2100 and TED 2200. Not open to non-degree graduate students.

**TED 2390 SOCIOCULTURAL UNDERSTANDINGS OF INFANTS AND TODDLERS (3 credits)**

This course will examine socio-cultural conceptions of infant and toddler-aged children. The influences of culture and social context on parental and center-based goals, beliefs and practices will also be covered.

**Prerequisite(s)/Corequisite(s):** Admission to the Early Childhood Inclusive major program and TED 2250. Not open to non-degree graduate students.

**TED 2400 PLANNING FOR EFFECTIVE TEACHING (6 credits)**

The course provides an initial overview of lesson planning through an introduction to the concepts of standards, objectives, anticipatory sets, instructional strategies, assessments, and closure. The course also introduces culturally responsive teaching practices which are intentionally supportive of English Language Learners, students with disabilities, and students who live in poverty or other difficult circumstances. A practicum completed outside of scheduled class time is required. The practicum includes coaching support for the candidates.

**Prerequisite(s)/Corequisite(s):** ELED, ELED SPED and ECI majors have a prerequisite of TED 2300. SED majors will be permitted only with TED 2380 as a corequisite. Not open to non-degree graduate students.

**TED 2500 DIGITAL CITIZENSHIP (3 credits)**

The course is an introduction to the basic tenets of digital citizenship including legalities, ethics, privacy and security. The course fosters an awareness of digital citizenship as a topic that impacts pedagogy and programming and reflects best practice in all types of learning communities.

**TED 2800 SCIENCE EXPERIMENTATION AND ENGINEERING DESIGN (4 credits)**

Science Experimentation and Engineering Design (SEED) is a general science course that introduces STEM (Science, Technology, Engineering, and Mathematics) concepts and their applications through student-developed experiments using high-altitude balloon platforms. The Scientific Method and Engineering Design Process are central to the students' experiences and work in this course, as the course models the interdisciplinary connectedness of academic fields. Students will study and work in active, experiential learning environments through all phases of the near-space experiments: conceptualization, design, launch, data analysis, and reporting. (Cross-listed with STEM 2800).

**Distribution:** Natural/Physical Sci General Education lecture&lab

**TED 3000 SPECIAL PROJECTS (1-3 credits)**

This course allows offerings with a broad (PK-12) multigrade application. Study is often field-based and is conducted as a short course, seminar, or special project.

**TED 3050 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context.

As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 8055).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

**TED 3350 TEACHING AND ASSESSING READING IN ELEMENTARY SCHOOLS (6 credits)**

This course provides an introduction to reading theories, foundational principles such as phonemic awareness, phonics, vocabulary, comprehension, fluency, effective instructional practices, and reading assessment and evaluation as they relate to improving K-6 student learning. It includes consideration of emergent and content area literacy, and students' learning needs and cultures.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisites of TED 4330 and TED 4340, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3550 SECONDARY CLASSROOM MANAGEMENT (3 credits)**

This is a general methods course required of all candidates preparing to teach at the secondary level. Candidates will apply educational sequence competencies in understanding the characteristics of effective teachers by learning how to apply the three components of effective pedagogy: 1) use of instructional strategies, 2) use of classroom management strategies, and 3) effective classroom curriculum design. Candidates will also examine the changing role of the secondary school and selected professional issues in secondary education and be able to apply key ideas of classroom management. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the third in a series of four required practicum experiences prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisite TED 3690, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3690 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 8695).

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; co-requisite TED 3550. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 3750 TEACHING GRAMMAR IN CONTEXT (3 credits)**

This course is an analysis of the integration of grammar throughout the writing process and the most effective contexts for and means for teaching grammar. The emphasis is on the application in the secondary school English classroom, on the development of teaching materials for the classroom, and on appropriate methodology for grammar instruction.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 3760 ADULT SERVICES, PROGRAMMING, AND OUTREACH IN LIBRARIES (3 credits)**

This course examines best practices related to serving adult populations in 21st Century libraries and information agencies. Candidates will examine the characteristics of diverse adult populations and design resources, programming, and services to meet their personal and professional needs.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 4000 SPECIAL METHODS IN THE CONTENT AREA (3 credits)**

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 8006).

**Prerequisite(s)/Corequisite(s):** TED 3690 and TED 3550. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing).

**TED 4120 READING & WRITING IN ELEMENTARY CONTENT AREAS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading and writing in the content areas (science, social studies, math, art, music). Candidates will learn about teaching practices that engage elementary students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 4220 FINAL PRACTICUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

TED 4220 is an in-school guided practicum taken at the end of ECE program coursework. Candidates must demonstrate competencies related to performance in pre-kindergarten education. This is the last practicum course prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** Completion of ELEM/ECE undergraduate courses: TED 2250, TED 2310, TED 4250, TED 4260, TED 4280, TED 4290. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4250 GUIDANCE OF YOUNG CHILDREN (3 credits)**

This course will provide an overview of social and emotional development of the young child and an investigation of effective and appropriate guidance techniques as they relate to ages three to eight. Candidates will explore relationship-based approaches to guiding children and building caring and trusting classroom communities.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 (EDUC 2010), 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4260 LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course is designed for teacher candidates who are preparing to teach children from three to eight years of age, with particular emphasis on the language and literacy development of the young child and appropriate curriculum. Particular attention will be given to the role of the teacher as a dedicated practitioner in the early learning environment.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 or EDUC 2010. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4290 INQUIRY IN EARLY CHILDHOOD SCIENCE AND MATHEMATICS EDUCATION (3 credits)**

This course is designed to educate teacher candidates about developing early mathematics and science foundations in young children (ages 3-8) with emphasis on inquiry-based teaching, learning, and assessing strategies.

**Prerequisite(s)/Corequisite(s):** TED 2250 and TED 2300 or EDUC 2010. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4310 ASSESSMENT AND CLASSROOM MANAGEMENT FOR THE ELEMENTARY TEACHER (3 credits)**

TED 4310 studies assessment and classroom management principles, effective practices, and assessment and classroom management processes through the elementary curriculum. A practicum completed outside of scheduled class time is required.

**Prerequisite(s)/Corequisite(s):** TED 3350, TED 4330 and TED 4340; Co-requisites: TED 4320 and TED 4350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing). Not open to non-degree graduate students.

**TED 4320 TEACHING OF SOCIAL STUDIES: ELEMENTARY (3 credits)**

This course is designed to prepare elementary teacher candidates with an introduction to the issues and methods related to teaching social studies to elementary students. An in-school guided practicum is associated with this course. Candidates must demonstrate instructional and professional competencies related to performance in PK-6 classrooms. This is the final practicum experience prior to the clinical practice semester.

**Prerequisite(s)/Corequisite(s):** TED 3350, TED 4330 and TED 4340; co-requisite TED 4350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4330 TEACHING OF MATHEMATICS: ELEMENTARY (3 credits)**

This course is designed to prepare elementary teacher candidates as mathematics education professionals at the elementary level. The course utilizes "hands-on" discussion and laboratory oriented activities where participants actively practice instructional topics and techniques related to the learning of mathematics at the elementary level. The course will further prepare pre-service elementary teachers to be dedicated practitioners, reflective scholars, and responsible citizens, who can meet the instructional challenges of their profession, as it relates to the student learning of mathematics in a modern and changing world.

**Prerequisite(s)/Corequisite(s):** MTCH 2000 and MTCH 2010; Co-requisite TED 4340 and TED 3350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4340 TEACHING OF SCIENCE: ELEMENTARY (3 credits)**

This course is designed to give the undergraduate elementary education candidate a survey of the content of science in the elementary and middle school and a study of the methods and techniques of teaching science.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400; Co-requisite TED 4330 and 3350. 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4350 TEACHING OF READING AND LANGUAGE ARTS (6 credits)**

This course is designed to prepare elementary teacher candidates as educators of reading and the other language arts. Teacher candidates will implement appropriate strategies and assessments in a practicum experience that demonstrate knowledge and dispositions appropriate for teaching reading and language arts to all students. This course will prepare pre-service elementary teacher candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** TED 3350, 4330 and 4340; co-requisite of TED 4320, 2.75 NU GPA and passing Praxis Core scores (Math, Reading, and Writing)

**TED 4370 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 8376).

**Prerequisite(s)/Corequisite(s):** TED 2300 or EDUC 2010 or TED 2380.

**TED 4570 LIBRARY SCIENCE CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their public, academic and special libraries.

**Prerequisite(s)/Corequisite(s):** There are no specific course prerequisites for the Capstone Practicum but students must be in the final two semesters of their Library Science Education Program.

**TED 4590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course provides foundational knowledge about tools and technologies for use with all types of educational scenarios. Course content will include information about many different types of learners and literacies and will explore instructional tools and strategies that enhance dissemination of digital information and digital instruction.

**TED 4600 CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (12 credits)**

A supervised teaching experience under the direction of university faculty/supervisor and a classroom teacher in the candidate's teaching area.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work, have a minimum cumulative GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing), and be accepted into Clinical Practice.

**TED 4610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing extends throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or EDUC 2520 or TED 2400.

**TED 4630 INSERVICE STUDENT TEACHING: ELEMENTARY AND SECONDARY (3 credits)**

Designed as an additional student teaching experience for in service teachers and students seeking certain additional certificates. Candidates must successfully complete an intermediate level field experience prior to student teaching.

**Prerequisite(s)/Corequisite(s):** Permission. Application is made in the Office of Student Services.

**TED 4640 K-12 CLINICAL PRACTICE AND SEMINAR ELEMENTARY/SECONDARY (12 credits)**

A supervised teaching experience designed for students seeking certification in art, music, physical education, and library media in the K-12 preparatory program.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work and obtain a minimum overall (cumulative) consistent GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing) and be accepted into student teaching.

**TED 4644 CLINICAL PRACTICE ORIENTATION (0 credits)**

This experience provides an introduction to clinical practice.

**Prerequisite(s)/Corequisite(s):** Candidates must have complete all course work, obtained a minimum overall (cumulative) consistent GPA of 2.75, and been accepted into Clinical Practice.

**TED 4650 CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (6 credits)**

A supervised teaching experience under the direction of university faculty/supervisor and a cooperating teacher in the candidate's teaching area.

**Prerequisite(s)/Corequisite(s):** Candidates must complete all course work, have a minimum cumulative GPA of 2.75, passing Praxis Core scores (Math, Reading, and Writing) and be accepted into Clinical Practice. Co-requisite of the course SPED 4700.

**TED 4660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**TED 4700 EDUCATION CAPSTONE (3-6 credits)**

This course is designed to provide individual and experiential learning in a supervised setting of a selected educational environment outside of the traditional P-12 classroom setting. The candidate will be introduced to the educational practices and roles in an environment that allows for integration of educational theory and practice.

**Prerequisite(s)/Corequisite(s):** Completion of, or current enrollment in, Professional Education Core courses, GPA of 2.5, no grade below a C in required courses, and permission of Teacher Education Department Chair.

**TED 4710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 4720 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 8726).

**TED 4740 MANAGEMENT OF INFORMATION RESOURCES IN LIBRARIES (3 credits)**

This course addresses basic theory and best practice in collection management, descriptive and subject cataloging, and classification of information resources using national standards and resources. Course will address the theories, concepts and activities integral to proactive collection development in 21st Century libraries. Candidates will demonstrate understanding of the legal and ethical aspects of the collection and organization of information resources by appropriately applying the standards of their discipline to ensure access to information and ideas for all patrons.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 4760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 4800 LEADERSHIP AND MANAGEMENT IN LIBRARIES (3 credits)**

The course introduces concepts for effective leadership and management for 21st Century libraries of all kinds (special, public, academic, and school). Candidates will be introduced to vocabulary, philosophies, and processes involved in administration of libraries in support of ensuring quality service to all library patrons. Candidates will be introduced to professional ethics and principles and will be made aware of best practices in management of library services and facilities.

**Distribution:** Writing in the Discipline Single Course

**TED 4810 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 8816).

**TED 4850 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 8856).

## Theatre (THEA)

**THEA 1000 THEATRE PRACTICUM (1 credit)**

Lecture, discussion, and experience in theatre production concepts and techniques. One hour formal meeting each week and an average of two-four hours per week in an assigned technical production area based on your interests and skills. Required of Theatre majors and may be taken by all other students. May be repeated eight times.

**THEA 1010 THEATRE APPRECIATION (3 credits)**

A survey course designed to introduce students to all areas of theatre practice and study. Several major periods of theatre art and practice will be explored and, depending on the instructor, emphasis may include acting, playwriting, design and theatre technology, and or theatre literature.

**Prerequisite(s)/Corequisite(s):** None. Not recommended for Theatre Majors

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1050 FILM HISTORY AND APPRECIATION (3 credits)**

A journey through one of many different possible worlds of film. Students will learn about various dimensions of filmmaking—historical development, cinematography, editing, screenwriting, and so much more. Exposure to critical perspectives on the genre(s) under consideration. Includes regular viewing of excerpts and full-length films. (Cross-listed with JMC 1050).

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1200 SINGING TECHNIQUE FOR ACTORS (1 credit)**

This course provides instruction in singing technique from the perspective of the actor and musical theatre repertoire. It is designed for students to develop their individual vocal skills and to practice the concepts of vocal health, resonance, breath support, knowledge of voice types, knowledge of their own voice type and ranges as well as specific elements of musicianship such as good intonation, rhythm, and phrasing. Different from applied vocal study within the School of Music curriculum, this course focuses on the needs of actors in musical theatre. Specifically, it utilizes repertoire for non-classical styles of singing and uses different criteria than the School of Music to meet the different backgrounds of theatre students.

**THEA 1210 VOICE FOR THE ACTOR (3 credits)**

This course is a comprehensive exploration of the actor's voice and speech. The student gains a detailed understanding of breath, tension and relaxation, resonance, articulation, textual interpretation, and learns to combine movement and voice, enhancing creativity in vocal expression. The focus is freeing the unique vocal potential of each student, and on training the voice for performance.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1300 ACTING I (3 credits)**

The basic acting class, for majors and non-majors. Emphasis on freeing oneself as a preparation for basic character and scene work using exercises for relaxation, energy generation, concentration and group interaction. Three relationships basic to the actor are explored: to oneself, to another actor, to the ensemble.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 1500 FOUNDATIONS OF PRODUCTION DESIGN (3 credits)**

An introductory course introducing students to the omnipresence and role of design in contemporary society; and to fundamental elements and principles of analysis, conceptualization, and visual interpretation, as they apply to the production design process.

**THEA 1600 FOUNDATIONS OF SCENIC PRODUCTION (3 credits)**

An introduction to scenic production class designed to develop the skills, knowledge, theories and materials of professional designers and craftspersons, as well as developing a working knowledge of the practices in the business of technical theatre.

**THEA 1610 SCENIC PRODUCTION LABORATORY (1-3 credits)**

Directed, practical experiences in scenic production skills.

**THEA 1650 COSTUME AND MAKEUP FOR THEATRE (3 credits)**

An introductory course covering foundational vocabulary, skills, materials, tools, and processes used for costume construction and makeup application specifically for the theatre.

**THEA 1700 SCRIPT ANALYSIS (3 credits)**

This course introduces a variety of approaches for analyzing plays and other dramatic works, especially as they are employed by actors, directors, designers, dramaturgs, and other theatre artists. There will be multiple opportunities to apply these methods of analysis through class discussion and written work. Script analysis will be explored with an eye toward theatrical production, recognizing each playscript as the blueprint for a potential production. Particular attention will be paid to genre, structure, style, character, theme, language, imagery, and dramatic action. The focus will be on traditional dramatic structure, though some attention/discussion will be given to less traditional/non-linear works.

**THEA 2000 THEATRE PRACTICUM II (2 credits)**

Lecture, discussion, and experience in theatre production concepts and techniques. One hour formal meeting each week with Instructor, and an average of two-four Lab hours per week (or more) in an assigned technical production area based on your interests and skills. Lab hours will be established with the lab supervisor. Required of Theatre majors and may be taken by all other students. May be repeated for credit.

**Prerequisite(s)/Corequisite(s):** Four semesters of THEA 1000.

**THEA 2020 THEATRE FOR YOUNG AUDIENCES (3 credits)**

A course that introduces the theories and practices of using theatre and drama, as an educational and social tool, as well as creating theatre for and with youth. Includes opportunities to create and utilize techniques in both performance and the learning environment.

**Prerequisite(s)/Corequisite(s):** THEA 1010 Theatre Appreciation or THEA 1300 Acting I or THEA 1600 Foundation: Scenic Production

**THEA 2030 INTERNSHIP I (1-6 credits)**

This course provides an opportunity for the student to participate in a professional summer theatre company and receive course credit. The course will involve practical application. Areas of study might include artistic direction, direction, dramaturgy, arts management, production management, design and technology, or performance. Assignments are made according to the individual interests and skills of the student as they match available opportunities and needs in the industry.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Theatre Practicum (2 credits). Permission of instructor.

**THEA 2200 MUSICAL THEATRE AND OPERA WORKSHOP (1 credit)**

THEA 2200 Musical Theatre and Opera Workshop is a performance lab course offered during fall semester that integrates singing, movement and acting through rehearsal, individual coaching and group exercises. It is designed for performance based students in opera and musical theatre and develops equally the skill sets required for each discipline. It is the primary workshop for the development of singing/moving actor skills at UNO.. The workshop utilizes rehearsal, exercise, ensemble and individual coaching to challenge and benefit students of all grade and experience levels. It is recommended and beneficial that performance students in both opera and musical theatre take THEA 2200 multiple times.

**THEA 2300 MOVEMENT FOR THE ACTOR (3 credits)**

Discovery and training of the human body as a technical instrument and as one of the key expressive elements of any performance-oriented medium.

**Prerequisite(s)/Corequisite(s):** THEA 1300 Acting I

**THEA 2400 STAGE MANAGEMENT (3 credits)**

This fundamental course investigates theater-making from the point of view of a stage manager. Through the exploration of a theatre production process, students learn the artistic and organizational techniques needed to professionally stage-manage traditional and non-traditional productions. Integrated management theory allows each student to identify how their practice can be informed by theory and to begin cultivating their individual stage management style.

**Prerequisite(s)/Corequisite(s):** Permission of instructor

**THEA 2500 DRAWING FOR THE THEATRE (3 credits)**

Drawing for the Theatre is a course that introduces students to the visual language of drawing through observation, exercises and most importantly, evaluations and critiques. In addition to traditional drawing techniques, this course will cover color theory and figure drawing. The course develops insights into the mechanisms of visual perception, how the individual components of the drawing relate to the whole and compositional organization. Each student develops observational skills rooted in traditional drawing media while striving to develop critical thinking and research skills.

**Prerequisite(s)/Corequisite(s):** THEA 1500 or THEA 1510 Foundations of Production Design, THEA 1700 Script Analysis

**THEA 2600 COSTUME PATTERNING AND DRAPING (3 credits)**

Exploration of the creation of patterns for theatrical costumes. Techniques include flat patterning, draping and development of historical patterns. Specific attention is given to period silhouette and detail and theatrical costume production conventions.

**Prerequisite(s)/Corequisite(s):** THEA 1650 or THEA 1550 or permission of instructor.

**THEA 3000 SPECIAL TOPICS IN THEATRE (3 credits)**

This course utilizes a topical approach that explores various aspects of theatre that are outside the set Theatre curriculum. Topics and disciplines will vary from term to term. Course description will be announced in advance. It is repeatable for credit if content differs.

**THEA 3010 ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 8015).

**Prerequisite(s)/Corequisite(s):** THEA 1000 Theatre Practicum, THEA 1700 Script Analysis

**THEA 3200 MUSICAL THEATRE ENSEMBLE (1 credit)**

THEA 3200 Musical Theatre Ensemble is a performance lab course that utilizes rehearsal and in person or virtual video performance to develop group and individual skills. Students are accepted into the class via auditions. Each semester a new collection of musical theatre ensemble repertoire is chosen to teach group movement, scene work and vocal musicianship. The first half of the semester is devoted to teaching rehearsal, staging and preparation skills and the second half of the semester consists of performance opportunities that are scheduled by the instructor.

Additionally, performing members of the class are given instruction in auditioning and work on solo repertoire for their individual musical theatre voice categories. (e.g.: belt, belt mix, soprano mix, tenor, baritenor, etc.) The course provides opportunities and training in rehearsal accompaniment and musical direction, stage management, scheduling and promotion, choreography and directing.

**Prerequisite(s)/Corequisite(s):** Prerequisites: THEA 1200 Singing Technique and Musicianship For Actors or Applied Voice. Co-requisites: THEA 2200 Opera and Musical Theatre Studio. Invitation to enroll by audition for instructor.

**THEA 3300 ACTING II (3 credits)**

Incorporating skills and awareness developed in Acting I, this class moves toward examining various tools for character development by oneself, in large group improvisations and with written scripts. Specific scene work leads to a final scene presented both for the class and for all interested persons.

**Prerequisite(s)/Corequisite(s):** THEA 1300 Acting I

**THEA 3400 DIRECTING I (3 credits)**

Directing I examines the development of the role of director in Western Theatre; provides practice in the directing process including script analysis, dramaturgical research, staging visual composition, collaboration with designers and performers; considers alternative approaches to directing and encourages students to begin to develop a personal directing style. (Cross-listed with THEA 8435)

**Prerequisite(s)/Corequisite(s):** THEA 1300, THEA 1500, THEA 1600, THEA 1700, THEA 3300

**THEA 3410 HUMAN DYNAMICS IN THE ARTS (3 credits)**

Human Dynamics in the Arts is a practical course for students who aspire to become effective leaders, managers, and directors of arts, nonprofit, education and business organizations. Students will gain a deeper understanding of how to strengthen organizations by recognizing the complex interplay of individual motivation, personal growth and development, effective communication, and organizational goals. Students will learn to apply specific communication techniques that will enable them to recognize patterns of behavior that reflect underlying emotional needs critical to motivation and workplace productivity. They will use these techniques to build trust, foster positive working relationships, maximize talents, and develop more effective, productive, and dynamic organizations. Students will also gain an understanding of the importance of developing an entrepreneurial mindset critical to success in a rapidly changing workplace. They will learn to recognize opportunities, identify solutions, and develop clear, effective strategies for moving their organizations forward.

**Prerequisite(s)/Corequisite(s):** CMST 1110 and Junior Standing

**THEA 3500 COLLABORATIVE DESIGN STUDIES (3 credits)**

Collaborative Design Studies explores the integration and process of theatrical production including scenery, lighting, costume, projection and sound. It chronicles their individual and collective impact on storytelling. While developing the skills of the Scenographer, students will work collaboratively as they foster their individual artistic design talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 8615).

**Prerequisite(s)/Corequisite(s):** THEA 1500/THEA 1510, THEA 1600/THEA 1630, THEA 1700

**THEA 3660 STAGE AND TV LIGHTING (3 credits)**

Characteristics and control of light and color and their application to the theatre and television; elementary electricity; lens systems; reflectors; lamps; control systems; automation. (Cross-listed with THEA 8665).

**Prerequisite(s)/Corequisite(s):** THEA 1630 or permission of instructor.

**THEA 3700 THEATRE HISTORY AND LITERATURE: CONTEMPORARY (3 credits)**

This course offers a brief survey of European and world theatre from the emergence of post-modernism to the present time. It also focuses especially on theatre for social change, community development, and the community-based theatre movement. It will include a service-learning component with one or more regional social-service or similar agencies.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 3710 THEATRE HISTORY AND LITERATURE: MODERN / 1850-2000 (3 credits)**

This course is a survey of both western European and world theatre from the emergence of modernism to 1980, about the time of the emergence of post-modernism.

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 3720 THEATRE AND SOCIAL JUSTICE (3 credits)**

This service-learning course will combine both research and practice in theatre that involves social change. Students will study the history of such theatre, with special focus on developments in the 20th century. All research will be accompanied by several community-based projects whereby students will create theatre with specific populations (schools, community centers, health centers, senior homes, etc.). (Cross-listed with THEA 8755).

**Prerequisite(s)/Corequisite(s):** ENGL 1160, THEA 1700

**THEA 4000 SUMMER THEATRE WORKSHOP (3 credits)**

Intensive supervised workshop experience involving significant overall contribution(s) to the summer theatre program.

**THEA 4020 ADVANCED PROJECTS IN THEATRE (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 8026)

**Prerequisite(s)/Corequisite(s):** 9 hours of theatre in the general area to be studied and permission of the instructor.

**THEA 4030 INTERNSHIP II (1-6 credits)**

This course provides an opportunity for the student to participate in a professional summer theatre company and receive course credit. The course will involve practical application. Areas of study might include artistic direction, direction, dramaturgy, arts management, production management, design and technology, or performance. Assignments are made according to the individual interests and skills of the student as they match available opportunities and needs in the industry.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Practicum, THEA 2000 Practicum II or Permission of Instructor

**THEA 4050 SHAKESPEARE ON FILM: THE ART OF INTERPRETATION (3 credits)**

Study how Shakespeare's plays are interpreted for performance. Explore how production shapes our understanding of the text. Understand how the change of medium from page to stage to screen reveals meaning in unique ways. Experience a dynamic way of making the most extraordinary plays your own. Classes will feature readings, lecture, class discussion, and film screenings of different cinematic interpretations of several of Shakespeare's plays. Previous study of Shakespeare is helpful but not required.

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**Distribution:** Humanities and Fine Arts General Education course

**THEA 4310 ADVANCED ACTING: POST REALISM (3 credits)**

Advanced work in the technical skills of voice, speech, movement and textual analysis needed for post-realist material. (Cross-listed with THEA 8316)

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4320 ADVANCED ACTING: GREEKS TO RESTORATION (3 credits)**

The fundamental theories and practices of major styles of acting from ancient Greece to the Restoration, including interpretation of outstanding dramatic literature. (Cross-listed with THEA 8326).

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4330 ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION (3 credits)**

In-depth exploration of a play or playwright's work to connect acting class with performance. Special emphasis on creating a working process that allows the ensemble to emerge. The class will culminate in public performance. (Cross-listed with THEA 8336).

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4340 ADVANCED ACTING: AUDITIONING (3 credits)**

An acting class designed to develop auditioning skills and material as well as cultivate a working knowledge of the business of acting. (Cross-listed with THEA 8346)

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing.

**THEA 4400 DIRECTING II (3 credits)**

A practicum in play selection, analysis, casting, rehearsing and performing. (Cross-listed with THEA 8446)

**Prerequisite(s)/Corequisite(s):** THEA 1300/THEA 2310, THEA 1500/THEA 1510, THEA 1600/THEA 1630, THEA 1700, THEA 3300/THEA 2320, THEA 3400/THEA 4430

**THEA 4500 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical storytelling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 8506).

**Prerequisite(s)/Corequisite(s):** THEA 1500/THEA 1510 and THEA 1700 or permission of instructor.

**THEA 4510 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical story telling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through story telling. (Cross-listed with THEA 8516)

**Prerequisite(s)/Corequisite(s):** THEA 1510 and THEA 3610.

**THEA 4550 PERIOD STYLES IN DRESS AND DECOR (3 credits)**

An historical survey course introducing students to the major periods and iconic styles and trends in western architecture, dress and interior decor of the past 2000 years; and to the social, cultural and technological influences on those trends, particularly as they relate to theatrical and production design. (Cross-listed with THEA 8556).

**Prerequisite(s)/Corequisite(s):** THEA 1700 and THEA 3700/THEA 3770, THEA 3710/THEA 3760, THEA 4710 or THEA 4720 or by permission of instructor.

**THEA 4610 SCENE DESIGN (3 credits)**

Principles of composition, perspective and color for the stage; the designer's approach to the play, production of ground plans, elevations and sketches. (Cross-listed with THEA 8616)

**Prerequisite(s)/Corequisite(s):** THEA 1010 and THEA 1630 and THEA 2630 and Junior standing.

**THEA 4780 THEATRE HISTORY AND LITERATURE: CLASSICAL TO 1500 (3 credits)**

This course is a survey of both western European and early Asian theatre and the related theatre literature in ancient Greece and Rome, India, and medieval Europe from the fifth century BCE to the beginning of the European renaissance.

**Prerequisite(s)/Corequisite(s):** ENGL1160 and Junior standing

**THEA 4790 THEATRE HISTORY AND DRAMATIC LITERATURE: RENAISSANCE TO 1800 (3 credits)**

This course is a survey of primarily western European theatre and the related theatre literature from the Renaissance until the English sentimental comedy.

**Prerequisite(s)/Corequisite(s):** ENGL1160 and Junior standing or Permission of the Instructor.

**THEA 4900 ADVANCED PROJECTS - CAPSTONE (3 credits)**

Demonstration of mastery in a specific area of theatre through an advanced project in acting, musical theatre, directing, design/technical theatre, playwriting, or dramaturgy. This will serve as an end of career course designed to evaluate the student's competency and knowledge of theatre practice.

**Prerequisite(s)/Corequisite(s):** THEA 1000 Practicum, THEA 2000 Practicum, and permission of the instructor

## University Seminar (US)

**US 1000 BRIDGE PROGRAM (0 credits)**

The Bridge Program within the Thompson Learning Community provides additional support to students enrolled in English as a Second Language courses (ESL I and ESL II). Curriculum and supplemental activities are designed to help these students better navigate the University of Nebraska at Omaha campus.

**Prerequisite(s)/Corequisite(s):** Be a member of the Thompson Learning Community, enrolled in ENGL 1090 or ENGL 1100. Not open to non-degree graduate students.

**US 1010 CRITICAL THINKING AND PROBLEM SOLVING FOR THE MODERN DAY STUDENT (1 credit)**

Students will use critical thinking and reasoning to analyze themes, perspectives, and concepts drawn from academic works, career development theory, and Positive Psychology to inform academic, personal and professional lives.

**Prerequisite(s)/Corequisite(s):** Limited to students who have earned 15 or fewer credit hours and have not taken an equivalent course. Students should not register for US 1010 and US 1020. Not open to non-degree graduate students.

**US 1020 TLC ACADEMIC SUCCESS SEMINAR (0 credits)**

This course is intended to enhance first-year students' potential for success in college. This course will provide students the opportunity to learn about academic strategies, network with other TLC community members and staff, and become familiar with UNO resources and programs.

**Prerequisite(s)/Corequisite(s):** Thompson Learning Community members only. Freshman only or permission. Not open to non-degree graduate students.

**US 1030 LEADING YOUR MONEY (0 credits)**

Personal finance for the collegiate leader.

**US 2020 TLC SOPHOMORE SEMINAR (0 credits)**

TLC Sophomore Seminar is a course designed to assist students in exploring university and academic identity, build leadership competency, introduce students to resources that will lead to major and career exploration, and build networking relationships at UNO and in the community.

**Prerequisite(s)/Corequisite(s):** Second-year Thompson Learning Community Students. Not open to non-degree graduate students.

**US 2800 CAREER COMPETENCIES FOR PROFESSIONAL SUCCESS (3 credits)**

This course facilitates the development of 21st century skills to enable professional success in a variety of fields. Topics include aligning occupational information with self-awareness, professional communication, critical thinking and self-advocacy for lifelong career management.

**US 3030 TLC MENTOR INTERNSHIP (0-1 credits)**

Students serve as peer mentors who help first-year students to transition into college and connect them to necessary resources for academic and personal success.

**Prerequisite(s)/Corequisite(s):** Current Thompson Learning Community (TLC) student with a 2.5 GPA. Not open to non-degree graduate students.

## Urban Studies (UBNS)

**UBNS 1010 INTRODUCTION TO URBAN STUDIES (3 credits)**

Introduction to history, concepts, development and literature of urbanism. An interdisciplinary examination of issues confronting contemporary urban society and how various academic disciplines relate to those issues. (Cross-listed with PA 1010).

## Women's and Gender Studies (WGST)

**WGST 1950 BLACK WOMEN IN AMERICA (3 credits)**

This course will examine how Black women in America have evolved politically, economically, and socially under oppressive conditions of slavery, the Reconstruction Era, Jim Crow, and through the Civil Rights, Black Lives Matter, and "Me Too" Movements. The underlying themes of this course are the impact of gender and race on Black women, with an emphasis of how gender and race are fueled by white supremacy, patriarchy, colonialism, capitalism, and imperialism. (Cross-listed with BLST 1950)

**Distribution:** U.S. Diversity General Education course

**WGST 2000 SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES (3 credits)**

A variety of topics primarily for the non-major. (For example, this course might study the image of businesswomen in American literature.) One or two such topics may be offered each term, depending upon student interest and available faculty. Students should consult each term's class schedule in order to determine the specific topics for that term.

**Prerequisite(s)/Corequisite(s):** None. ENGL 1160 recommended

**WGST 2010 INTRODUCTION TO WOMEN'S AND GENDER STUDIES: SOCIAL AND BEHAVIORAL SCIENCE (3 credits)**

A survey course which explores social science perspectives on women, men, and gender, including the biological contribution to human behavior and the impact of science as an institution. Examines challenges to traditional definitions of women's place and movements for change. Includes historical and multicultural materials.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 is recommended.

**Distribution:** Social Science General Education course and U.S. Diversity General Education course

**WGST 2020 INTRODUCTION TO WOMEN'S AND GENDER STUDIES: HUMANITIES (3 credits)**

An introduction to women's and gender studies in the humanities (literature, art, dance, music, theatre, philosophy). Explores both historical and contemporary images of women in these fields; discusses the context in which these images developed. Introduces the basic concepts and terminology of women's and gender studies.

**Prerequisite(s)/Corequisite(s):** ENGL 1150 is recommended.

**Distribution:** Humanities and Fine Arts General Education course and U.S. Diversity General Education course

**WGST 3000 SPECIAL TOPICS: GENDER AND SEXUALITY IN ENGLISH STUDIES (3 credits)**

A study of designated specific topics related to gender and sexuality studies within the disciplines of English (May be repeated for credit as long as the topic is not the same.)

**Prerequisite(s)/Corequisite(s):** Variable according to topic.

**WGST 3020 PERSPECTIVES ON LEADERSHIP (3 credits)**

This course studies scholarship on and the practices of gender and leadership for undergraduate students. It is a service-learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020

**WGST 3050 WOMEN IN RUSSIAN SOCIETY & CULTURE: A HISTORICAL PERSPECTIVE (3 credits)**

This course discusses the history of women in Russia beginning from early Russia (10th Century) to the present. It includes the study of feminist activists, female educational, professional, and employment opportunities, historical and current status of women, and their social, cultural, and intellectual influences on Russian society. Course offered in English. (Cross-listed with RUSS 3050)

**Prerequisite(s)/Corequisite(s):** Junior or permission.

**WGST 3080 HEALTH CONCEPTS OF SEXUAL DEVELOPMENT (3 credits)**

An examination of factors influencing sexual development. Emphasis is given to topics pertinent to healthful living in today's culturally diverse, global society. (Cross-listed with PHHB 3080).

**WGST 3100 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 8105, PSCI 3100, WGST 8105)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**WGST 3120 WOMEN AND THE BIBLE (3 credits)**

This course explores the characterization of women in Hebrew and Christian scriptures as well as what we can learn about the lives of women in the ancient world from these and other sources. Attention is also given to the reception and use of these texts in later historical periods including contemporary religious contexts. (Cross-listed with RELI 3130).

**WGST 3130 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 3130, PSCI 8135, WGST 8135)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**Distribution:** U.S. Diversity General Education course

**WGST 3160 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 4280, ENGL 8286).

**Prerequisite(s)/Corequisite(s):** ENGL 1160; completion of writing in the major course recommended.

**WGST 3180 GENDER IDENTITY IN PERSONAL WRITING (3 credits)**

Students will read a variety of memoirs and personal essays by both emerging and established LGBTQIA+ creative nonfiction writers and allies, with a focus on trans writers; analyze the craft choices each author makes; analyze textual and theoretical explorations of gender identity and gender performativity; and explore their gender identities, and gender experiences in the essays that they compose. (Cross-listed with ENGL 3180).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalents required.

**WGST 3230 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 3230, PSCI 8235, WGST 8235)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 is recommended.

**Distribution:** Global Diversity General Education course

**WGST 3390 WOMEN, CRIME AND JUSTICE (3 credits)**

This course focuses on women's experiences in the criminal justice system.

The course will examine women's experiences as victims of crime, as offenders, as prisoners, and as criminal justice professionals. (Cross-listed with CRCJ 3390)

**Prerequisite(s)/Corequisite(s):** WGST major; CRCJ or WGST minor; CRCJ 1010, ENGL 1160 and 45 credit hours; or instructor permission.

**Distribution:** U.S. Diversity General Education course

**WGST 3490 GENDER AND PHILOSOPHY (3 credits)**

This course examines philosophical arguments concerning gender and sexual difference, gender issues and women in the history of philosophy, and major views in feminist theory. (Cross-listed with PHIL 3490).

**Prerequisite(s)/Corequisite(s):** Junior or 6 hours in PHIL or 6 hours in WGST.

**WGST 3750 GENDER AND COMMUNICATION (3 credits)**

This course provides a survey of literature on communication about, by, and between women and men in society, personal relationships, and organizations. Students develop an understanding of how cultural meanings of gender both shape and are shaped by communication. (Cross-listed with CMST 3750).

**Prerequisite(s)/Corequisite(s):** Junior standing; minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**Distribution:** U.S. Diversity General Education course

**WGST 4010 SENIOR SEMINAR (3 credits)**

This course provides a capstone experience in women's studies. It serves as the third writing course, and is required for women's studies majors. It is open to seniors who have completed five courses in women's studies, including WGST 2010 and WGST 2020, with a 'C' or better; others may enroll with permission.

**Prerequisite(s)/Corequisite(s):** Senior standing, completion of five women's studies courses, including WGST 2010 and WGST 2020, with a grade of 'C' or better; or permission.

**WGST 4020 INTERNSHIP IN WOMEN'S AND GENDER STUDIES (1-6 credits)**

A faculty-supervised project involving part-time employment or service with a community agency, business, non-profit organization, university or other educational unit, or another appropriate organization or setting. Students will gain relevant practical experience and will integrate theory, concepts, and empirical knowledge from their classrooms with their work in the internship setting. Permission of instructor is required.

**Prerequisite(s)/Corequisite(s):** WGST 2010 and WGST 2020, enrollment either as a WGST major or minor or as a BMS concentration in WGST, a 3.0 GPA, and permission of instructor.

**WGST 4030 PERSONAL LEADERSHIP (3 credits)**

In addition to a survey of leadership styles and theories, this course provides historical and contemporary perspectives of gender and leadership, barriers to women's leadership, bias, and discrimination. Individual leadership is examined within the context of being a change agent. This is a service learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020

**WGST 4050 SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (3 credits)**

This course will give instructor and students the opportunity to investigate a variety of advanced topics in Women's Studies. The content will vary from semester to semester, according to instructor. May be repeated for credit as long as topic differs.

**Prerequisite(s)/Corequisite(s):** WGST 2010 and WGST 2020 or permission of instructor.

**WGST 4060 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1922 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with HIST 4060, WGST 8066, and HIST 8066).

**Prerequisite(s)/Corequisite(s):** Junior or permission of instructor.

**WGST 4070 GENDER AND LEADERSHIP CAPSTONE: COMMUNITY ACTION PROJECT (3 credits)**

This course is designed for students in the final stage of the Gender and Leadership Certificate. Activities focus on practical experience in an organization that will allow students to exercise, observe, and later share lessons with classmates about leadership qualities and skills.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or WGST 2020 and either WGST 3020 or WGST 4030

**WGST 4120 BLACK WOMEN LEADERS IN LIBERATION MOVEMENTS (3 credits)**

This course studies scholarship on race, gender, and leadership with a specific focus on African and African descended women's roles in liberation movements in the U.S. and worldwide. Especial focus will be on the use of their personal narratives to analyze the wide range of ideas in the conception and execution of leadership. (Cross-listed with BLST 4120)

**Prerequisite(s)/Corequisite(s):** Junior standing or permission of instructor.

**WGST 4130 GENDER & LEADING SOCIAL CHANGE (3 credits)**

This course will cover theories, philosophies, movements, and concepts related to social change as a process and outcome. It is a service-learning course.

**Prerequisite(s)/Corequisite(s):** WGST 2010 or 2020. Junior standing or permission.

**WGST 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with ENTR 4150, ENTR 8156, GEOG 4150, GEOG 8156 and WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**WGST 4250 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 4250, ENGL 8256).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 and one additional course in literature or permission.

**WGST 4270 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 8276, ENGL 4270).

**Prerequisite(s)/Corequisite(s):** ENGL 1150 and ENGL 1160 or equivalent; completion of ENGL 2410 or other writing in the major course recommended.

**WGST 4550 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with PHHB 4550, PHHB 8556, GERO 4550, GERO 8556)

**WGST 4910 TOPICS IN WOMEN'S HISTORY (3 credits)**

A course on selected topics offered on a one-time or occasional basis. Course may be repeated as long as the topic is different each time. Cross listed with WGST 4910/WGST 8916 when topics are appropriate to Women's and Gender Studies.

**Prerequisite(s)/Corequisite(s):** Junior

**WGST 4930 SPECIAL TOPICS IN GENDER AND ART HISTORY (1-3 credits)**

An illustrated lecture course dealing with a limited topic in the field of art history. The course may be coordinated with an external event such as an exhibition, publication or study trip.

**Prerequisite(s)/Corequisite(s):** To be determined by the instructor based upon the preparation required for an adequate understanding of the material of the course. Lab fee required.

**WGST 4960 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

Specific subjects (when offered) appear in class schedules. Complete syllabi available in English Department. Formerly ENGL4940 / ENGL 8946 Studies in Language and Literature.

**Prerequisite(s)/Corequisite(s):** Will vary depending on what the topic is.

**WGST 4990 INDEPENDENT STUDY (1-3 credits)**

An individualized course of study with a member of the Women's and Gender Studies Faculty. Either independent research or advanced readings may be pursued. No more than 6 hours of independent study may be used towards the minor.

**Prerequisite(s)/Corequisite(s):** Permission from the Women's Studies director and the supervising faculty member is required.

## Writer's Workshop (WRWS)

**WRWS 1010 CONTEMPORARY WRITERS:IN PERSON IN PRINT (3 credits)**

An introduction to reading contemporary literature by studying the ways in which a writer shapes a poem or tale to communicate with an audience. Emphasizes the most contemporary prose and poetry and includes a series of readings and classroom visits by guest writers whose books are the texts for the class.

**Prerequisite(s)/Corequisite(s):** ENGL1160 or equivalent. Not open to non-degree graduate students.

**WRWS 1500 INTRODUCTION TO CREATIVE WRITING (3 credits)**

An introduction for non-majors in creative writing to the art and craft of writing fiction, poetry, and creative nonfiction. Follows a workshop format based on individual and group critique of students' writing, discussion of principles and techniques of the craft, and reading and analysis of instructive literary examples.

**Prerequisite(s)/Corequisite(s):** ENGL1160

**Distribution:** Humanities and Fine Arts General Education course

**WRWS 2000 SPECIAL STUDIES IN WRITING (3 credits)**

Offers varying subjects in writing and reading for the basic study of special forms, structures and techniques of imaginative literature. Consult the current class schedule for the semester's subject. May be repeated for credit with change of subject.

**Prerequisite(s)/Corequisite(s):** ENGL 1160. Not open to non-degree graduate students.

**WRWS 2050 FUNDAMENTALS OF FICTION WRITING (3 credits)**

A study of the ways in which writers confront the technical choices of their craft, this course introduces students to the major elements of fiction in order to increase their critical awareness both as readers and writers and to prepare them for work in succeeding fiction studios.

**Prerequisite(s)/Corequisite(s):** Prerequisite(s)/Corequisite(s): ENGL1160 or equivalent.

**WRWS 2060 FUNDAMENTALS OF POETRY WRITING (3 credits)**

This beginning writing course in poetry emphasizes the manner in which poets meet and deal with the technical choices confronting them in the making of a poem. Written work introduces students to a number of established forms in order to increase an understanding of the elements of a successful poem.

**Prerequisite(s)/Corequisite(s):** ENGL1160 or equivalent. Not open to non-degree graduate students.

**WRWS 2100 BASIC FICTION STUDIO (4 credits)**

A basic workshop course in fiction writing, studying the shapes and techniques of composing complete fictions. This is the first of four fiction studios.

**Prerequisite(s)/Corequisite(s):** WRWS2050

**WRWS 2200 BASIC POETRY STUDIO (4 credits)**

This beginning level studio explores different poetic forms and encourages the development of the writer's voice.

**Prerequisite(s)/Corequisite(s):** WRWS 2060

**WRWS 2300 BASIC CREATIVE NONFICTION STUDIO (4 credits)**

A beginning studio in various forms and craft techniques of creative nonfiction. Students study and practice writing such forms as the personal essay, the memoir, the adventure narrative, the essay of issues, etc.

**Prerequisite(s)/Corequisite(s):** WRWS 2050 or 2060. Not open to non-degree graduate students.

**WRWS 2400 FOUNDATIONS OF SCREENWRITING (3 credits)**

This course introduces the student to the foundational elements of screenwriting. The student will learn and practice the techniques of conveying a story in images and sound, creating characters with human motives and conflicts, editing for economy and thematic significance. Proper script formatting will be taught and expected.

**Prerequisite(s)/Corequisite(s):** English 1160 or equivalent.

**Distribution:** Humanities and Fine Arts General Education course

**WRWS 2600 BASIC SCREENWRITING AND TELEVISION WRITING STUDIO (4 credits)**

This studio introduces the fundamentals of screenwriting. The student will produce a pitch, outline and completed industry-standard screenplay that conveys a story, creates characters, and is edited for economy and theme. Proper script formatting will be taught and expected.

**Prerequisite(s)/Corequisite(s):** WRWS 2050, or WRWS 2060. Not open to non-degree graduate students.

**WRWS 3000 SELECTED TOPICS IN WRITING (1-3 credits)**

This course presents selected theoretical and practical approaches to crafting one or more the following genres: poetry, fiction, creative nonfiction, screenwriting, young adult literature, the video game narrative, or the graphic novel. Specific topics for the course will vary from semester to semester. Consult current class scheduled for the semester's topic(s). This course may be repeated for credit as a different course under a new topic

**Prerequisite(s)/Corequisite(s):** Vary according to specific topics being offered

**WRWS 3010 LITERARY MAGAZINE (APPLIED) (3 credits)**

This course provides hands-on editorial experience by reading submitted manuscripts, maintaining correspondence with prospective contributors, and shaping the contents of UNO's literary journal, 13th Floor. May be repeated up to six hours.

**Prerequisite(s)/Corequisite(s):** Sophomore and/or permission of magazine faculty advisor.

**WRWS 3030 ADVANCED CONTEMPORARY WRITERS (3 credits)**

This advanced course explores contemporary literature by studying the ways in which writers in multiple genres shape their work to communicate with an audience. It emphasizes the most contemporary prose and poetry and includes a series of readings and classroom visits by guest writers whose books are the texts for the class.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**WRWS 3100 INTERMEDIATE FICTION STUDIO (4 credits)**

An intermediate course in fiction writing. Emphasis on developing complete short stories or constructing a novel.

**Prerequisite(s)/Corequisite(s):** WRWS 2100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 3200 INTERMEDIATE POETRY STUDIO (4 credits)**

An intermediate course in the making of poetry, this class will focus on the study of traditional and contemporary models, as well as crafting original poems.

**Prerequisite(s)/Corequisite(s):** WRWS 2200. Not open to non-degree graduate students.

**WRWS 3300 INTERMEDIATE CREATIVE NONFICTION STUDIO (4 credits)**

An intermediate-level studio course in forms and crafting techniques of creative nonfiction. Students study and practice writing within such forms as the literary essay, the essay of issues, historical nonfiction, the nonfiction novel, etc.

**Prerequisite(s)/Corequisite(s):** WRWS 2300 or permission of instructor. Not open to non-degree graduate students.

**WRWS 3500 CREATIVE WRITING FOR THE ARTS (3 credits)**

An introduction to the art and craft of writing fiction, poetry, creative nonfiction, and analyses of works in art, music, and journalism/political rhetoric. Intended for non-majors in creative writing, and tailored to the needs of other arts disciplines, notably those in CFAM, the course will follow a workshop format based on individual and group critique of students' writing, discussion of principles and techniques of craft and selected literary readings. Students will also experience and analyze other arts forms, which may include exhibits of visual and performance art, journalistic essays and/or political speeches.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent.

**Distribution:** Humanities and Fine Arts General Education course and Writing in the Discipline Single Course

**WRWS 3600 INTERMEDIATE SCREENWRITING STUDIO (4 credits)**

This course will build on the foundation established in the Beginning Screenwriting Studio (2600). The student will complete and revise the first draft of a feature-length screenplay. The student will also pitch, note-card, and begin writing a speculation script for television. The class will attend Film Streams once a month to view the current independent offering. There will be lectures and assigned reading. The course will culminate in the student beginning work on a second feature-length screenplay.

**Prerequisite(s)/Corequisite(s):** WRWS 2600. Not open to non-degree graduate students.

**WRWS 3800 THE WRITER'S VOICE: AUTHORS ON THE PAGE AND AT THE PODIUM (3 credits)**

This course will serve as an introduction to the art and craft of fiction, poetry, and creative nonfiction, as well as to analyses of written and publicly performed works of creative writing. This course is open to students who are not creative writing majors, and it is tailored to the needs of other arts disciplines, notably those in CFAM. WRWS 3800 will involve students crafting reflective, analytical, and creative writing based on the texts and video recorded public readings of visiting authors.

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or equivalent

**Distribution:** Writing in the Discipline Single Course

**WRWS 3990 INDEPENDENT STUDIES (3-6 credits)**

For the writing major who has need of work not currently available in program offerings and who has demonstrated a capacity for working independently. Emphasis on in-depth study in some specific aspect of writing.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**WRWS 4000 FORM AND THEORY (3 credits)**

Advanced study of varying forms, structures, and techniques in creative writing. Specific topics of study may change each semester, and students may repeat the course under a new topic. Consult current class schedule.  
**Prerequisite(s)/Corequisite(s):** Completion of WRWS 2100 or 2200 or 2300, varies according to specific topics offered.

**WRWS 4100 ADVANCED FICTION STUDIO II (4 credits)**

An advanced course in fiction in which students write and edit the most fully-developed short stories and/or novel sections of their college career, as well as read, analyze, and discuss assigned texts. Students examine the techniques of fiction writing, use the vocabulary and perspective they have gained so far to discuss their and others' work. They draw upon aspects of the self, the senses, imagination and memory to produce texts unique to their own voice and experience. (Cross-listed with WRWS 4110, WRWS 8116)

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4110 ADVANCED FICTION STUDIO II (4 credits)**

An advanced course in fiction in which students write and edit the most fully-developed short stories and/or novel sections of their college career, as well as read, analyze, and discuss assigned texts. Students examine the techniques of fiction writing, use the vocabulary and perspective they have gained so far to discuss their and others' work. They draw upon aspects of the self, the senses, imagination and memory to produce texts unique to their own voice and experience. (Cross-listed with WRWS 4100, WRWS 8116)

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4200 ADVANCED POETRY STUDIO I (4 credits)**

An advanced course in poetry writing. Emphasis on refining poetic technique. (Cross-listed with WRWS 8206)

**Prerequisite(s)/Corequisite(s):** WRWS 3200 or WRWS 4210 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4210 ADVANCED POETRY STUDIO II (4 credits)**

An advanced course in poetry writing with an emphasis on refining poetic technique and expression.

**Prerequisite(s)/Corequisite(s):** WRWS 3200 or WRWS 4200 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4300 ADVANCED CREATIVE NONFICTION STUDIO (4 credits)**

An advanced studio course in writing creative nonfiction. The course provides a context in which the student continues to practice techniques of literary nonfiction through the process of writing and rewriting.

**Prerequisite(s)/Corequisite(s):** WRWS 3300 or permission of instructor. Not open to non-degree graduate students.

**WRWS 4310 ADVANCED CREATIVE NONFICTION STUDIO II (4 credits)**

An advanced studio course in writing creative nonfiction. The course provides a context in which the student continues to practice techniques of literary nonfiction through the process of writing and rewriting.

**Prerequisite(s)/Corequisite(s):** WRWS 2300 and WRWS 3300, or permission of instructor. Not open to non-degree graduate students.

**WRWS 4600 ADVANCED SCREENWRITING STUDIO I (4 credits)**

This class will focus on the craft of screenwriting: plot, format, substance, style, scene development, film structure (both independent and main stream), three dimensional characters, and precise, professional dialogue. The student will complete a feature-length screenplay over course of the semester. There will be lectures and assigned reading. Once a month the student will view the current independent offering at Film Streams. This class will guide the student in completing a work portfolio, querying agents, applying to internships, and preparing for a career in film and television. (Cross-listed with WRWS 8606).

**Prerequisite(s)/Corequisite(s):** WRWS 2600 and WRWS 3600.

**WRWS 4610 ADVANCED SCREENWRITING STUDIO II (4 credits)**

This class will build on the knowledge gained in Beginning Screenwriting Studio (WRWS 2600) and Intermediate Screenwriting Studio (WRWS 3600). The student will complete a second feature-length screenplay and an original pilot for television. There will be lectures and assigned reading. Once a month the student will view the current independent offering at Film Streams. This class will guide the student in completing a work portfolio, querying agents, applying to internships, and preparing for a career in film and television after graduation.

**Prerequisite(s)/Corequisite(s):** WRWS 2600 and WRWS 3600. Not open to non-degree graduate students.

**WRWS 4990 SENIOR THESIS (3-6 credits)**

An option for the writing majors in their last year of study to enable them to prepare a body of original work in their areas of concentration for judging by a committee of faculty.

**Prerequisite(s)/Corequisite(s):** Permission of department chair and thesis advisor. Not open to non-degree graduate students.



# GRADUATE

## 2021-2022 Graduate Catalog Graduate Programs A-Z

### A

- Accounting, MACC (p. 986)
- Advanced Writing Certificate (p. 1174)
- Ancient Mediterranean Studies Minor (p. 1368)
- Applied Behavior Analysis Certificate (p. 1307)
- Applied Behavior Analysis, MS (p. 1306)
- Art History Minor (p. 1369)
- Artificial Intelligence Certificate (p. 1077)
- Athletic Training, MA (p. 990)

### B

- Biology, MS (p. 997)
- Biomechanics and Kinesiology, PhD (p. 1179)
- Biomechanics, MS (p. 1000)
- Biomedical Informatics, MS (p. 1004)
- Biomedical Informatics, PhD (p. 1007)
- Biomedical Science Certificate (p. 999)
- Black Studies Minor (p. 1369)
- Business Administration Minor (p. 1369)
- Business Administration, MBA (p. 1018)
- Business Administration, MBA and Economics, MS (MBA/ECON) (p. 1040)
- Business Administration, MBA and Management Information Systems, MS (MBA/MIS) (p. 1036)
- Business Administration, MBA and Public Health, MPH (MBA/MPH) (p. 1045)
- Business Administration, MBA and UNMC Doctor of Physical Therapy (p. 1050)
- Business Administration, MBA and UNMC Master of Perfusion Science (p. 1053)
- Business Administration, MBA and UNMC Master of Physician Assistant Studies (p. 1055)
- Business Administration, MBA and UNMC Nursing (MBA/MSN) (p. 1051)
- Business Administration, MBA and UNMC PharmD (MBA/PharmD) (p. 1048)
- Business Administration-Executive MBA (p. 1027)
- Business for Bioscientists Certificate (p. 999)
- Business in Health Administration Certificate (p. 1057)

### C

- Communication Certificate (p. 1064)
- Communication Networks Certificate (p. 1078)
- Communication, MA (p. 1063)
- Computer Science Education Certificate (p. 1082)
- Computer Science Education, MS (p. 1081)
- Computer Science, MS (p. 1073)
- Counseling, MS (p. 1083)
- Criminology and Criminal Justice Minor (p. 1369)
- Criminology and Criminal Justice, MA (p. 1093)
- Criminology and Criminal Justice, MS (p. 1094)

- Criminology and Criminal Justice, PhD (p. 1097)
- Critical and Creative Thinking, MA (p. 1102)
- Cybersecurity Certificate (p. 1110)
- Cybersecurity, MS (p. 1108)

### D

- Data Analytics Certificate (p. 1256)
- Data Management Certificate (p. 1258)
- Data Science, MS (p. 1112)

### E

- Economic Education Certificate (p. 1149)
- Economics Minor (p. 1369)
- Economics, MA (p. 1143)
- Economics, MS (p. 1145)
- Educational Administration & Supervision, EdS (p. 1154)
- Educational Administration, EdD (p. 1155)
- Educational Leadership, MS (p. 1153)
- Elementary Education, MS (p. 1156)
- English Minor (p. 1369)
- English, MA (p. 1173)

### F

- French Minor (p. 1369)

### G

- Geographic Information Science Certificate (p. 1189)
- Geography Minor (p. 1370)
- Geography, MS (p. 1187)
- German Minor (p. 1370)
- Gerontology Certificate (p. 1194)
- Gerontology Minor (p. 1370)
- Gerontology, MA (p. 1193)
- Gerontology, PhD (p. 1192)
- Global Information Operations Certificate (p. 1288)
- Government Certificate (p. 1289)

### H

- Health and Kinesiology, MS (p. 1201)
- History Certificate (p. 1207)
- History Minor (p. 1370)
- History, MA (p. 1205)
- Human Resources and Training Certificate (p. 1065)

### I

- Industrial/Organizational Psychology, MS (p. 1303)
- Information Assurance Certificate (p. 1259)
- Information Technology, Executive MS (p. 1208)
- Information Technology, PhD (p. 1209)
- Intelligence and National Security Certificate (p. 1291)
- IT Innovation, MS (p. 1225)

### K

- Kodaly Certificate (p. 1279)

**L**

- Language Teaching, MA (p. 1230)
- Literacy, MS (p. 1233)
- Literature and Culture Certificate (p. 1176)

**M**

- Management Information Systems Minor (p. 1370)
- Management Information Systems, MS (p. 1244)
- Managing Juvenile and Adult Populations Certificate (p. 1101)
- Mathematics Minor (p. 1370)
- Mathematics, MA (p. 1266)
- Mathematics, MAT (p. 1269)
- Mathematics, MS (p. 1270)
- Medieval/Renaissance Studies Minor (p. 1370)
- Music, MM (p. 1274)

**N**

- Native American Studies Minor (p. 1371)
- Nonprofit Management Certificate (p. 1323)

**P**

- Political Science Minor (p. 1371)
- Political Science, MS (p. 1284)
- Project Management Certificate (p. 1260)
- Psychology, MA (p. 1298)
- Psychology, PhD (p. 1301)
- Public Administration, MPA (p. 1312)
- Public Administration, MPA and Management Information Systems, MS (MPA/MIS) (p. 1254)
- Public Administration, MPA and Social Work, MSW (MPA/MSW) (p. 1317)
- Public Administration, PhD (p. 1315)
- Public Management Certificate (p. 1322)

**R**

- Religious Studies Minor (p. 1371)

**S**

- School Psychology, EdS (p. 1304)
- School Psychology, MS (p. 1305)
- Secondary Education, MS (p. 1323)
- Secondary Mathematics Specialist Certificate (p. 1274)
- Social Work, MSW (p. 1341)
- Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) (p. 1099)
- Social Work, MSW and Public Health, MPH (MSW/MPH) (p. 1347)
- Sociology, MA (p. 1350)
- Software Engineering Certificate (p. 1078)
- Spanish Certificate (p. 1232)
- Spanish Minor (p. 1371)
- Special Education, MS (p. 1355)
- Speech-Language Pathology, MS (p. 1361)
- Supply Chain Management Certificate (p. 1058)
- Systems Analysis and Design Certificate (p. 1262)
- Systems and Architecture Certificate (p. 1079)

**T**

- Teaching English to Speakers of Other Languages Certificate (p. 1177)
- Technical Communication Certificate (p. 1178)

**U**

- Urban Studies, MS (p. 1364)

**W**

- Writing, MFA (p. 1366)

## Catalog Introduction

Welcome to the 2021-2022 graduate catalog for the University of Nebraska at Omaha (UNO).

For over 100 years, UNO has helped professionals advance their careers through a wide array of award-winning graduate programs. We focus our attention, expertise, and resources on our most important responsibility—our students.

We offer over 90 graduate programs at master's, PhD and certificate levels, providing you advanced education opportunities, to explore in this catalog. UNO is recognized as a Carnegie Doctoral Research University. Our graduate faculty represents the very best in their fields, earning national teaching awards, and they are dedicated to individual student instruction and mentoring.

Utilize this catalog as a resource to help you prepare and develop new professional skills through a graduate degree. If you have any questions or need advice, please contact the Office of Graduate Studies.

Deborah Smith-Howell, PhD  
Associate Vice Chancellor for Academic Affairs & Dean for Graduate Studies

- Catalog Purpose (p. 941)
- Catalog Disclaimers (p. 941)

## Catalog Purpose

The catalog is a comprehensive resource that provides important information for students' academic careers at UNO. The catalog contains official descriptions of academic programs, prerequisites, courses, and degree requirements. In addition, the catalog provides an overview of academic policies and procedures, including admissions, enrollment, grading, and financial information.

## Catalog Disclaimers

### Discontinuance of Program Offerings

Acceptance of registration by the University of Nebraska and admission to any educational program of the University does not constitute a contract or warranty that the University will continue to offer the program in which a student is enrolled. The University expressly reserves the right to change, phase out, or discontinue any program.

The listing of courses contained in any University bulletin, catalog, or schedule is by way of announcement only and shall not be regarded as an offer of contract. The University expressly reserves the right to:

1. Add or delete courses from its offerings;
2. Change times or locations of courses or programs;

3. Change academic calendars without notice;
4. Cancel any course for insufficient registrations, or
5. Revise or change rules, charges, fees, schedules, courses, requirements for degrees, and any other policy or regulation affecting students, including, but not limited to, evaluation standards, whenever the same is considered to be in the best interests of the University.

## University's Right to Change

The University and its various colleges, divisions, and departments reserve the right to change the rules controlling admission to, instruction in, and graduation from the University or its various divisions. Such regulations are operative whenever University authorities deem necessary and apply not only to prospective students, but also to currently enrolled students.

The University also reserves the right to withdraw courses, to reassign instructors and to change tuition and fees at any time. In some cases, prerequisites for courses offered at the University are effective even if they are not listed in this catalog. See the current class schedule or your advisor for more information.

**NOTE:** Modifications in the academic calendar and program could be necessitated by emergency conditions.

## Graduate College

### University of Nebraska Graduate College Organization

In 1971, at the direction of the Board of Regents, the Graduate College of the University of Nebraska (UNL and UNMC) and the Graduate College of the University of Nebraska at Omaha were merged to form one University-wide Graduate College with one Graduate Faculty. The ultimate academic authority for all graduate programs within the University is vested in the approximately 1700 members of the Graduate Faculty.

The Bylaws of the Board of Regents state that the Executive Vice President and Provost of the University of Nebraska shall serve as Dean of the University-wide Graduate College and as presiding officer of the Graduate Faculty and councils thereof. The legislative and academic authority of the Graduate Faculty is vested in the Executive Graduate Council, comprised of eight members elected by the graduate faculty. Specific responsibilities of the Dean and of the Executive Graduate Council can be found in the University of Nebraska Graduate College Governance document.

On each campus of the university in which graduate programs are housed, there is a campus Dean for Graduate Studies, a campus graduate faculty, and a campus graduate council. The UNO Dean for Graduate Studies administers graduate programs and policies on that campus; serves as presiding officer of the UNO graduate faculty and the UNO graduate council; and forwards to the Dean of the Graduate College matters which are of university-wide concern. The UNO graduate faculty consists of those members of the university-wide graduate faculty administratively assigned to UNO. The UNO graduate council acts as an advisory body to the UNO Dean for Graduate Studies, coordinates the graduate studies on the UNO campus, and recommends to the executive graduate council actions affecting students and programs on more than one campus. This council consists of 22 elected or appointed faculty members and two graduate student members. Specific responsibilities of the Dean for Graduate Studies and of the UNO graduate council may be found in the document "Organization of Graduate Studies: University of Nebraska at Omaha."

## University of Nebraska at Omaha Graduate Studies

As a graduate student, you will partner your ambition with a world-class education at UNO. Our office partners with you on this journey from start to finish. Once you have applied, your application will be sent to the appropriate graduate admission committee for review. Upon review, we will notify you of an admission decision.

Once admitted and enrolled in courses, we continue the journey with you. You will have the opportunity to apply for graduate assistantships, scholarships, travel awards, attend workshops, and have access to professional development opportunities. In addition, we provide academic support by monitoring your degree plan, grades, and quality of work. As you near completion of your degree, we provide guidance and support as you prepare for graduation.

UNO's six academic colleges provide rigorous graduate academic programs, taught by faculty who are national and international experts in their fields. All of UNO's colleges offer unique opportunities in research and hands-on experiences that are critical to gaining an edge in a competitive global workforce.

If you need to contact us at any point of your journey at UNO we can be contacted by phone, email, and in person to assist you with any graduate studies needs you may have.

Contact Us:

- [gradschool@unomaha.edu](mailto:gradschool@unomaha.edu)
- Main: 402.554.2341
- Toll Free: 800.858.8648
- Fax: 402.554.3143
- UNO Office of Graduate Studies  
6001 Dodge Street  
203 Eppley Administration Building  
Omaha, NE 68182-0209

## Graduate Student Learning Outcomes

**Preamble:** The following student learning outcomes for master's level graduate programs were synthesized from the breadth of existing graduate student learning outcomes and represent commonalities in most programs.

Students shall demonstrate at the graduate level:

1. Mastery of discipline content
2. Proficiency in analyzing, evaluating, and synthesizing information
3. Effective oral and written communication
4. Demonstrate knowledge of discipline's ethics and standards

## About UNO

Located in one of America's best cities to live, work and learn, the University of Nebraska at Omaha (UNO) is Nebraska's premier metropolitan university. With more than 15,000 students enrolled in 200-plus programs of study, UNO is recognized nationally for its online education, graduate education, military friendliness, and community engagement efforts. Founded in 1908, UNO has served learners of all backgrounds for more than 100 years and is dedicated to another century of excellence both in the classroom and in the community.

- Metropolitan University Mission (p. 943)
- Accreditation (p. 943)
- Community Engagement (p. 943)
- University Structure (p. 943)

- University Leadership (p. 943)
- Freedom of Expression (p. 944)
- Family Education Rights and Privacy Act (FERPA) (p. 944)
- Student Right to Know/Consumer Information (p. 944)
- State Authorization/Governance Financial Reporting (p. 944)

## Metropolitan University Mission

### Mission Statement

As a metropolitan university of distinction, Carnegie Doctoral Research Institution, and one of the first universities to earn the Carnegie Community Engagement Classification, the University of Nebraska at Omaha (UNO) transforms and improves the quality of life locally, nationally and globally.

The “metropolitan university,” defined in its simplest terms, is an institution that accepts all of higher education’s traditional values in teaching, research, and service, but takes upon itself the additional responsibility of providing engaged leadership within the metropolitan region by using its human and financial resources as partners to improve the region’s quality of life. Adapted from Paige E. Mulholland’s “Aligning Missions with Public Expectations: The Case of the Metropolitan Universities,” Metropolitan Universities, 1995.

Learn more about the UNO metropolitan mission (<https://www.unomaha.edu/about-uno/mission.php>).

## Accreditation

The University of Nebraska at Omaha (UNO) is accredited by the Higher Learning Commission, which is an independent corporation founded in 1895. The commission can be contacted at 230 South LaSalle Street, Suite 7-500, Chicago, IL. 60604; telephone 800.621.7440/312.263.0456; fax 312.263.7462; email [info@hlcommission.org](mailto:info@hlcommission.org). Higher Learning Commission accreditation applies to the entire institution, all its programs, and all its locations.

In addition, a number of programs have been awarded discipline-specific accreditation. Learn more about the comprehensive listing (<https://www.unomaha.edu/accreditation/programs/>). Prospective and enrolled students are encouraged to check with department/school advisors for additional information about program accreditation in relation to specific programs.

## Community Engagement

UNO is Nebraska's metropolitan university – a university with strong academic values and significant relationships with our community that transforms and improves life. Community engagement and service are fundamental components of UNO's identity. This commitment to engagement is reflected in UNO's academics, student body, partnerships, and institutional framework.

Learn more about the commitment to engagement (<https://www.unomaha.edu/campus-commitment-to-community-engagement/>).

## University Structure

UNO is part of the Nebraska University system. The system has four university campuses: UNK, UNL, UNMC, and UNO. The campuses are led by the University President and the president reports to the Board of Regents which is an elected body. Each campus is led by a chancellor who manages an administrative team of vice chancellors who, in turn, oversee

different aspects of campus, including academic affairs and student success.

Within UNO, there are six different colleges, each containing different departments or schools. The deans are the top administrators of the colleges. Department chairs or school directors oversee the faculty, staff, and academic processes of the department/school. If you are unsure of your college affiliation, your advisor can assist you in determining the college in which your degree resides.

- College of Arts and Sciences (<https://www.unomaha.edu/college-of-arts-and-sciences/>)
- College of Business Administration (<https://www.unomaha.edu/college-of-business-administration/>)
- College of Communication, Fine Arts, and Media (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/>)
- College of Education, Health, and Human Sciences (<https://www.unomaha.edu/college-of-education/>)
- College of Information Science & Technology (<https://www.unomaha.edu/college-of-information-science-and-technology/>)
- College of Public Affairs and Community Service (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/>)

All UNO graduate programs are administered by the UNO Office of Graduate Studies (<https://www.unomaha.edu/graduate-studies/>), which is part of the University of Nebraska Graduate College.

## University Leadership Board of Regents

Timothy Clare, J.D., Lincoln

Jack Stark Ph.D., Omaha

Jim Pillen, D.V.M., Columbus

Elizabeth O'Connor, J.D., Omaha

Robert Schafer, J.D., Beatrice

Paul Kenney, Amherst (2021 Chair)

Bob Phares, North Platte (2021 Vice Chair)

Barbara Weitz, Omaha

### Student Representatives

University of Nebraska at Omaha, Maeve Hemmer

University of Nebraska at Kearney, Max Beal

University of Nebraska-Lincoln, Veronica Miller

University of Nebraska Medical Center, Thomas Schroeder

Learn more about the Board of Regents (<https://nebraska.edu/regents/board-members/>).

## President

Walter, "Ted" Carter, Jr. - President, University of Nebraska

Meet the President (<https://nebraska.edu/president/meet-the-president/>)

## UNO Administration Chancellor

Joanne Li, Ph.D., CFA Chancellor

### Vice Chancellors

Sacha Kopp, Ph.D., Senior Vice Chancellor for Academic Affairs

Daniel Shipp, Ed.D., Vice Chancellor for Student Success

Doug Ewald, Vice Chancellor for Business, Finance and Business Development

Robert Bartee, Vice Chancellor for External Relations

### Deans

David Boocker, Ph.D., Dean of the College of Arts and Sciences

Michelle Trawick, Ph.D., Dean of the College of Business Administration

Michael Hilt, Ph.D., Dean of the College of Communication, Fine Arts and Media

Nancy Edick, Ed.D., Dean of the College of Education

Martha Garcia-Murillo, Ph.D., Dean of the College of Information Science & Technology

John Bartle, Ph.D., Dean of the College of Public Affairs and Community Service

David Richards, MLIA, MA, Dean of Library Services

Deborah Smith-Howell, Ph.D., Associate Vice Chancellor, Academic Affairs, Dean for Graduate Studies

Cathy Pettid, LMHP, Assistant Vice Chancellor for Student Success and Dean of Students

Learn more about the UNO Administration (<https://www.unomaha.edu/about-uno/administration.php>).

## Freedom of Expression

The University of Nebraska honors the First Amendment of the U.S. Constitution and has long dedicated itself to the free exchange of ideas. The purpose of this policy is to articulate, clarify and underscore that long-standing commitment in a manner that furthers both freedom of expression and the University's mission of teaching, research and public service. The first section of this policy sets forth the University's and the Board of Regents' commitment to the tenets of Free Expression; the second section provides a framework for campuses to provide what are referred to as "facilities use plans" or programs applicable to particular spaces and resources on their campuses, consistent with that commitment, the law, and the University's mission; and the final section is a mandate for education with respect to the rights surrounding the First Amendment.

Read the full Freedom of Expression Policy (<https://nebraska.edu/-/media/unca/docs/offices-and-policies/policies/board-governing-documents/board-of-regents-policies.pdf>).

Adopted by the Board of Regents of the University of Nebraska on December 4 2020 (RP 6.4.10).

## Family Education Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) of 1974 affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records.
2. The right to request the amendment of the student's education records to ensure they are not inaccurate, misleading, or otherwise in violation of the student's privacy or other rights.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent FERPA authorizes disclosure without consent.
4. The right to file with the U.S. Department of Education a complaint concerning alleged failures by the University of Nebraska at Omaha to comply with the requirements of FERPA.
5. The right to obtain a copy of the University of Nebraska at Omaha's Student Records Policy. A copy of the policy is available at the Office of the University Registrar, 105 Eppley Administration Building.

Learn more about FERPA (<http://www.unomaha.edu/registrar/students/transcripts-and-records/student-privacy-information-ferpa.php>).

## Student Right to Know/ Consumer Information

The Higher Education Opportunity Act of 2008 (HEOA) requires that post-secondary institutions participating in federal student aid programs, including the University of Nebraska at Omaha (UNO), make certain disclosures to enrolled and prospective students, parents, employees, and the public. The following information is disclosed to you in compliance with federal law. To request paper copies of any of the information listed below, please contact the Office of Financial Support and Scholarships. The information on this page is reviewed and updated annually to ensure it is accurate, timely, and appropriate.

Learn more about the Consumer Information ([https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer\\_info.php](https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer_info.php)) policy.

Learn more about the Student Right-to-Know Act ([https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer\\_info.php#nces](https://www.unomaha.edu/admissions/financial-support-and-scholarships/tools-and-resources/consumer_info.php#nces)).

## State Authorization/ Governance Financial Reporting

### Coordinating Commission for Postsecondary Education

An institution that participates in the federal student aid programs authorized under Title IV of the Higher Education Act of 1965, as amended, must be authorized to operate by the state where it is located. There are two basic requirements for an institution to be legally authorized by the state for Title IV funding eligibility purposes. The state must authorize an institution to operate educational programs beyond secondary education, and the state must have a process to review and appropriately act on complaints concerning the institution, including enforcement of applicable state laws. Nebraska's Coordinating Commission for Postsecondary Education is responsible for responding to these formal complaints

at <http://www.ccpe.state.ne.us/PublicDoc/Ccpe/Complaint.asp> (<https://ccpe.nebraska.gov/>).

## State Licensure

The US Department of Education requires the University of Nebraska at Omaha to notify both prospective and enrolled students in degree programs that lead to state licensure or certification required for entry into a profession in the state in which students are located.

Certification and licensure requirements differ from state to state. We are required to notify students if the program you are interested in or enrolled in will meet educational requirements to apply for certification or licensure in your home state.

Learn more about State Licensure <https://www.unomaha.edu/academic-affairs/curriculum-development/licensure.php>

## Governance/Financial Information

The University of Nebraska is one university, governed by a Board of Regents whose members are elected by Nebraska voters. The board appoints a chief executive officer—the president of the University of Nebraska—who is the single administrative officer responsible to the board. The university conducts its programs primarily on its four campuses (UNO, UNMC, UNL, UNK). The president's office provides overall leadership to the university in academic affairs, budget development and control, business and finance, physical planning, policy development, external affairs, diversity and equity, and legal affairs. The chancellors of the four campuses, who are appointed by the president, also serve as vice presidents of the university and as chief operating officers on their own campus.

Annual financial reports for the University of Nebraska are available at: [nebraska.edu/offices-policies/business-finance/accounting-finance](http://nebraska.edu/offices-policies/business-finance/accounting-finance) (<https://nebraska.edu/offices-policies/business-finance/accounting-finance/>)

Annual operating budgets are available at [nebraska.edu/administration/business-and-finance/budget-information.html](http://nebraska.edu/administration/business-and-finance/budget-information.html) (<http://www.nebraska.edu/administration/business-and-finance/budget-information.html>).

## Admissions

### Prospective Applicants

An online Application for Graduate Admission must be filed with Graduate Studies for students who:

- Desire a graduate degree or graduate certificate
- Desire graduate credit for renewal of a teaching certificate or professional development
- Desire to transfer graduate credit to another university
- Desire to fulfill prerequisites for a future degree-seeking program
- Students who wish to change programs must complete a new graduate application and submit a non-refundable graduate application fee and other required documents. Admission to a new program is not automatically granted.
- Students applying for a second master's degree, graduate certificate, or taking additional graduate courses must complete a new graduate application and submit an application fee and other required documents.
  - While it is possible to receive master's degrees in various disciplines, individuals cannot apply or be admitted into a program for which a degree has already been awarded. UNO is unable to confer a degree for the same program multiple times. Additionally,

federal financial aid regulations prohibit a student from receiving aid if they are in a program that does not lead to a degree.

#### Special Note:

- All students must complete a graduate application in order to receive graduate credit for any graduate-level courses taken at UNO. Special permission is required for UNO junior-or senior-level undergraduate students to register for graduate courses. Additionally, students admitted to graduate programs at other University of Nebraska campuses may complete the intercampus registration form. For additional information, please see Enrollment (p. 948).

## Application Process

- The Application for Graduate Admission must be completed online. The online application will specify all of the required documentation for the specific program prior to the program application deadline.
- A non-refundable application fee is required for all applications. This includes undergraduates within the University of Nebraska system, and students who have been previously admitted as graduate students at the University of Nebraska-Lincoln, the University of Nebraska at Kearney, or the University of Nebraska Medical Center.
  - The application fee will be waived for:
    - McNair Scholars who provide the McNair Certification of Participation form
    - Undergraduate Pell Grant recipients who provide their current Student Aid Report (SAR)
    - Military and Veteran Applicants: The application fee is waived for all military and veteran applicants and dependents with proof of military status. Please provide one of the following documents as proof of military status:
      - Military orders
      - Notice of Basic Eligibility (NOBE)
      - DD214
      - All military includes: Active Duty, Guard, Reserve, and Veterans

## Transcripts

- To expedite the processing of the graduate application, unofficial transcripts/course-by-course transcript evaluations and exam scores can be uploaded to the application. If offered admission, official transcripts/course-by-course transcript evaluations and exam scores are **required** prior to enrolling in courses. **Special note for international applicants** in need of a student visa: All official transcripts/course-by-course transcript evaluations, exam scores, and a completed financial affidavit are required before Visa (I-20) documents are issued.
- **International Transcripts:** Any applicant to the following list of programs who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). The following graduate programs will conduct an in-house credential evaluation of the transcript(s).
  - Advanced Writing, Certificate
  - Artificial Intelligence, Certificate
  - Biomechanics, MS
  - Biomechanics and Kinesiology, PhD
  - Biomedical Informatics, MS and PhD
  - Communication Networks, Certificate
  - Computer Science, MS
  - Computer Science Education, MS and Certificate

- Cybersecurity, MS and Certificate
- Data Analytics, Certificate
- Data Management, Certificate
- Data Science, MS
- English, MA
- Executive MS in Information Technology
- Gerontology, MA and Certificate
- History, MA and Certificate
- Information Assurance, Certificate
- Information Technology, PhD
- IT Innovation, MS
- Literature and Culture, Certificate
- Management Information Systems, MS
- Project Management, Certificate
- Sociology, MA
- Software Engineering, Certificate
- Systems Analysis and Design, Certificate
- Systems and Architecture, Certificate
- Teaching English to Speakers of Other Languages, Certificate
- Technical Communication, Certificate
- Dual Degree Programs: Business Administration (MBA)/Management Information Systems (MIS) and Public Administration (MPA)/Management Information Systems (MIS)
- If you are applying to the PhD in Gerontology or PhD in Public Administration, please view the program page for transcript and/or course-by-course transcript evaluation requirements.
- UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation, or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- **For all other programs not specifically noted above:** As part of the application process, any applicant who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States is required to submit a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>) in order to be considered for admission.
- Information on the transcript/course-by-course transcript evaluation requirement is current as of July 2021, and is subject to change. For further instructions or questions on transcript/course-by-course transcript evaluation requirements, please contact the specific program contact person.

### Application for master's degree with a double major

- Applicants can pursue their professional/scholastic goals by acquiring more knowledge in a second field than provided by the option of earning a minor, yet not be required to complete a dual degree program (e.g., specifically approved combination of two master's degrees in separate majors, typically 60 hours). Students are allowed to pursue a double major within the same degree (e.g., an MA in two different majors). For instance, a student may be permitted, with proper approvals, to pursue an MA degree in the majors of history and english because these majors lead only to the MA degree. One cannot attain a double major in history and biology because these majors lead to an MA and MS degree, respectively.

To apply:

- Applicants must submit two separate applications and only one application fee. Please contact the Office of Graduate Studies if you plan to apply for this option. An email must be sent to [gradschool@unomaha.edu](mailto:gradschool@unomaha.edu) clearly specifying that you are seeking a double major, which department/school is to consider the application first, and if support from both of the departments/schools is being sought.
- The graduate committee of the first department/school will pass the application to the second graduate committee with the result of its decision (recommendation for acceptance with support, recommendation for acceptance without support, refusal of admission). The decision to recommend admission by one of the graduate committees does not affect the decision of the other. The criteria for admission for acceptance may differ between programs; admission to one or both of the department's/school's programs does not guarantee acceptance for a double major master's degree. Final approval of all applicants rests with the dean for Graduate Studies.
- If one program is approved and one denied, the student must submit another application with an additional application fee to apply to another program.

### Readmission to Graduate Studies

A student who has not been enrolled as a graduate student at UNO for four years or more must apply as a new graduate student and submit the graduate application, the required non-refundable application fee, and all other required credentials. Applicants cannot apply to the same degree/certificate program once the degree/certificate has been awarded.

### Simultaneous Matriculation

Normally, no graduate student may be a degree-seeking student in more than one graduate program at the University of Nebraska, unless enrolled in an approved dual-degree program. Any exceptions must have prior approval of every graduate program committee and every campus dean for Graduate Studies through which the programs are administratively assigned. When there is approved simultaneous matriculation, the same course credit will not be accepted for more than one degree without prior approval of every graduate program committee and every campus dean for Graduate Studies through which the programs are administratively assigned.

### Admission Criteria

Applicants who have earned, or will have earned, a bachelor's or master's degree at a regionally accredited college or university in the United States, or the equivalent of such degrees in another country, will be considered for admission. Prospective students may apply for admission during or after the final year of undergraduate study, but must submit the official baccalaureate degree transcript/course-by-course transcript evaluation to the Office of Graduate Studies before the end of the first year of enrollment.

*Special Note:* International students with a three-year degree are referred to the program in which they wish to pursue graduate studies to determine possible additional coursework. They can be considered for graduate admission, but admission is at the discretion of the individual departments/schools.

The decision to admit an applicant to a program is based primarily on a combination of the following criteria according to the requirements of the specific program:

- *Quality of previous undergraduate and graduate work.* The Graduate College requires a minimum "B" average (3.0 on a 4.0 scale) in a program of study resulting in the award of a baccalaureate degree from a regionally accredited college or university. Applicants who have earned a minimum cumulative GPA of 2.7 on a 4.0 scale can be considered for provisional admission. If an applicant has studied at the graduate level and performed satisfactorily, less weight may, but not necessarily, be placed on the quality of the undergraduate academic

record. Some programs require a higher minimum grade point average for admission.

- *Strength of letters of recommendation* from persons competent to judge the applicant's probable success in graduate school. These letters are usually from the applicant's former professors who are able to give an in-depth evaluation of the applicant's strengths and weaknesses with respect to academic work. Additional recommendations may come from employers or supervisors who are familiar with the applicant's work experience.
- *Official scores on required aptitude or advanced knowledge examination(s).*
  - All applicants to Graduate Studies at UNO whose language of nurture is not English must present a score on the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), the Pearson Test of English (PTE), or Duolingo.
    - Automatic waivers from this policy are granted for persons who have received a baccalaureate or other advanced degree from an institution in the United States.
  - The TOEFL/IELTS/PTE/Duolingo requirement will also be waived for applicants who have received or will be receiving a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>).
  - While individual programs may require a higher score, the UNO Graduate Council has set a minimum score for admission to graduate studies of 550 paper-based (pBT) TOEFL, 80 internet-based (iBT) TOEFL, 6.5 IELTS, 53 PTE, or 105 Duolingo.
- *Statement by the applicant* of academic career objectives and their relation to the intended program of study. These statements help the department/school identify students whose goals are consistent with its objectives.
- *Other evidence of graduate potential.* Some programs require other evidence of graduate potential, such as a portfolio of creative work, completion of specialized examinations, or personal interviews.

#### *Special Note:*

- If a currently enrolled graduate student is admitted to a graduate program prior to receipt of their final grades for the current semester, the program may re-evaluate its admission decision if the student receives a grade of "C-" or lower in any coursework (undergraduate or graduate) for that semester.
- Notification of acceptance by a department/school graduate program committee or faculty member is **advisory only**. Admission is granted solely by the dean for Graduate Studies.

## Record Maintenance and Disposition

All records, including academic records from other institutions, become part of the official file and can neither be returned nor duplicated for any purpose. Students may wish to obtain an additional copy of their official credentials to keep in their possession for advisory purposes or for other personal requirements. Transcripts provided to the university in support of a graduate application will be maintained for two years if the student does not enroll into the program to which they applied.

## Admission to the Graduate College

Responsibility for admitting applicants to graduate programs rests with the dean for Graduate Studies. Academic departments/schools review admission applications and credentials and make admission recommendations to the dean. The standards maintained by the Graduate College and individual departments/schools are applied to ensure that applicants admitted to the university are well qualified for graduate study

and have a reasonable expectation of successfully completing a graduate program. Standards for admission to doctoral degree programs are generally higher than those for admission to master's degree programs. In many degree programs, the number of applications received from qualified applicants for graduate study exceeds the number of applicants who can be accommodated. In such cases, only the most highly qualified are offered admission. The number of spaces available in various departments/schools is limited according to the availability of faculty and resources.

## Categories of Admission

**Unconditional Admission** status may be granted to applicants considered fully qualified to undertake the program to which they were admitted. An applicant must have a baccalaureate degree from a regionally accredited institution. Other qualifications might include, but are not limited to academic foundation requirements, an interview, area of subject tests, advanced tests, a portfolio or performance, grade point average, and/or letters of recommendation.

**Provisional Admission** status may be granted to applicants who have not met all of the conditions for unconditional admission. Departments/schools and/or the dean for Graduate Studies may impose certain requirements which must be fulfilled by the student in order to maintain this status.

- Provisional admission may be granted to an applicant who has less than a "B" average (3.0 on a 4.0 scale) in the undergraduate work in the proposed graduate major and minor (but in no case less than a 2.7 GPA). This admission may be granted for reasons of maturity, experience, or other circumstances under which the student may be deemed capable of high quality graduate study.
  - Provisional admission remains in effect until the student has earned at least a grade of "B" (3.0 on a 4.0 scale) in each course involved in the first 12 hours of graduate study. The provisions are noted in DegreeWorks for reference.
- Provisional admission may occasionally be granted to an applicant who has graduated from an unaccredited institution. Unconditional status may be attained upon completion of 12 hours of graduate courses with a "B" (3.0 on a 4.0 scale) average, providing all other requirements are met.
- Provisional admission may occasionally be granted to seniors at UNO needing no more than nine hours of undergraduate credit to complete their baccalaureate degree and wishing to register for graduate credit, subject to their receiving a baccalaureate degree within the 12-month period immediately following such registration. They must, however, apply for admission to graduate studies and, if admitted, they should register as graduate students. Graduate coursework taken prior to receipt of the baccalaureate degree may not always be accepted for transfer to other institutions, as graduate work, or for completion of degree requirements at UNO.
- Provisional admission may occasionally be granted to an applicant who has not submitted the required aptitude or advanced knowledge test score(s). The student must, however, submit the score prior to second semester registration as a graduate student.

Provisional status will continue until provisions of admission are fulfilled or changed by the recommendation of the graduate program committee and approved by the dean for Graduate Studies.

## Graduate Certificate Programs

- Students must be enrolled in a graduate degree-seeking program in addition to a graduate certificate in order to be eligible for financial aid. Being enrolled in only a graduate certificate program does not make you eligible for financial aid.

## Unclassified Admission

**Unclassified admission** is available in limited departments/schools for students who:

- Are taking courses for professional growth or personal interest, but do not intend to pursue an advanced degree.
- Are enrolled in a graduate degree program at another institution and wish to transfer credits earned at UNO.
- Are working toward certification, additional endorsement, or renewal of certification in professional education.

Applicants applying for the unclassified category are not automatically entitled to this status upon application. The department/school reviews applications and the applicant may be turned down for this category, as with other categories of admission. International students on F1 visas, except graduate visiting students, are not eligible to enroll as unclassified students. **Applicants admitted as unclassified are not eligible for financial aid.**

*Special Note:* Successful completion of graduate courses as an unclassified student does not obligate a department/school to accept those courses for credit toward the fulfillment of degree requirements. Students who enroll under the unclassified designation and subsequently decide they wish to pursue a graduate degree must submit a new application, non-refundable application fee, and other required documents. Students must also consult with their advisor and the chair of the graduate program committee. If admission to the degree program is recommended, the department/school will advise the Office of Graduate Studies of the decision and the credits to be accepted toward the degree.

## Non-Degree Admission

### Verified Non-Degree Admission Status

Verified non-degree admission status may be available for an individual with an undergraduate or graduate degree from a regionally accredited institution who is not seeking a graduate degree from UNO. Applicants applying for the verified non-degree admission status need only submit an application for admission, the required application fee, and official degree transcript. A cumulative GPA of at least a 2.7 is also required.

### Limited Express Non-Degree Admission Status

Limited express non-degree admission status allows students to register for classes without waiting for the Office of Graduate Studies to receive official transcripts. Applicants applying for the limited express non-degree admission status need only submit an application for admission and the required application fee. Applicants requesting limited express non-degree admission will be eligible to register for one term only. The admission may be extended beyond one term only upon receipt of an official degree transcript with a cumulative GPA of at least a 2.7 on a 4.0 scale.

- UNO does not allow intercampus registration for non-degree students who are admitted under the Limited Express category. **Non-degree students are not eligible for financial aid.** Advisors are not assigned to non-degree students.

**Non-Degree students** are advised to consult with the appropriate department/school concerning class availability and prerequisites before attempting to register. Because of limited class size and resources, certain academic units may limit the enrollment of non-degree students. To determine whether a non-degree student is allowed to enroll in a graduate course, please check the course descriptions listed on the Class Search.

**Admission to a degree program**, or to unclassified admission from non-degree status is not guaranteed. Graduate-level hours taken as a non-degree graduate student prior to admission to a master's degree program may be included in the program of study at the discretion of the major department/school and the graduate dean. Students changing from non-degree status may also be required to take certain prerequisite courses by the major department/school and the dean for Graduate Studies.

**International students** on F1 visas, except graduate visiting students, are not eligible to enroll under non-degree status. Non-degree students

must maintain the same academic standards as degree-seeking students or unclassified students.

**Students dismissed from a graduate program** who then re-apply as non-degree students may only do so if they request and receive permission in accordance with departmental/school graduate program policy to enroll as a non-degree student.

## Enrollment

- Enrollment (p. 948)
- Course Information (p. 951)
- Academic Calendar (p. 953)

## Enrollment

All persons who attend classes at the university must be admitted to the University; they are required to register and pay the established tuition and fees. The dates, times, locations, and procedures for registration are listed each semester on the Office of the University Registrar's website (<http://www.unomaha.edu/registrar/students/>).

## MavLINK

MavLINK is the online self-service application providing students with an array of information and direct access to their academic, financial, and personal data. Access to MavLINK is gained by the use of your UNO NetID or NUID and password. Access MavLINK here (<https://mavlink.nebraska.edu/psp/mavlink/NBO/HRMS/?cmd=login&languageCd=ENG&>).

## NetID

The UNO NetID is a combination of letters using your first and last name and is the username assigned to you by UNO. Learn more about NetIDs (<https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NetID1/>).

## NUID

The NUID (Nebraska Unique Identifier) is a unique eight-digit number assigned to all students, faculty, and staff members during either admission or hiring. This number remains the same across the University of Nebraska and Nebraska State College system. Learn more about NUIDs (<https://www.unomaha.edu/information-technology-services/accounts-and-passwords/NUID1/>).

## Immunization Requirements

To prevent the possibility of a measles epidemic throughout the UNO campus, all new students born on or after January 1, 1957 are required to:

1. Provide family documents or private physician records as proof of two (2) doses of the vaccine (MMR)
2. Submit the University of Nebraska at Omaha Pre-Enrollment Health Requirement Document

For forms and information, visit the Immunization Requirements website at [studenthealth.unomaha.edu/preenrollment.php](http://studenthealth.unomaha.edu/preenrollment.php) (<https://studenthealth.unomaha.edu/preenrollment.php>)

University of Nebraska Omaha (<http://www.unomaha.edu/>)

## How to Enroll and Make Changes to Enrollment

All adding, swapping, dropping, or withdrawing from courses is completed in MavLINK.

## Adding a Class

A class can be added to a student's schedule via MavLINK until the 100% refund period ends. Start dates are found on the class schedule. Refund dates can be found on the Cashiering and Student Accounts (<http://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-refund-schedule.php>) site. Late adds begin after the 100% refund period ends and require permission from the instructor prior to enrollment in MavLINK. A **\$25.00 Late Registration Fee** will be assessed to those students whose initial enrollment takes place after the start of the session. Exceptions to this are thesis, internship, or independent study.

## Dropping/Withdrawing From a Class

A class can be dropped or withdrawn from a student's schedule via MavLINK up until the last day to withdraw. The last day to withdraw can be found on the Academic Calendar (<http://www.unomaha.edu/registrar/academic-calendar.php>). Students can also contact the Office of the University Registrar to verify the last day to withdraw. Requests to drop a class submitted via fax or U.S. mail will be processed based on the dates appearing on the fax or U.S. mail postmark.

Drops can only be completed in the 100% refund period of your course. If students drop the course from their schedule during this period, it will not be listed on their academic transcript.

Withdraws can be completed up until the last day to withdraw for the semester. The last day to withdraw can be found on the Academic Calendar (<http://www.unomaha.edu/registrar/academic-calendar.php>). If students withdraw from a course, a grade of "W" will be listed on their academic transcript. "W" grades have no impact on the academic GPA.

Students who drop or withdraw from one or more classes, or who completely withdraw from all courses will be obligated to UNO for the portion of tuition indicated on the refund schedule. Students who completely withdraw are also obligated to pay the non-refundable portion of tuition and fees for the class(es) from which they are withdrawing. Students who are currently enrolled can click on the "refund" link next to each class in their schedule inside MavLINK to check refund percentage dates.

## Swapping a Class

Swapping a class allows students to save their space in the original class while trying to enroll for a new course. It is a safer way to make changes to their existing class schedule during periods in which many other students are also enrolling for their classes.

1. Swaps must be done on the same day.
2. Swaps are allowed during the first week of the standard semester. For classes that are outside the regular session, it will be necessary to contact the Office of the University Registrar to complete a swap.
3. Swaps are only allowed for classes in the same session.
4. Classes used for swaps cannot be used again for another swap.

## Permission Numbers

A permission number must be entered for any courses that require instructor or department consent. A Permission Number is entered via MavLINK. A permission number may also override any prerequisite or GPA requirement, as well as a closed course. A permission number will NOT override a time conflict. The instructor or advisor must request a time conflict override through the Office of the University Registrar on the student's behalf.

Receiving a permission number does not register the student for the course. It only means that students are able to proceed with enrollment for the course. Once the permission number is issued, the student must register via MavLINK for the course by using the number provided.

Permission numbers are BOTH course section and term specific. The student must ensure the permission is issued for the exact course he/she wants. The student will NOT be able to register for a different section of the same course. For example, if a permission number is issued for ENGL 1160-003, they will not be able to register for ENGL 1160-006. A new number will need to be issued for the student by their advisor or department contact. Remember, permission numbers can only be used once.

Permission numbers not used before the end of the 100% refund period will expire. A new number will need to be issued to enroll after the 100% refund period.

## Registration Waitlist

A registration waitlist is an electronic process that auto-enrolls students in closed classes as seats become available. Waitlists operate on a first-come, first-served basis, so this process ensures that students who register for the waitlist sooner have a better chance of getting into a closed course. Waitlists are only available once the class is full. For high-demand classes, this may be the first day of registration or, for other classes, as late as the week before the term starts.

Waitlisted classes do not count toward a student's enrolled hours. If a student's financial aid requires full-time enrollment, he/she needs be sure to enroll in enough credits without counting waitlisted classes. Each department is responsible for determining if their class offerings should have a waitlist or not.

For courses with no waitlist available, students will need to check regularly for possible openings. Students may add themselves to any number of waitlists but will not be enrolled beyond the maximum number of hours allowed for that term. Students may remove themselves from a waitlist by following the same process as dropping a class. Learn more about the Registration Waitlist (<http://www.unomaha.edu/registrar/students/during-enrollment/registration-waitlist.php>).

## Audit Registration Policies and Procedures

All persons wishing to audit a course must be admitted and eligible to enroll in classes for the term in question. Students may only register to audit a course on or after the first day of the semester. Audit students may not participate in recitation, turn in papers, or take examinations. Academic credit is not awarded for audited courses nor do they apply in counting hours for full- or half-time status. Foreign language and physical education activity courses cannot be taken on an audit basis. Audit registration is subject to available class space, requires the written permission of the instructor, and must be done in person at the Office of the University Registrar, 105 Eppley Administration Building. Audit tuition is one-half of the applicable resident undergraduate or graduate tuition rate. The half-price tuition rate for audit courses is available only during the first week of the semester. Audit enrollments are assessed the same student fees as credit enrollments. Likewise, audits are refunded at the same rate as credit enrollments.

Students who register to take a course for credit and change to audit after the first week of class will be required to pay the full applicable tuition rate.

## Undergraduate Students Taking Graduate Classes

An undergraduate junior or senior who is pursuing a baccalaureate degree at the university may be granted permission to take one or more graduate courses if they meet the following conditions outlined below. Students pursuing Fast Track (previously known as integrated programs) will not complete this form.

1. No credit earned under this provision may be used to fulfill any of the requirements for the undergraduate degree.
2. A maximum of 12 credit hours at UNO may be earned under this provision.
3. Juniors must have a minimum average GPA of 3.5 in the undergraduate major, and seniors must have a minimum average GPA of 3.0 in the undergraduate major.
4. The student must secure the required Department/School Representative signature before presenting the form to the Graduate College.
5. In order to register for the course(s) noted on the form, the student must return to the department/school for a permit number after receiving the dean for graduate studies permission. Once a permit number has been provided by the department/school, the student will then be able to register via MavLINK.

Please find the form on the Graduate Studies Student Forms & Resources (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) webpage.

The graduate program determines after admission if graduate credits taken as an undergraduate student will fulfill the requirements of a graduate program. There is no guarantee that graduate credits taken as an undergraduate student will count toward a graduate program.

## Class Schedule

The UNO public class search is available online at [www.unomaha.edu/class-search/index.php](http://www.unomaha.edu/class-search/index.php) (<http://www.unomaha.edu/class-search/>). Course offerings are subject to change. Final authority for changes in course offerings rests with academic departments. For questions concerning course offerings, contact the academic department. For general information about enrollment or instructions on how to use MavLINK, visit the Office of the University Registrar's Enrollment page at: [www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php](http://www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php) (<http://www.unomaha.edu/registrar/students/during-enrollment/how-to-enroll.php>).

## Student Attendance Policy

Classes are conducted on the premise that regular attendance is desirable. The individual instructor has responsibility for managing student attendance and for communicating at the beginning of each semester those class attendance policies which prevail in that course.

UNO Student Attendance Policy <https://www.unomaha.edu/campus-policies/student-attendance.php>

## Student Holds

**A hold can be placed on a student's record for reasons including but not limited to:**

- Non-payment of debt (tuition payments, parking tickets, library fines, etc.)
- Academic suspension
- Failure to meet immunization requirements
- Required academic advising
- Missing admission information
- Non-compliance with other university regulations/obligations

**A hold on the record can impact one or more of the following:**

- Enrollment – ability to register for classes (Dropping and withdrawing from classes will need to be completed in person at the Office of the University Registrar.)
- Receiving a transcript or diploma
- Refund from Student Accounts

## Registration Requirements

Prior to the start of classes each session, students must register for courses according to instructions published on the University of Nebraska at Omaha (UNO) website. To be eligible to register, a new or re-admitted student must have completed all admission requirements. Prior to registering, a student should seek assistance from an academic advisor within their college. Some colleges and departments require advising prior to registering. Every student is encouraged to review the requirements for their intended degree with an assigned academic advisor. This review should be scheduled in preparation for and prior to each registration period.

Students who have outstanding debts or fees owed to the University will not be permitted to register until these obligations have been met. Academically suspended students may not register for additional course work until an application for reinstatement has been filed with and approved by their collegiate dean. Due to limited facilities and staff, the University cannot guarantee all students will be able to enroll for every course they wish in each semester.

## Designation of Full-Time Status

Full-time graduate students at the University of Nebraska shall be defined as those students enrolled for at least nine credit hours during an academic semester, whether or not the student holds a graduate assistantship.

Students enrolling for more than 12 hours must have the approval of the Dean for Graduate Studies. In some programs special permission may be granted to take more than 12 hours as a regular load. Students should consult with the department/school for provisions.

## Dropping a Course

Students cannot drop courses after the date identified in the academic calendar for that semester. Exceptions may be made when there are extenuating circumstances. Students requesting an exception must obtain the instructor's certification that work in progress was at the "B" (3.0 on a 4.0 scale) level or higher. Approval of the request must be obtained from the Dean for Graduate Studies before the request to drop is submitted to the Office of the Registrar.

## Intercampus Enrollment

Graduate students within the Nebraska University system who have been admitted to a graduate program of study at another NU campus may register for graduate courses at UNO by using an Intercampus Registration Form, which can be found online ([https://intercampus.nebraska.edu/pre\\_inter\\_campus.aspx](https://intercampus.nebraska.edu/pre_inter_campus.aspx)).

## Change of Program

Except for non-degree students, students are admitted to specified programs for specified objectives. Therefore students who wish to transfer to another department/school must complete a new graduate application and submit it with the required non-refundable application fee. The decision as to whether students will be accepted shall be left to the graduate program committee of the department/school in which they are seeking admission and to the Dean for Graduate Studies. Admission to a new program is not automatically granted.

If a currently enrolled graduate student is admitted to another graduate program prior to receipt of their final grades for the current semester, the program may re-evaluate its admission decision if the student receives a grade of C- or lower in any coursework (undergraduate or graduate) for that semester.

## Athletic Certification Office

The Athletic Certification Office is responsible for obtaining, evaluating, and documenting the academic credentials in accordance with the National Collegiate Athletic Association (NCAA) and conference eligibility rules for approximately 300 student-athletes.

The NCAA has specified satisfactory progress requirements to determine the eligibility of continuing student-athletes, and these requirements must be met each semester. The Athletic Certification Office, housed in the Office of the University Registrar, works directly with academic advisors and the Athletics Department Academics and Compliances offices to determine athletic eligibility for each semester.

The Athletic Certification Office is also responsible for financial aid certification. This includes maintaining the accuracy of the aid package, processing the approved Athletic Grant-In-Aid scholarships, and posting all financial aid data into MavLINK and both financial aid and academic eligibility data into the NCAA's CAi software program.

## Civil Leave (Statutory Leave)

When a student receives a written notice to provide mandated community service as an election official, juror or witness, he or she must notify the course instructor of the time when the service will be required, within five business days after notice of mandated service is received by the student (or at the start of the semester if notice is received prior to the semester). A copy of the notice must be provided to the instructor.

The instructor will allow the student summoned to mandatory community service an excused absence from the course on the day(s) required for Statutory Leave.

Upon request of the student taking leave, the instructor will ask for another class member to take notes during the period of Statutory Leave.

If Statutory Leave occurs during a critical period in the course (e.g. an exam; in-class graded assignment; group project; participation-required day), the instructor will work with the summoned student to determine if the missed day(s) will likely have a negative impact on the student's grade and whether the assignment or exam can be accommodated at a later time.

If Statutory Leave causes an extensive loss of class time for the student or will likely negatively impact the student's grade or learning experience, the instructor and student will determine whether it is best for the student to receive a grade of Incomplete or Withdrawal for the course.

If a grade of Incomplete is chosen, the instructor and student will formally document the procedure required to complete the course.

If a grade of Withdrawal is chosen, the student should receive a prorated refund of tuition and fees paid for the course.

## Student Called into Military Service

### Executive Memorandum No. 23

#### 1. GENERAL

This Policy shall be implemented in order that the University of Nebraska might provide equitable, consistent treatment to its students who are called into military service and to facilitate their ability to continue their education once that military service is completed.

#### 2. ELIGIBILITY

Students who are regularly enrolled in any class or program offered by the University of Nebraska are eligible for the benefits described in this Policy, if they: (a) belong to a military unit that is called into active duty, or (b) are drafted and not eligible for deferment; such that the date

upon which they are required to report to active duty prohibits them, as a practical matter, from completing the term in which they are enrolled.

#### 3. COURSE AND GRADE OPTIONS

An eligible student may elect to cancel registration in all classes in which he or she is enrolled at the time the call for duty is received. In such case, the student shall receive a full refund for all tuition and student fees paid on behalf of that student. In the alternative, the student may request his or her instructors to award a grade or an incomplete for all classes. If an incomplete is given, then the instructor shall file in the student's educational records and provide to the student specific instructions regarding the study and activities required to complete the course. If a grade and credit are awarded, then the instructor shall award a grade reflective of the student's performance, taking into consideration the quantity and nature of the curriculum through the time of the student's departure. Finally, the student shall have the option of withdrawing from selected courses, receiving a prorated refund of tuition and fees for those courses, while also opting to receive a grade or incomplete in other courses in which the student is enrolled.

#### 4. STUDENTS RECEIVING FINANCIAL AID

Notwithstanding any provision to the contrary in this Policy, administration of financial aid with respect to any eligible student shall be consistent with federal and state law. Students otherwise eligible for these benefits and receiving financial aid should immediately contact the financial aid office on their respective campuses, where each case must be addressed individually based upon the particular rules applicable to the relevant student. The campus financial aid offices shall address these matters in such a way so as to minimize the financial hardships to the student, while complying with the applicable law and regulations.

#### 5. PUBLICATION

This Policy shall appear in all student catalogs and placed on the websites of Central Administration and each Campus.

#### 6. SYSTEM APPLICATION

This Policy applies to all administrative units of the University of Nebraska. Each campus may provide supplemental policy guidance, consistent with this Policy, designed to implement the provisions herein, including guidance relating to fees associated with meals and housing, textbooks, parking, lab and course fees, as well as other ancillary fees.

Dated this 17th day of October, 2001.

## Course Information

### Course Numbering System

The system of course numbers is arranged to indicate the level of instruction. The first figure in each number designates the group to which a course belongs:

Numbering	Description
1000-1990	Courses open primarily to freshmen
2000-2990	Courses open primarily to sophomores
3000-3990	Courses open primarily to juniors
4000-4990	Courses open primarily to seniors
8000-9990	Courses open only to graduate students

From time to time courses may be added or dropped from a curriculum. All courses listed in this catalog cannot be offered each semester. Some departments indicate which semester the course is normally offered. While the departments will attempt to follow the guidelines established for periods of course offerings, there is no guarantee the course will be offered during the semester indicated. Furthermore, students cannot be guaranteed placement in a course offered during a particular semester.

## Explanation of Credit Course Numbers

Courses available for graduate credit are those which have been approved by the UNO graduate faculty or its designee. Students will not be allowed to upgrade or retake courses previously taken for undergraduate credit so that they can be used for any purpose where graduate credit is required. Undergraduate courses cannot be used toward a graduate degree.

### Dual-listed Courses

Dual-listed courses are courses open to both undergraduate and graduate students. There are two types of dual-listed courses:

1. Courses numbered at the 3000 level which are dual listed with courses starting with the number eight (8) and ending with a five (5) – (3xxx/8xx5).
  - a. No more than two (3xxx/8xx5) courses are allowed on a master's degree plan of study.
2. Courses numbered at the 4000 level which are dual listed with courses starting with the number eight (8) and ending with a six (6) – (4xxx/8xx6).

It is expected that students enrolled for graduate credit will do work at a higher level than that which is expected of undergraduate students in the same course.

### Graduate-only Courses

Courses numbered with an eight (8) or nine (9) and ending with a zero (0) – (8xx0 or 9xx0) – are normally restricted to graduate students only. At least one-half the hours of course work on a plan of study must be in courses normally restricted to graduate students only.

With special permission from the dean for graduate studies, exceptional juniors and seniors may enroll in graduate courses.

Courses numbered (8xxx or 9xx1) are normally for advanced master's and doctoral-level students. If taken at the master's level, the course cannot be taken again at the doctoral level.

## Credit/No Credit Option for Courses Offered for Graduate Credit

The UNO graduate faculty does not, in general, allow the Credit/No Credit option for courses offered for graduate credit. However, each graduate program committee shall have the right to designate courses such as practica, independent studies or research courses on which this option could apply. Inquire in the Office of Graduate Studies about the availability of this option for specific courses.

The grade of "Credit" is interpreted to mean the equivalent of a grade of "B" (3.0 on a 4.0 scale) or better and is not considered in the calculation of grade point averages.

## Credit Hour Definition Federal Definition

The University of Nebraska at Omaha (UNO) uses the federal definition<sup>1</sup> of a credit hour, which states:

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:

1. One hour<sup>2</sup> of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately 15 weeks;
2. Or at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work and other academic work leading toward the awarding of credit hours.

### Hour Definition

One credit hour is equivalent to one hour (50 minutes minimum) of lecture and two (2) hours of out-of-class work each week. For all standard 15-week semesters of instruction, and for non-standard (condensed) and online courses the following contact times (minimums) are assigned for every one (1) credit hour based upon the specific type of learning activity:

- Synchronous Classroom: one hour of contact time and two hours of out-of-class work for each week of instruction
- Laboratory: two to four hours of contact time for each week of instruction
- Research/Field Work/Internships/Practica: two to four hours of contact time for each week of instruction
- Clinical: two to four hours of contact time for each week of instruction
- Simulation: two to four hours of contact time for each week of instruction
- Other Activities: three hours of contact time for each week of instruction (Exam time can be considered part of contact time if an instructor chooses to count time spent on assessment as part of contact time)
- Asynchronous Education (e.g., Online or Distance Learning): three hours of student work for each week. Student work includes reading, research, online discussion, instruction, and assigned group activities, preparation of papers or presentations, and exams.
- Hybrid Classes (combination of synchronous and asynchronous education): Combination of face-to-face and assigned student work (see asynchronous) equivalent to three hours for each week.
- Non-standard semesters (e.g., eight week; five week, etc): Contact hours will be equivalent to the contact time established for the standard 15-week semester.

### Process

Credit hours for all UNO for-credit courses are established as part of the course development and approval process. The process begins with the departments/schools and then approval by the appropriate college(s) educational policy committee and dean. The University Educational Policy Advisory Committee (EPAC) is the final approval of the number of credit hours for all courses, regardless of mode of delivery. Credit hours are determined by course content/required student work that does not vary by mode of delivery. The determination/assignment of credit hours reflects the educational outcome of the course and the time required for a typical student to achieve the course's desired outcomes. Any changes in credit hours for a course (reduction or increase) is considered a substantial change to the course that requires an updated master syllabus to reflect the change in content and approval by the University Educational Policy Advisory Committee.

<sup>1</sup> Electronic Code of Federal Regulations

<sup>2</sup> A class hour at the University of Nebraska at Omaha is typically 50 minutes

## Course Components

- **Activity** - Instructor-facilitated course generally focused on "learning by doing" with significant student/instructor interaction. Musical or dance groups or fitness-related courses often are assigned this course component.
- **Discussion** - A regularly scheduled section of a larger course, designed for activities such as group discussion, demonstrations or case studies.

Discussions do not carry credit and are not stand alone courses. They are linked to a credit bearing course. Discussion sections generally contain fewer students than the course to which they are linked.

- **Dissertation** - Course is taken as part of a student's individual research project, generally in preparation for a written presentation of research results and required for completion of a specific degree program or special distinction in that program. (May be eligible as variable credit).
- **Ensemble** - Course is facilitated by the instructor and generally focused on significant small group or individual student/instructor interaction. Musical groups often are assigned this course component.
- **Field Experience** - Field experiences are generally required as part of an academic program such as counseling, psychology, or education. (May be eligible as variable credit)
- **Independent Study** - Course is designed to meet the needs of an individual student and may include individualized instruction or directed readings. (May be eligible as variable credit)
- **Internship** - Course includes work experiences related to a student's major or career goal. The internship typically involves a student working in a professional setting under the supervision of practicing professionals. (May be eligible as variable credit)
- **Laboratory** - Course is a classroom session(s) associated with a credit bearing course, often a lecture, which requires separate enrollment. Students participate in hands-on experiments or activities that illustrate or augment the material presented in the corresponding lecture or in their program overall.
- **Lecture** - Course is instructor-led course and may include interactive pedagogy to engage students but is primarily guided by the instructor.
- **Lecture/Lab** - A class that contains an integrated lecture and some hands-on components but does not require a separate meeting time like a traditional lab. The lecture/lab (combo) is scheduled like a lecture.
- **Master's Thesis** - Course hours are taken as part of a student's individual research project, generally in preparation for a written presentation of research results and required for completion of a specific degree program or special distinction in that program. (May be eligible as variable credit)
- **Practicum** - Course hours are practical, supervised training designed to supplement formal study. Students learn practical applications of classroom material and gain skills and knowledge relevant to their course of study. (May be eligible as variable credit)
- **Research** - Course is research directed all, or in part, by student(s) with instructor supervision. (May be eligible as variable credit)
- **Studio** - Course is instructor led and generally focused on significant small group or individual student/instructor interaction. Music or Art courses often are assigned this course component
- **Seminar** - Course is instructor led with a small number of students collectively exploring a topic or field of study, and may be directed all, or in part, by the enrolled students.

## Course Prerequisites

Course prerequisites are automatically met based on previous coursework completed while at UNO or through transfer credit as determined by the student's advisor.

If the attempted enrollment results in an error indicating that prerequisites have not been met, students must contact their academic advisor or college advising office.

If a student is allowed to enroll without the necessary prerequisites, a permission number must be issued by the academic advisor or the department and entered into MavLINK during the enrollment process.

Course prerequisites can be found by viewing the online catalog, or by logging into MavLINK, selecting "Class Search" and clicking on the title of a course listed.

## Course Syllabus

Students should receive, or have access to, the course syllabus with basic information about the course, including textbooks required, assignments, evaluation protocols, and the basic schedule.

Course syllabi are aligned with the master syllabus, but provide specific information for a particular semester and instructor. Master syllabi are on file with the university and are used for accreditation purposes. Contact your instructor or the department chair/school director for a copy of the master syllabus. Review Board of Regents Bylaw 5.3 about Academic Evaluation which can be found in the Statement of Student Rights and Responsibilities section in this catalog.

## Academic Calendar

Visit the Academic Calendar website (<https://www.unomaha.edu/registrar/academic-calendar.php>).

## The Academic Year

Typically, an academic year consists of the fall and spring semesters, each consisting of approximately 15 weeks. The unit of instruction is the semester hour. Learn more about the Credit Hour Definition (<https://www.unomaha.edu/registrar/faculty-and-staff/class-schedule/credit-hour-definition.php>).

## Prep Week Policy

The last week of regularly scheduled classes during fall and spring semesters is designated as Prep Week. Except for makeup examinations, tests in self-paced courses, or laboratory exams, no major examination accounting for more than 20% of a student's grade may be given during this period. Papers, projects or presentations assigned at least two weeks in advance of Prep Week may be due during this period.

No final exams are to be given during this period as final exams must be offered during Final Exam week at the time assigned by the Registrar.

The final two days of Prep Week are designated as Study Days, during which organized classes do not meet and no new content can be assigned. For the 2021-22 academic year, laboratories may require attendance during Study Days and will state expectations for Study Days on the course syllabus. Office hours and optional review sessions may be offered during Study Days.

<https://www.unomaha.edu/campus-policies/prep-week.php>

## Final Exams

The last week of fall and spring semesters is designated as Final Examination Week. Instructors of totally online classes should arrange their final exams during Final Exam Week. Instructors of partially online classes should contact the Office of the University Registrar to find an on-campus exam location if necessary. Exams for summer or special session courses will be held on the last meeting day of the course.

Students should check the Final Exam schedule (<https://www.unomaha.edu/registrar/students/after-enrollment/final-exam.php>) at the beginning of each semester. Finals exam days and times may vary from the regular class days/times. If there are conflicts with the scheduled exams, students should contact their instructor early in the semester to resolve the conflict.

## Academic Program Requirements

- Master's, EdS, Certificates, Dual Degrees, and Second Master's Degree Programs (p. 954)
- Doctoral Programs (p. 956)

## Master's, EdS, and Certificate Programs

### Plan of Study for Master's, EdS, and Certificate Programs

At the time of admission to a degree and/or certificate program, an individual plan of study, also called a degree audit, will be sent to the student with their official letter of admission from the dean for Graduate Studies. This individual plan of study will list all requirements for completion of the degree program. These requirements may include deficiency courses and other provisions of admission, as well as exit requirements.

Any deviations to this plan of study, including transfer credit, must be approved by the student's advisor, graduate program committee chair, and dean for Graduate Studies. Any changes must be submitted by the graduate program chair to the Office of Graduate Studies only via a petition in DegreeWorks. Upon approval, the student will be able to see the changes on their degree audit through DegreeWorks in MavLINK (<https://mavlink.nebraska.edu/psp/mavlink/NBO/HRMS/?cmd=login&languageCd=ENG&>).

A master's degree requires a minimum of 30 semester hours, however, additional credits may be required dependent on your degree program and exit requirement.

The EdS degree requires a minimum of 69 semester hours, however, additional credits may be required dependent on your degree program and exit requirement.

A graduate certificate requires a minimum of 12 semester hours, however, additional credits may be required dependent on your degree program and exit requirement.

### Policies Applicable to the Plan of Study

- Grade point average: Students must maintain an overall GPA of "B" (3.0 on a scale of 4.0) in all graduate coursework taken as part of their degree. Some departments/schools have higher grade requirements as noted in this catalog and DegreeWorks. Grades of "C-" or below result in dismissal from Graduate Studies and may not be used on a graduate plan of study. If a student re-registers for a course to improve their grade, they must work with the Office of the University Registrar to note this on their transcript.
- Graduate course requirement: At least one-half of the graduate coursework required for the degree program must be restricted to graduate students only (8-0 or 9-0). No more than two 8-5 courses are allowed on a plan of study. This is applicable to master's and EdS programs.
- Time limit: The degree program must be completed within 10 consecutive calendar years. Coursework that is over ten years old (30 consecutive terms) at the completion of the degree program (as defined by the plan of study and including any exit requirements) cannot be used toward the degree. Departments/schools may require completion of the degree program in less than 10 years; this will be noted in the catalog and DegreeWorks.

## Transfer of Graduate Credit

Approval of the transfer of graduate credit for coursework taken at another regionally-accredited university (including extension credit but not including correspondence courses) must be recommended by the appropriate advisor and graduate program chair, and submitted to the Office of Graduate Studies only via petition through DegreeWorks for final approval by the dean for Graduate Studies. **In order for transfer credits to be applied, an official transcript showing completion of the course(s) must be on file with the Office of Graduate Studies.** Grades received in courses for transfer of credit must be the equivalent of "B" (3.0 on a scale of 4.0) or higher. Transfer of graduate credits from a course taken with a pass/fail option must be recommended by the relevant graduate program committee, supported by a written evaluation from the instructor, and approved by the dean for Graduate Studies. All work accepted for transfer of credit must have been taken within the prescribed time limits for graduate degrees and is subject to restriction if previously used to satisfy requirements for another graduate degree.

The only coursework from other institutions posted on the UNO transcript will be those recommended by the appropriate graduate program chair and approved by the dean for Graduate Studies.

### Transfer of Credits Taken Outside the University of Nebraska

Up to one-third of the coursework required for a graduate degree program may be accepted from an accredited institution other than a unit of the University of Nebraska when the transfer is supported by the student's advisor and the appropriate graduate program committee. Final approval will be made by the UNO dean for Graduate Studies. All other policies regarding graduate programs will apply.

### Transfer of Credits Taken at the University of Nebraska

There are no a priori limits on the transfer and applicability of credits earned in one program of the University of Nebraska toward meeting degree requirements in another such program, except as they are used to earn distinct degrees. However, such credits must be individually evaluated and approved by the appropriate graduate program committee and campus dean for Graduate Studies before they can actually be transferred. UNO students who wish to take courses at the University of Nebraska-Lincoln, the University of Nebraska Medical Center, or the University of Nebraska at Kearney for transfer of credit should complete the online intercampus application ([https://csprdn.nebraska.edu/psc/csprdn/NBX/SA/s/WEBLIB\\_PTBR.ISCRIPT1.FieldFormula.IScript\\_StartPage/?ghcmd=saml](https://csprdn.nebraska.edu/psc/csprdn/NBX/SA/s/WEBLIB_PTBR.ISCRIPT1.FieldFormula.IScript_StartPage/?ghcmd=saml)).

## Second Master's Degree

Use of graduate credit earned for the first degree will be treated in the same manner as transfer credit from another institution if applied to the requirements for the second degree. Up to one-third of the coursework required for the second master's degree may consist of courses from a previous graduate degree. All other policies regarding graduate programs apply.

## Minor Field

A student must be in a degree-seeking graduate program at UNO in order to add a graduate minor. Students are not required by the graduate faculty to have a minor; however, a student may elect to complete a minor with the permission of both the major department/school and the minor department/school. In order to add a minor, the Change in Plan of Study (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) form must be completed. This form must include the coursework applicable to the minor.

The minor requires a minimum of nine (9) graduate hours. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Master's Degree with a Double Major

Students accepted to a double major must meet the minimum requirements for each of the majors:

- Coursework of no less than 18 credit hours is required in each of the two disciplines.
- Courses cross-listed in both majors may only be counted once.
- The precise number of credits may vary depending on the total required hours for a particular major.
- For each of the two majors, students must take at least nine credits in courses open only to graduate students (8–0 or 9–0 level), excluding thesis hours.
- The student is required to successfully satisfy the thesis/comprehensive examination or equivalent exit requirements for each major. In the event that both programs have a thesis requirement, either:
  - Two theses may be written.
  - The content of the thesis may reflect the content of both majors.
- If a joint thesis is elected, the thesis committee shall consist of two graduate faculty members from each major department/school and shall be co-chaired by a faculty member from each of the major departments/schools.
- If a student is already pursuing a major in a degree program, and then decides they would like to obtain a second major, a new application and non-refundable application fee is required. The new application must be approved by the original graduate committee prior to review by the second graduate committee. However, once the master's degree is conferred, a second major cannot be attained. Students would then be required to apply for admission to a second master's degree program, and upon acceptance, complete all requirements of a full, independent program.

## Exit Requirements

All master's and EdS degrees require a culminating experience. This may include a thesis, project, capstone, comprehensive examination, etc. If a certificate program has an exit requirement it will be noted in the catalog and DegreeWorks.

- Comprehensive examination results must be reported to the Office of Graduate Studies by the department/school via petition in DegreeWorks.

## Thesis, Thesis-Equivalent Project, and EdS Field Project

Students must file a **Proposed Supervisory Committee** form and a **Thesis Proposal Approval** form with the Office of Graduate Studies before initiating the thesis, thesis-equivalent project, or EdS field project. This paperwork must be filed with the Office of Graduate Studies **at least one semester prior to the student's anticipated graduation date.**

The supervisory committee consists of at least three graduate faculty members, one of whom must be from outside the student's academic department/school in which the degree is to be granted. The chair of the supervisory committee must be a member of the graduate faculty. The outside representative must hold graduate faculty status within the NU system. In addition to the minimum requirement of three graduate faculty members, other eligible persons may be recommended by the graduate program committee for appointment by the dean, to the supervisory committee, provided at least two-thirds of the membership

of each committee is graduate faculty. Any changes to the supervisory committee after initial approval must be submitted via a new supervisory committee form to the Office of Graduate Studies for approval by the dean for Graduate Studies.

A master's thesis, thesis-equivalent project, or EdS field project provides the opportunity for students to acquire first-hand experience in research or creative activities with the supervision of experienced faculty. A thesis or thesis-equivalent project is equivalent to six (6) semester hours of credit. The Educational Specialist (EdS) field project is equivalent to six (6) semester hours of credit. Required course hours must be indicated on each student's plan of study.

Grades for a thesis, thesis-equivalent project, or EdS field project are recorded on the permanent record after completion and approval by the department/school and the Office of Graduate Studies. For a thesis or thesis-equivalent project, grades will be either "S" for Satisfactory or "U" for Unsatisfactory. A letter grade will be recorded for the EdS field project.

The thesis, thesis-equivalent project, or EdS field project is not considered to be a publication; thus, it may be published, in whole or in part, and either quoted or paraphrased by giving appropriate credit to the relevant department/school, the Graduate College, and the University of Nebraska at Omaha.

The Supervisory Committee guides the student in the conduct and development of the thesis, thesis-equivalent project, or EdS field project and approves the final product. Typically, final recommendations from the supervisory committee or the supervisory committee chair are provided to the student at the time of the final oral examination, although details vary among departments/schools and individual faculty. Final approval of the ETD, in PDF format, is contingent upon approval by the supervisory committee and the Office of Graduate Studies.

## Procedures

When the final version of the thesis/project has been approved by the supervisory committee, the student must submit the following to the Office of Graduate Studies for the final administrative steps in the approval process: **Report on Completion of Degree** form signed by the supervisory committee, and upload the thesis/project to ProQuest.

**NOTE:** If the thesis/project is to be held pending patent issuance, etc., the student must specify this at the time the PDF file is submitted to ProQuest (UMI).

An electronic version of the thesis, thesis-equivalent project, or EdS field project (collectively referred to as ETDs) is required. An ETD is a document expressed in a format simultaneously suitable for machine archives and worldwide retrieval. Preparation of the ETD may be done using most word processor or document preparation systems that incorporate relevant multimedia objects.

As part of the ETD submission, students' abstracts are published in UMI's Master's Theses Abstracts publications. Upon submission, the student authorizes ProQuest to produce copies of their work on demand for a fee. However, the student may request that UMI not distribute (or embargo) their ETD until further notice (up to two years). Some reasons for this include patent pending, the student's employer requires a review of the work, or a publishing agreement requires initial publication.

**PLEASE NOTE:** There may be a fee to submit the ETD through ProQuest; the amounts are noted on their website.

After successfully uploading the thesis/project, the Office of Graduate Studies will be notified electronically by ProQuest of the submission and asked to provide final approval. Final approval of the thesis/project will not be granted if the Report on Completion of Degree form is not completed and on file in the Office of Graduate Studies.

Formatting Instructions (<https://www.unomaha.edu/graduate-studies/current-students/thesis-format.php>)

Submission Instructions (<https://www.unomaha.edu/graduate-studies/current-students/thesis-submit.php>)

## Doctoral Programs

### Doctoral Program Committee and Course Plan

A Doctoral Program Committee and Course Plan (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) must be submitted to the Office of Graduate Studies no later than the end of your second semester in the doctoral program. This must include any language or research tool requirements (if applicable).

Generally, courses taken before admission to the doctoral program cannot be included in the Doctoral Requirements section of the program of study form. Please note that foundation courses and courses taken outside of the University of Nebraska Graduate College cannot be used to fulfill doctoral requirements. The program committee must include at least two members of graduate faculty from the student's program; this typically consists of the doctoral program chair and advisor. Any subsequent change in the program must be approved by the committee and the dean for Graduate Studies.

The minimum amount of graduate credit for the PhD is 90 semester hours, including a dissertation. Some programs require more hours. Please refer to the degree requirements for your individual degree.

The minimum amount of graduate credit for the EdD is 96 semester hours, including a dissertation. Please refer to the degree requirements for your individual degree.

## Admission to Candidacy

When the doctoral student has passed the comprehensive examination and established residency, according to the established policies of the doctoral program, the examination committee will recommend to the Office of Graduate Studies their admission to candidacy for the doctoral degree, noting in that recommendation the dates upon which the comprehensive examination was completed. As soon as possible after passing the examination, the examination committee convenes and reports to the Office of Graduate Studies the results of the examination by submitting the Admission to Candidacy for the Doctoral Degree (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>). This form must be filed with the Office of Graduate Studies at least seven months prior to the final oral examination. If the term of candidacy is extended beyond three years (excluding summer terms), the candidate must pass another comprehensive examination. Following admission to candidacy, the student must register during each academic year semester (fall and spring) until they receive the PhD or EdD degree. Students not in residence may register for a minimum of one semester credit in dissertation. Failure to register during each academic year semester will result in termination of candidacy.

## Comprehensive Examination

### PhD

When a student has substantially completed studies in the program, they must pass a written comprehensive examination. The written comprehensive examination is not a repetition of course examinations; rather, it is an investigation of the student's breadth of understanding in the field of knowledge of which their special subject is a part. The student will also be required to pass an oral comprehensive examination.

The examination committee arranges for written or oral examinations. Should the student fail the comprehensive examination or a part thereof,

they may be allowed to re-take it during the following academic term upon specific recommendation by the graduate program committee.

### EdD

When the applicant's program of study is substantially completed, comprehensive examinations that cover the appropriate field of study and related subjects will be administered. These examinations will thoroughly test for an understanding of the field of knowledge designated by the student. If an applicant fails the comprehensive examination, another attempt to pass such examination may not be made in the same academic term.

## Residency Requirement

A residency requirement has been established for the purpose of ensuring that the doctoral program be reasonably compact, continuous, and coherent; and that a substantial portion be done at and under the close supervision of the university. The residency requirement is part of the student's approved program.

In exceptional circumstances, where it is clear that the purpose of residency is being fulfilled but the formal conditions are not met, the student's examination committee and/or doctoral program chair may, with the approval of the dean for Graduate Studies, designate an alternative procedure for satisfying the residency requirement.

## Requirements for the PhD in Biomechanics and Kinesiology, PhD in Biomedical Informatics, PhD in Criminology and Criminal Justice, PhD in Gerontology, PhD in Information Technology, and PhD in Psychology

- For a student beginning a doctoral program in the University of Nebraska system with a bachelor's degree, the residency requirement for the PhD is 27 hours of graduate work within a consecutive 18-month period or less, with the further provision that 15 of these hours must be taken after receiving the master's degree or equivalent.
- For a student who transfers to the University of Nebraska system with a master's degree from another institution, or who takes a break in their graduate work between the time the master's degree is awarded and the time they start work on a doctoral program, the residency requirement for the PhD is 27 hours of graduate work in a consecutive 18-month period or less.
- For a member of the university staff who is engaged at least half-time in instruction or research in their major area, or a person employed in their major field, the residency requirement is 24 hours of graduate work within a consecutive two-year period with the further provision they take at least 12 of these hours after receiving the master's degree or its equivalent.
- Not more than one-third of the work for residency, or nine credit hours, may be taken during the summer sessions.

## Requirements for the PhD in Public Administration and EdD degree

- The residency requirement for doctoral students in Educational Administration and Public Administration is 24 hours in 24 consecutive months. The student's examination committee and/or doctoral program chair may determine how many of the required residency hours may be taken during the summer sessions.

## Dissertation Committee

In order to assure that students are under careful advisement and mentoring, a dissertation committee must be established no later than the end of the semester that a student has completed their comprehensive examination.

The student must submit the Appointment of Dissertation Committee (<https://www.unomaha.edu/graduate-studies/current-students/graduate->

forms-and-resources.php) form consisting of at least four University of Nebraska graduate faculty members, one of whom must be from outside the student's academic department/school in which the doctorate is to be granted. The chair of the dissertation committee must be a member of the graduate faculty. The outside representative must hold graduate faculty status within the NU system. In addition to the minimum requirement of four University of Nebraska graduate faculty members, other eligible persons may be recommended by the graduate program committee for appointment by the dean to the dissertation committee, provided at least two-thirds of the membership of each committee is graduate faculty. The establishment of a dissertation committee is based on the student's demonstrated ability in the fundamental subject matter of the student's major field and professional promise.

### Changes to the Dissertation Committee

Any changes to the dissertation committee after initial approval must be submitted via a new Appointment of Dissertation Committee (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) form to the Office of Graduate Studies for approval by the dean for Graduate Studies.

If the chair of a dissertation committee leaves the employ of the university, or retires, the Office of Graduate Studies must be notified immediately and a change in the committee must be made as follows:

- If the student has already achieved candidacy, the former chair who has left the employ of the university may be permitted to continue as co-chair of the dissertation committee, with the agreement of the departmental/school graduate program committee and the dean for Graduate Studies. A second co-chair must be appointed who is a resident graduate faculty member.
- If the student has not yet achieved candidacy, a new chair of the dissertation committee who is a resident graduate faculty member must be appointed immediately, with the agreement of the departmental/school graduate program committee and the dean for Graduate Studies.
- If a member of the dissertation committee, other than the chair, leaves the employ of the university, or retires, a replacement should normally be appointed who is a resident graduate faculty member. In certain circumstances where a special and needed continuing expertise is involved and the staff member is willing to continue serving, they may continue as a member of the dissertation committee, with the approval of the departmental/school graduate program committee and the dean for Graduate Studies.

## Leave of Absence

Doctoral students who are forced to interrupt their studies may request a leave of absence from the University for up to one year. In consultation with their department/school and their doctoral program chair, students should define the program modifications the leave of absence requires. Requests should indicate a reason for leaving and the expected date of return to the University. If approval is granted, the time limits on the granting of the doctoral degree will be frozen for the time specified (up to one year). Students should file a request with their chair who will forward it to the dean for Graduate Studies. Approval of the dean for Graduate Studies is required prior to taking the leave of absence.

## Time Limit for Completion of Degree

A minimum of three full years of graduate study is normally required to complete a program for the degrees Doctor of Philosophy and Doctor of Education. The time limit on granting the PhD or EdD degree is ten years from the beginning of the doctoral course work. Individual programs may have other deadlines for completion. Neither the courses taken nor the time spent in study determines the granting of the degree.

## Final Examination

The final examination is oral. It is given by the dissertation committee after the candidate's studies have been completed and the dissertation has been accepted for examination. The committee also determines its character and length. The examination may be devoted to the special field of the dissertation or to the candidate's general knowledge, or it may be designed to test judgment and critical powers.

The final oral examination will not be scheduled unless the chair of the dissertation committee and at least two other members of the committee are available for the examination. Exceptions may be made only by permission of the dean for Graduate Studies. In any event, the chair/co-chair and readers of the dissertation must have seen and approved the completed dissertation before the final oral examination will be scheduled. The first and second readers are two dissertation committee members, excluding the committee chair/co-chair. Upon approval by the chair/co-chair and readers, the Application for Final Examination (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) must be submitted to the Office Graduate Studies prior to your examination date.

The final oral examination over the dissertation may be waived only with the unanimous consent of the dissertation committee and only in extremely unusual circumstances. The committee reports the results of the final oral examination or the reason for its waiver to the Office of Graduate Studies by using the Report on Completion of Degree (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>).

In the event that members of an oral examining committee are not unanimous regarding the passing of a candidate, the student is to be approved for the degree only if one examiner dissents. However, in each case, the dissenting member of the committee will be expected to file a letter of explanation to the Office of Graduate Studies.

## Exit Requirement

The doctoral dissertation should make a creative contribution to knowledge in your field while also demonstrating mastery of relevant resources and methods. It is expected the dissertation will have a single topic, however broadly defined, and all parts of the dissertation will be interrelated. This, however, does not prevent sections of the dissertation from being discrete units.

The dissertation should also demonstrate your potential to make future, original contributions to knowledge, understanding, or methodologies in your discipline. For example, the originality of a dissertation may involve the discovery of significant new information or principles of organization, the achievement of a new synthesis, the development of new methods or theories, or the application of established methods to new materials or procedures.

Given the diverse nature of the fields in which dissertations are written and the wide variety of topics that are explored, it is impossible to designate an ideal length for the dissertation. A long dissertation is not necessarily better than a shorter one since the value and scale of the dissertation topic ultimately depends on the quality of its thought and the clarity of its exposition. Your dissertation committee will determine the appropriateness of these and other issues.

Grades for a doctoral dissertation are recorded on the permanent record after completion and approval by the department/school and the Office of Graduate Studies. Grades will be either "S" for Satisfactory or "U" for Unsatisfactory.

The dissertation is not considered to be a publication; thus it may be published, in whole or in part, and either quoted or paraphrased by giving appropriate credit to the relevant department/school, the Graduate College, and the University of Nebraska at Omaha.

NOTE: The doctoral dissertation committee guides your progress toward the completion of the dissertation, but it is your responsibility to follow instructions on the preparation of the document and to observe filing deadlines.

Dissertation Submission Procedures

The doctoral dissertation committee guides the student in the conduct and development of the dissertation and approves the final product. Typically, final recommendations from the dissertation committee, or dissertation committee chair, are provided to the student at the time of the final oral examination, although details vary among department/schools and individual faculty. Final approval of the dissertation is contingent upon approval by the dissertation committee and the Office Graduate Studies.

Procedures:

At least three weeks prior to the last published date for holding oral exams, submit the Application for Final Oral Examination or Waiver of Examination form to the Office of Graduate Studies. If the final examination is waived, the dissertation committee must attach a statement of justification to the Application for Final Oral Examination or Waiver of Examination form; all members of the dissertation committee must indicate their approval of the waiver.

When the final dissertation has been approved by the dissertation committee, the student must submit the following to the Office of Graduate Studies for the final administrative steps in the approval process: Report on Completion of Degree (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) form signed by the dissertation committee, upload your document to ProQuest, and complete the Survey of Earned Doctorates if you are a PhD student: <https://sed-ncses.org/GradDateRouter.aspx>.

**NOTE:** If the dissertation is to be held pending patent issuance, etc., the student must specify this at the time the PDF file is submitted to ProQuest (UMI).

An electronic version of the dissertation (collectively referred to as ETDs) is required. An ETD is a document expressed in a format simultaneously suitable for machine archives and worldwide retrieval. Preparation of the ETD may be done using most word processor or document preparation systems that incorporate relevant multimedia objects.

As part of the ETD submission, students’ abstracts are published in UMI’s Dissertations Abstracts publications. Upon submission, the student authorizes ProQuest to produce copies of their work on demand for a fee. However, the student may request that UMI not distribute (or embargo) their ETD until further notice (up to two years). Some reasons for this include patent pending, the student’s employer requires a review of the work, or a publishing agreement requires initial publication.

**PLEASE NOTE:** There may be a fee to submit the ETD through ProQuest; the amounts are noted on their website.

After successfully uploading the dissertation, the Office of Graduate Studies will be notified electronically by ProQuest of the submission and asked to provide final approval. Final approval of the dissertation will not be granted if the Report on Completion of Degree form is not on file with the Office of Graduate Studies.

Formatting Instructions (<http://www.unomaha.edu/graduate-studies/current-students/dissertation-format.php>)

Submission Instructions (<https://www.unomaha.edu/graduate-studies/current-students/thesis-submit.php>)

Grades & Quality of Work Standards

- Grades (p. 958)
- Quality of Work Standards (p. 959)

Grades  
Grading Scale

Grades are determined by the daily record of the student and the record made on quizzes, mid-semester and semester examinations. The weight attached to each of these factors is determined solely by the instructor of the course.

The grading system is as follows:

Symbol	Definition	Quality Points
A+	outstanding	4.0
A	outstanding	4.0
A-	outstanding	3.67
B+	proficient	3.33
B	proficient	3.00
B-	proficient	2.67
C+	satisfactory	2.33
C	satisfactory	2.00
C-	satisfactory	1.67
D+	below standard	1.33
D	below standard	1.00
D-	below standard	.67
F	failing	0
CR	credit	*
NC	no-credit, failing	*
NR	no grade reported	*
S	satisfactory: Grade of “C” or better for graduate “D” or better for undergraduate	*
U	unsatisfactory, failing	*
AU	audit	*
I	incomplete: Follow rules listed in catalog; cannot be changed to “IP;” can be extended by one semester by instructor request to Registrar.	*
IP	course in progress: Used for thesis, independent study, research project, or other arranged course; applies to both graduate and undergraduate; remains indefinitely.	*
W	withdrew (good standing)	*
R	repeated course	*

\* — not used in calculating grade point averages

## Incomplete Grades

### Purpose

The grade "Incomplete" ("I") is to be used by an instructor at the end of a term to designate incomplete work in a course. It should only be used when a student, due to extenuating circumstances (such as illness, military service, hardship or death in the immediate family), is unable to complete the requirements of the course in the term in which the student is registered for credit. An Incomplete should only be given if the student has already substantially completed the major requirements of the course. Each instructor must judge each situation as to whether an "I" is appropriate.

To receive an Incomplete, students must contact their professor prior to the end of the semester, request a grade of incomplete, and make arrangements to complete the work. The rules which govern the issuance of the incomplete are as follows:

1. The grade "I" is used by an instructor at the end of a semester or summer session to designate incomplete work in a course. It is given when a student, due to circumstances such as illness, military service, hardship or death in the immediate family, is unable to complete the requirements of the course in the term in which the student is registered for credit. Incompletes will only be given if the student has already substantially completed the major requirements of the course.
2. Each instructor will judge each situation. The instructor will also indicate by a departmental record, with a copy to the student, how the incomplete is to be removed, and if the instructor is at the university at the time of removal, supervise the makeup work and report the permanent grade.
3. In the event the instructor is not available at the time of the student's application for removal of an incomplete, the department chairperson will supervise the removal of the incomplete and turn in the permanent grade for the student.

### Removal

The instructor does have the option of determining the requirements for completing the course and requisite date for removal of an incomplete. These requirements are in writing with the department to ensure there is no miscommunication between the instructor and student.

## How to View Official Grades

Students can view grades via MavLINK immediately after they are posted by the instructor. Official Grades are available in MavLINK under the Academics tab or on the Unofficial Transcript. Final grade reports are not mailed out to students nor can grades be provided over the phone.

## Repeating a Graduate Course

A student, upon the consent of his or her advisor, may repeat a course in which he/she has previously received a grade of "C+" (2.33 on a 4.0 scale) or below. Both grades will appear on the transcript, but only the second grade will be counted in determining the grade point average.

## Official Academic Transcripts

Transcripts contain academic information such as coursework, grades, credit hours, Grade Point Average, and UNO degrees earned.

Before an official transcript can be released, all financial and administrative obligations to the University of Nebraska System must be resolved. Holds can be viewed through MavLINK.

UNO transcript requests can only be completed online. Requests made via phone, email, or fax are not accepted. Transcripts can be ordered by students via MavLINK.

Learn more about ordering your transcripts online (<https://www.unomaha.edu/registrar/students/transcripts-and-records/order-a-transcript.php>).

## Quality of Work Standards

A "B" (3.0 on a 4.0 scale) average must be maintained in all graduate work taken as part of the degree or certificate program.

## Automatic Dismissal

Graduate students are expected to do work of high caliber. Failure to do so will result in dismissal. In particular, the following will result in automatic dismissal from the degree or certificate program:

- Receiving a grade of "C-" (1.67 on a 4.0 scale) or below in any course taken in the student's major field of study or in any course included in the plan of study/program of study.
- Departments/schools may have additional and more stringent criteria for evaluating a student's performance and progress and may demand a higher level of performance than that demanded by the Graduate College. A department/school or program unit may, under some circumstances, recommend dismissal of a student from a graduate program even though quality of work standards have been maintained. Grounds for dismissal could include, but are not limited to:
  - Failure to be accepted by an appropriate thesis or dissertation advisor within stipulated time limitations;
  - Failure to make timely progress toward the degree or certificate; and
  - Failure to perform in coursework, qualifying examination or research at an acceptable level in the respective department/school or program unit.

## Probation or Dismissal

A department/school will recommend that the dean for Graduate Studies either dismiss a student or place him or her on probation (with conditions for reinstatement as a student in good standing), in the following cases:

- A grade of "C+" (2.33 on a 4.0 scale) or below in any course in the first 12 hours of graduate study for provisionally admitted students;
- Receiving at least nine (9) hours of graduate credit with the grade of "C+" (2.33 on a 4.0 scale) or below in any courses taken in the student's major field of study or in any courses included in the plan of study for master's degrees, specialist's degrees or graduate certificates, regardless of the average;
- Receiving at least six (6) hours of graduate credit with the grade of "C+" (2.33 on a 4.0 scale) or below in any courses taken in the student's major field of study or in any courses included in the program of study for doctoral degrees, regardless of the average;
- Failure to maintain a "B" (3.00 on a 4.0 scale) average in all graduate work taken as part of the degree or certificate program.

## Unclassified and Non-Degree Students

- For students with unclassified or non-degree admission, the above quality of work standards apply to coursework taken, as if all such courses were included in a graduate plan of study.
- A student will be automatically dismissed from all graduate standing or placed on probation should any of the above conditions occur.

## Additional Requirements

Some departments/schools apply additional criteria for satisfactory performance beyond the requirements of the Graduate College.

## Monitoring

- The graduate program committees or the supervisory committees in their respective departments/schools shall be responsible for monitoring quality of work in degree, certificate and unclassified programs, and for recommending action.
  - Graduate Studies will send a report to each department/school at the start of each semester with the names of master's, specialist, and certificate students who have received at least nine (9) hours of graduate credit with a grade of "C+" (2.33 on a 4.0 scale) or below as of the end of the previous semester.
  - Graduate Studies will send a report to each department/school at the start of each semester with the names of doctoral students who have received at least six (6) hours of graduate credit with a grade of "C+" (2.33 on a 4.0 scale) or below as of the end of the previous semester.
- Graduate Studies shall be responsible for monitoring quality of work in non-degree programs.
- The dean for Graduate Studies will make the final decision and notify graduate students of their status.

## Student Responsibilities

- Students should be aware of the Quality of Work Standards of the Graduate College, as well as any additional criteria of satisfactory performance in their respective graduate programs.
- It is the student's responsibility to know when his or her previous coursework has failed to meet those standards.
- Students who are attending classes are still subject to dismissal if their department/school recommends dismissal based on its review of their previous performance.

## Automatic Dismissal for a Grade of "U" (Unsatisfactory) or "Fail"

A grade of "U" or "Fail" in any graduate course taken by a graduate student shall be treated the same as a grade of "C-" or below and shall result in automatic dismissal from the graduate program.

## The Plan of Study and Grades Which Result in Automatic Dismissal

Grades which result in automatic dismissal from a program (e.g., grade of "C-" or below, "U", "Fail") may not be applied towards a graduate plan of study.

## Students Dismissed from a Graduate Program Who then Re-apply as Non-Degree Students

If a student is currently registered, he/she will be disenrolled from their coursework. A hold will be placed preventing enrollment in future semesters, unless they request and receive permission in accordance with departmental/school graduate program policy to enroll as a non-degree student in that program.

## Policy on Petitioning for Reinstatement into a Graduate Program

The process for petitioning and evaluating petitions for reinstatement into a graduate program is the responsibility of each department's/school's graduate program committee. For a current copy of procedures, please contact your department/school graduate program committee chair.

## Academic Appeals

### Appeal of Grades in Graduate-Level Courses

An appeal of grades in graduate-level courses shall be made through the graduate student grade appeal procedures for the campus through which the grade was awarded. Students who believe their evaluation in a course has been prejudiced or capricious must first attempt to resolve the matter with the course instructor and then the department through which the course was offered.

The initiation of the appeal in writing by the student must be filed within six weeks following receipt of the grade from the Office of the University Registrar.

In cases where a grade lower than a "C" will result in dismissal from the graduate student's program, the dean for Graduate Studies will notify the graduate program committee chair and student that the student will be automatically dismissed from their graduate program. The student will have a two-week grace period from the date of the dismissal notification to the date of the request to the Registrar for dis-enrollment in all graduate coursework. This two-week period allows the student an opportunity to present his/her case informally to the course instructor and, if necessary, to the chair of the graduate program committee before being terminated from the program and disenrolled from courses. A student who has been dismissed from a graduate program and disenrolled from coursework is prohibited from taking graduate courses.

If the matter is not resolved, the student may file an appeal in writing to the campus dean for Graduate Studies, who shall inform the student of the grade appeal procedures approved by the graduate faculty or by their duly elected representative graduate council for that campus, and shall forward the appeal to the student-faculty committee or council that has been designated to hear graduate-level course grade appeals on that campus. Since awarding grades in courses occurs at the individual campus level, the decision of the campus committee or council designated to hear the case on behalf of the campus graduate faculty shall be final and is not subject to further appeal (Graduate College Policy Handbook 2011-2012).

## Grade Appeal Policy for UNO Graduate College Courses

### I. Overview

1. **Purpose.** A grade appeal policy seeks to articulate and protect both the rights of students to fair and impartial evaluation of their academic performance and the responsibilities of faculty members as those who determine student grades. A course grade assigned in a manner consistent with university policy can be changed only by the instructor. University administrators can direct a grade to be changed only when it is determined through the procedure established by this policy that the faculty member assigned the course grade in an arbitrary or capricious manner. An "arbitrary and capricious action" is an action taken without regard for the facts or circumstances of the appeal, without some basis which would lead a reasonable, informed, and honest person to the same conclusion. Allegations that sexual harassment was the reason a final course grade was arbitrarily or capriciously assigned by the instructor must be addressed according to procedures set forth in the UNO Prohibited Discrimination policy (<https://www.unomaha.edu/office-of-equity-access-and-diversity/policies-plans-forms/ead-statement.php>) rather than from the following procedures.
2. **Faculty Responsibility.** It is a fundamental principle of higher education that faculty members are expected to:
  - Exercise their professional judgment in evaluating student performance.

- Specify in each of their courses at the beginning of the academic term:
    - Course requirements and expectations for academic performance; and
    - Procedures for evaluating performance (method(s) of evaluation and grading scales).
  - Communicate clearly to all students in the course any subsequent additions to or changes in these requirements, standards, and procedures.
  - Apply the specified grading criteria equitably to the academic performance of all students in the course regardless of their age, color, creed, disability, gender, national origin, race, religion, sexual orientation, or other personal characteristics.
  - Departing faculty must document their last semester's grades and leave a copy with their Graduate Program Chair. Documentation should include course syllabi and any other information distributed to their students concerning grading policies.
3. **Student Responsibility.** Students have the responsibility to know and adhere to the University policies and standards pertaining to them. As students willingly accept the benefits of membership in the University of Nebraska at Omaha (UNO) academic community, they are obligated to uphold and observe the principles and standards articulated in the UNO student code of conduct.

## II. Course Grades that Are Eligible for Appeal

1. **A grade appeal policy applies to final course grades.** Course grades which result from alleged violations of the Code of Student Academic Integrity may also be appealed under this policy.
2. A course grade is deemed to have been assigned in an arbitrary or capricious manner if, by a preponderance of the evidence, a student establishes that:
3. The course grade was based upon the student's age, color, creed, disability, gender, national origin, race, religion, sexual orientation, other personal characteristic, or for some other arbitrary or personal reason unrelated to the instructor's exercise of his or her professional academic judgment in the evaluation of the academic performance of the student; or
4. The course grade was assigned in a manner not consistent with the standards and procedures for evaluation established by the instructor, usually at the beginning of the course in the course outline, commonly called the course syllabus (a course outline is primarily the information provided by the instructor at the beginning of the course, and not necessarily the master syllabus generated by the department which may be applied to multiple offerings of a course in time or place), but supplemented on occasion during the semester in other written or oral communications directed to the class as a whole; or
5. The course grade assigned by the instructor was the result of a clear and material mistake in calculating or recording grades. Individual **elements** (e.g., assignments, tests, activities, projects) which contribute to a course grade are generally NOT subject to appeal or subsequent review during a grade appeals procedure. However, individual elements may be appealed under these procedures providing the following conditions are met:
  - The student presents compelling evidence that one or more individual **elements** were graded on arbitrary or capricious grounds (defined above);
  - Grounds can be established for determining a professionally sound grade for the appealed element(s); and
  - The ensuing grade for each appealed element would have resulted in a different course grade than that assigned by the faculty member.

## III. Grade Appeal Procedures

Each department or program will establish its own grade appeal procedures. These procedures must:

1. Articulate and protect both the rights of students for fair and impartial evaluation of their academic performance and the responsibilities of faculty members as those who determine student grades.
2. Include timelines.
3. Be made readily available to all students.
4. Be documented in the Office of Graduate Studies.

## Appeal of General Academic Matters Related to Student Programs

1. Graduate students holding admission with unclassified status in the Graduate College, admission with a master's objective or admission with a doctoral objective (but prior to the appointment of a doctoral dissertation committee) should appeal as follows:
  - a. The student should first submit the appeal to the student's faculty advisor.
  - b. If denied, the student may submit the appeal to the department/area graduate program committee that is administratively responsible for the student's graduate program.
  - c. If denied, student may submit the appeal to the graduate council for the campus administratively responsible for the student's graduate program. Normally, this is the final appeals body (for exceptions, see the last part of this section).
2. Graduate students holding admission with a doctoral objective in the Graduate College and for whom a doctoral dissertation committee has been appointed should appeal as follows:
  - a. The student should first submit the to the student's faculty advisor.
  - b. If denied, the student may submit the appeal to the student's supervisory committee.
  - c. If denied, the student may submit the appeal to the department/school graduate program committee that is administratively responsible for the student's graduate program.
  - d. If denied, the student may submit an appeal to the graduate council for the campus administratively responsible for the student's graduate program. Normally, this is the final appeals body (for exceptions, see the last part of this section).
3. When a student's graduate program consists of registrations essentially or entirely on one campus, the graduate council of the campus administratively responsible for the program will constitute the appeal board. When a student's graduate program includes substantial registrations on a campus other than the one administratively responsible for the program, three members of the graduate council for the other campus will be designated by the dean for Graduate Studies on that campus to augment the graduate council on the campus administratively responsible for the program. In this case, the augmented council will constitute the appeal board. The decision concerning augmentation of a campus graduate council for a specific appeal involving registrations on a campus other than the one administratively responsible for the student's program will be made by the deans for Graduate Studies on the campuses involved.
4. In all cases, appeals should be made in writing to the appropriate advisor, committee or council. In those cases where the appeal concerns graduate-level qualifying exams, comprehensive exams or final oral exams, the following deadlines must be observed.
  - a. It is the responsibility of the student to make reasonable efforts to ascertain the results of the examination within 30 days after its completion.
  - b. The student must file the initial appeal, in writing, within 30 days following the student's receipt of the evaluation results.

- c. In those cases involving an appeal of termination of program, the student must file an initiation of the appeal, in writing, within 30 days following the student's receipt of the official written notification by the Office of Graduate Studies.

# Graduate Student Academic Appeal Policy

## Introduction

This document outlines the UNO graduate council policies and procedures for student academic appeals in situations such as comprehensive exams, plagiarism, and reinstatements. For grade appeals, see the Grade Appeal Policy at the Graduate College Level for Graduate-Level Courses.

This document is divided into three sections:

1. Documentation from Student and Faculty Representative (or Department);
2. A description of the initial review of the appeal case by the graduate student academic appeals committee; and
3. Details of the operating guidelines for the UNO graduate council to follow in conducting a full appeal.

## 1.0 Documentation from Student and from Faculty Representative

### 1.1 Student Documentation

The student shall provide documentation that proves the student's appeal.

In addition to the documentation deemed relevant by the student to prove the student's appeal and provided by the student, the student shall complete a single-page cover sheet for the appeal. That cover sheet shall be designed by the dean for Graduate Studies and provided to the student. On that cover sheet, in less than 2,000 characters (e.g., including spaces), the student shall specifically identify in three separate paragraphs:

1. the procedural error(s) being appealed;
2. the substantive error(s) being appealed; and
3. the remedy requested.

The student's appeal is not submitted until the dean for Graduate Studies determines that the student's cover sheet has been completed as required.

### 1.2 Faculty Representative Documentation

The dean for Graduate Studies shall deliver the student's section 1.1 cover sheet, along with other notice of the student's appeal, to the decision maker whose decision is being appealed. The decision maker shall promptly notify the dean for Graduate Studies of the decision maker's appointment of a faculty representative.

Ordinarily the student's appeal is necessarily limited to an appeal of the decision of a single decision maker (e.g., graduate program committee). However, if the student is appealing decisions of more than one decision maker, then there might be more than one faculty representative. The faculty representative of a committee may be, but is not necessarily, a member of that committee. If no such notice of appointment is delivered to the dean for Graduate Studies, then the faculty representative of an individual decision maker shall be that individual, and for a committee the current chair of that committee.

The faculty representative shall provide documentation relevant to the student's appeal as defined in the student's section 1.1 cover sheet in a timely manner. After the student has submitted an appeal, and after the faculty representative has replied by providing relevant documentation, the dean for Graduate Studies shall review that documentation for completeness. Prior to the dean for Graduate Studies delivering that documentation to the graduate student academic appeals committee, the dean for Graduate Studies, in the interest of completeness, may request the faculty representative(s) to provide specific additional documentation that

the dean for Graduate Studies reasonably believes is readily available to the decision maker whose decision is being appealed.

## 2.0 Graduate Student Academic Appeals Committee

### 2.1 Function of the Committee

The dean for Graduate Studies shall appoint a committee which will review student academic appeals that are filed in Graduate Studies. The task of the graduate student academic appeals committee will be to determine whether the appeal merits a hearing by the graduate council.

### 2.2 Composition of the Committee

The dean for Graduate Studies shall appoint two faculty members from each of the two standing committees of the graduate council, and one of the student representatives on the graduate council, to serve on the committee. The duration of appointment to the committee shall be for one year. (In cases where a student from the home department of one of the members of the committee has initiated an appeal, the dean shall appoint a replacement for that committee member from the graduate council to hear that specific appeal. All other cases of potential conflict of interest shall be treated in a similar fashion).

### 2.3 Procedures for the Committee

The committee is charged with the responsibility of determining the merits of the student academic appeal, based on the letter of appeal and any other documentation requested and received by either the dean for Graduate Studies or the graduate student academic appeals committee. The committee shall vote on whether the appeal merits a hearing by the graduate council. Affirmative vote of the majority of the members is required to bring the appeal before the graduate council for a full hearing. The decision of the committee will be communicated to the Office of Graduate Studies for appropriate action.

## 3.0 UNO Graduate Council and Graduate Student Academic Appeals

### 3.1 Purpose and Limitation of Scope

The graduate council will hear only those appeals forwarded by the graduate student academic appeals committee. The purpose of the hearing shall be to decide the merit of a student's request for redress of the academic issue being appealed. The appealing student bears the burden of proof to prove: (1) by clear and convincing evidence that the faculty member's decision being appealed was prejudicial or capricious; and 2) by the preponderance of the evidence that the graduate program committee's decision being appealed was prejudicial or capricious.

### 3.2 Composition of the Council for Hearing Student Appeals

The full membership of the graduate council (quorum required) shall hear academic appeals of graduate students.

### 3.3 Possible Conflicts of Interest by Graduate Council Members

Graduate council members who feel a conflict of interest might result from their participation in an academic appeal hearing shall exercise the necessary professional steps to avoid influencing the vote of the council.

### 3.4 Timeliness of Council Decision

The graduate council shall hear appeals forwarded by the graduate student academic appeals committee at its next scheduled meeting unless a delay is approved.

### 3.5 Student and Faculty Freedom to Present Arguments

The student and the faculty representative shall have freedom to present their viewpoints, limited only to the requirement that facts and opinions presented shall pertain to the academic issue being appealed.

### 3.6 Guidelines for Hearing Procedures

The following shall be made known to persons present at the hearing:

The time: \_\_\_\_\_ The date: \_\_\_\_\_ The place: \_\_\_\_\_.

This hearing will be conducted in compliance with the UNO graduate student academic appeal policy. The student, \_\_\_\_\_, has filed an appeal in conformity with the policies of the graduate council pertaining to the findings of a graduate program committee. The graduate program committee or other designated committee consisted of Professor \_\_\_\_\_, Chair; and Professors \_\_\_\_\_ and \_\_\_\_\_ as members. That committee heard the appeal on \_\_\_\_\_ and denied the appeal. The student disagreed with the decision of the departmental appeals committee and continued the appeal process by submitting a letter detailing supporting reasons to the dean for later consideration by the graduate student academic appeals committee. That committee reviewed the student's request on \_\_\_\_\_ and, under conformity with its guidelines, has forwarded the student's appeal to the graduate council for action. The graduate council members present at this hearing have had an opportunity to review the documents provided by the person(s) involved. The agenda for the UNO graduate student academic appeal is:

Student's presentation: 10 minutes

Faculty Representative's presentation: 10 minutes

Council members' questions to Student and Faculty Representative: up to 20 minutes

Student's concluding remarks: 5 minutes

Faculty member's concluding remarks: 5 minutes

The participants of this appeal shall leave following the above hearing and the council will deliberate the issue(s) involved. The council's decision will be determined by secret ballot of those members who were present and voted. As soon as the votes are counted by the dean for Graduate Studies, the ballots shall be destroyed and the final decision announced to the council by the dean. In no case shall the number of votes cast on either side of the issue be disclosed.

### 3.7 Administration of the Council's Decision:

The dean for Graduate Studies shall provide the parties of an appeal a written statement of the graduate council's decision within three working days.

## Guidelines for the Appeals to the Executive Graduate Council

1. There is no absolute right of appeal to the executive graduate council. The executive graduate council will accept appeals only in those cases where, in the exercise of its sole discretion, it shall first find that one or more of the following grounds for accepting the appeal exist:
  - a. The campus graduate council has violated some element of fair procedure (example: has failed to allow the parties concerned to present their cases fully to their campus graduate council).
  - b. That the campus graduate council has failed to examine or give adequate weight to important evidence relevant to one party's position.
  - c. The campus graduate council has given undue weight to evidence not pertinent to the case.
  - d. That some gross miscarriage of justice would be perpetrated if the decision of the campus graduate council is allowed to stand. A decision by the executive graduate council not to accept jurisdiction of an appeal shall be final and is not subject to further appeal.
2. A student appeals to the executive graduate council must be made in writing and must specifically outline the grounds for appeal. Appeals must be made within 20 working days of the day on which the decision of the campus council is received (working days shall not include those days the university is not in session).

3. The executive graduate council must make a decision to hear the appeal or not to hear the appeal within 30 working days after receipt of the appeal. Acceptance or denial of jurisdiction over the appeal will be made in writing.
4. The decision of the executive graduate council on the merits of the case will be made and transmitted to the concerned parties within 40 working days after the decision to hear the appeal.
5. No person who was a member of the department or campus graduate council involved in the case will be eligible to participate in the decisions of the executive graduate council, either to decide whether the case should be heard or to decide the merits of the case. The dean for Graduate Studies may replace members of the executive graduate council not eligible for participation in the decision to hear the appeal or in the appeal itself.

## Academic Integrity Policy

Under the Bylaws of the Board of Regents of the University of Nebraska [Sections 2.9 and 4.1(i)], the respective colleges of the University have jurisdiction over procedural matters concerning academic dishonesty. Just as the task of inculcating values of academic honesty resides with the faculty, the faculty is entrusted with the discretionary authority to decide how incidents of academic dishonesty are to be resolved.

This policy applies to all colleges and academic units at the University of Nebraska at Omaha ("UNO" or "University"). Each college and academic unit, including its faculty members, have the responsibility to educate its students about this policy and any additional standards of conduct for academic integrity in a particular course. Students are responsible for understanding and adhering to the requirements of this policy and any additional academic integrity standards prescribed by a college and academic unit, including its faculty members.

Learn more about Academic Integrity <https://www.unomaha.edu/student-life/student-conduct-and-community-standards/policies/academic-integrity.php>

## Statement of Student Rights and Responsibilities

### I. University of Nebraska Bylaws

Students, like all members of the academic community, have the responsibility to create and support an educational environment. Each member of the community should be treated with respect and dignity. Each has the right to learn. This right imposes a duty not to infringe upon the rights of others. The academic community should assure its members those opportunities, protections and privileges that provide the best climate for learning. (Bylaws of the Board of Regents, Section 5.0.) UNO shall publicize and keep current all rules, regulations, and policies concerning students, and insure that they are readily available to all students and other interested persons. (Bylaws of the Board of Regents, Section 5.1.)

1. **Admissions Criteria** UNO shall publish the criteria for admission, academic progress, certificates, and degrees for all colleges and schools of the University. Admission to the University and the privileges of University students shall not be denied to any person because of age, sex, race, color, national origin, or religious or political beliefs. (Bylaws of the Board of Regents, Section 5.2.)
2. **Academic Evaluation** Students shall be informed of the requirements, standards, objectives and evaluation procedures at the beginning of each individual course. Each student shall be given a performance evaluation during the progress of the course if requested. Each college or school shall provide for a faculty-student appeals committee for students who believe that evaluation of their academic progress has been prejudiced or capricious. Such procedure shall provide for changing a student's

evaluation upon the committee's finding that an academic evaluation by a member of the faculty has been improper. Procedures for appealing evaluation of academic progress are provided by each college or school unit. Generally, but not necessarily conclusively, the procedures are similar to the following: Students wanting to appeal a grade (evaluation that has been prejudiced or capricious), shall attempt to discuss the matter directly with the instructor. If the student and the instructor do not reach a satisfactory agreement, the student may submit an appeal in writing to the chairperson of the department in which the course is offered. If the student and chairperson do not reach a satisfactory agreement, the student may submit an appeal in writing to the Dean of the College in which the course was offered. The decision made at this level, which would include a hearing by a faculty-student appeals committee, will be final. Each college or school shall provide a mechanism by which students have an opportunity to report their perceptions of courses and the methods by which they are being taught, provided, however, that such mechanism shall protect members of the faculty from capricious and uninformed judgments. (Bylaws of the Board of Regents, Section 5.3)

**3. Public Information Regarding Students** Public information regarding students, rules with respect to confidentiality, and any release of information will be governed in accordance with Federal and State law. The Board is authorized to develop policies and procedures consistent with that law. (Bylaws of the Board of Regents, Section 5.6.)

**4. Disciplinary Records** Subject to any requirements of the Records Management Act, the University shall provide for the periodic destruction of noncurrent disciplinary records. (Bylaws of the Board of Regents, Section 5.7.)

**5. Student Communications Media** Student publications and broadcasting stations shall be supervised in a manner such that editorial freedom will be maintained and that the corollary responsibilities will be governed by the canons of ethical journalism. Student publications financed in whole or in part by fees collected from all students at UNO shall be supervised by a Publications Committee. This committee shall have full responsibility of a publisher and the power of decision on the proper application of the canons of ethics. Students shall comprise a majority of the membership, but the committee shall also include members of the faculty and professional journalists from outside the University. (Bylaws of the Board of Regents, Section 5.9.)

**6. Eligibility for and Participation in Co-Curricular Activities.** Co-Curricular activities and registered student organizations are offered by the University to meet the needs of interests and promote the development of special skills of its student population. To participate as a member in any recognized student organization, at a minimum, a student must be enrolled in at least one credit course, excluding audit hours.

Additional membership criteria may be established by UNO based on the nature of the organization and/or set by the organization themselves.

Membership requirements set by organizations may be more, but not less, stringent than those laid out by the University but must be in compliance with any federal laws and/or restrictions. Interested students should contact the leadership of the student organization or co-curricular activity for specific membership guidelines/requirements. Officers of all organizations, in conjunction with the support of their faculty and staff advisors, are tasked with enforcing membership requirements.

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

**7. Campus Speakers** Students are allowed to invite and hear any person of their own choosing. Institutional procedures will insure the orderly and adequate preparation for the event. However, the control of campus

facilities will not be used as a device of censorship. (Bylaws of the Board of Regents, Section 5.11.)

## II. University of Nebraska Policies

**1. Academic Degree Completion** The requirements for graduation from a bachelor's degree program shall be those listed in the Catalog effective at the time of matriculation provided continuous enrollment (excluding summer sessions) was maintained. However, the University reserves the right to withdraw and substitute courses, to reassign instructors and to change the nature of instruction, as deemed necessary. In some cases, prerequisites for courses offered at the University are effective even if they are not listed in a given catalog. (See the current schedule of classes or your adviser for details.) A student may meet requirements listed in a subsequent Catalog if written approval is granted by the dean of the college in which the student is enrolled. Acceptance of registration by the University of Nebraska and admission to any educational program of the University does not constitute a contract or warranty that the University will continue indefinitely to offer the program in which a student is enrolled. The University expressly reserves the right to change, phase out, or discontinue any program. The listing of courses contained in any University bulletin, catalog or schedule is by way of announcement only and shall not be regarded as an offer of contract. The University expressly reserves the right to 1) add or delete courses from its offerings, 2) change times or locations of courses or programs, 3) change academic calendars without notice, 4) cancel any course for insufficient registrations, or 5) revise or change rules, charges, fees, schedules, courses, requirements for degrees and any other policy or regulation affecting students, including, but not limited to, evaluation standards, whenever the same is considered to be in the best interests of the University. (Policies of the Board of Regents, Section 5.1.3)

**2. Right to Public Hearing** It shall be the right of any individual member or group of members of the University (i.e., students, faculty, or administrators) to be granted, upon petition to the appropriate policy making body or office, a public hearing at which the policy indicated by the group of petitioners in their petition shall be discussed. The policy-making body or office petitioned shall schedule the hearing for some time convenient to the interested parties if possible, no later than two weeks after the petition is submitted during periods when the University is in session, and shall announce publicly in advance the time and place of the hearing. At the hearing, that body responsible for the policy indicated in the petition shall clarify said policy, offer the reasons which justify the policy in view of the objections or questions raised about it in the petition, and respond to any additional questions or criticisms of the policy or related policies raised at the hearing by any member of the University. It is expected that before such a petition is submitted, all other normal channels for raising questions about the policy have been exhausted. If, in the view of the policy-making body or office to whom the petition is submitted, the petition is merely a form of harassment or adequate answers are available through other normal channels, the petition may be referred to the relevant committee to determine whether the hearing must be held. A decision by the Committee not to hold a public hearing shall be overruled by the submission to that committee of a petition requesting such hearing and signed by at least 100 members of the University community. (Policies of the Board of Regents, Section 2.1.3)

**3. Directory Information** In compliance with the federally-enacted Privacy Act and as defined by the Board of Regents, public directory information regarding students attending UNO shall be the (i) student's name, (ii) year at the University, (iii) dates of attendance, (iv) academic college and major field of study, (v) enrollment status (e.g. undergraduate or graduate; full-time or part-time), (vi) participation in officially recognized activities and sports, (vii) degrees, honors and awards received, (viii) most recent educational agency or institution attended, (ix) University email address, and (x) hometown. Non-public directory information regarding students attending UNO shall be the (i) local address, (ii) permanent address, and (iii) telephone listings. Public directory information will be available to the public upon request and may be included in student directories published electronically. Non-public directory information is

not available to the public, but is available to University faculty, staff, and students for University purposes. Directory information will be released by the Registrar in accordance with this policy upon inquiry, unless the student has requested that specific items not be released. The student's request to have directory information withheld should be filed at the Office of the Registrar. (Policies of the Board of Regents, Section 5.10.) An explanation of this Act and its application at UNO is available to all students. Copies may be obtained online at <https://www.unomaha.edu/registrar/ferpa> (<https://www.unomaha.edu/registrar/ferpa/>)

**3.1 Mandated Release of Information** UNO shall disclose to a victim of any crime of violence the results of any disciplinary proceeding conducted against the alleged perpetrator of such crime with respect to such crime. (Policies of the Board of Regents, Section 5.10)

**4. Sponsorship of Speakers with Student Fees** The purpose of a speakers program is to advance the general educational purposes of the University by putting before the University community a broad range of ideas in a variety of contexts. The organizations administering speaker programs should make every attempt to provide balance on all subjects presented. All students are encouraged to join programming groups and/or give their input on speaker selection. (Policies of the Board of Regents, Section 5.6.1)

### III. UNO Policies

**1. Counseling/Medical Records** Information exchanged with and/or maintained by a professional counselor/psychologist or medical personnel about a student client will remain confidential, except under legal compulsion.

**2. Demonstrations** The University acknowledges the rights of members to express their views by peaceful demonstration. UNO is an academic community founded upon a belief in rational dialogue and mutual respect among its members. The opportunities for communication within the University are many and varied, and the University welcomes suggestions for enlarging or improving them. The nature of the academic community demands that all members strive to maintain the rational dialogue which is the cornerstone of the University. There is no conceivable issue, be it a question of academic and administrative policy or of students rights and freedoms, that cannot be approached within the framework of free discussion.

#### a. Demonstration Procedures

Members of the academic community, including the guests of the University, have the right of extensive latitude in making their opinions known. It is understood, however, that in exercising this right the rights of others must not be jeopardized. The public exploration and resolution of differing views can be successful only when groups and individuals discuss the issues in forums where the right to disagree and to speak freely and be heard is preserved. Within this context, the University community recognizes peaceful demonstration as a legitimate means of expressing one's opinion.

The preservation of freedom of speech, and the recognition of the right to peaceful demonstration as part of that freedom, is possible only in an orderly environment in which individuals are not endangered by force or violence and in which they are free from coercion and interference in the exercise of their rights or in carrying out their legitimate activities.

Campus demonstration forms are available in the Administrative Office of the Milo Bail Student Center and must be submitted and approved with all necessary signatures at least 48 hours (two business days) before the proposed demonstration. Board of Regents bylaws state that, in cases of the disruption of normal University activities, the Chancellor or his/her designee will, in accordance with University policies and procedures, take necessary steps to restore the University to its normal function. The Chancellor or his/her designee may, in the event of refusal to disperse upon request, impose temporary action, including suspension of those persons disrupting the normal function of the University. The determination as to

whether disciplinary action will be initiated for violations of University rules and regulations by students will be made by the Vice Chancellor for Student Success.

The University community may impose behavioral restrictions which are necessary to preserve the orderly functioning of the University and the right of all to be heard. Such restrictions fall into two categories:

#### i. Prevention of violence or the use of force:

Demonstrations which coerce individuals or which constitute a hazard to the safety of any persons or which threaten destruction of property are not protected by freedom of speech provisions and will not be tolerated. Similarly, a hostile audience will not be allowed to interfere with a peaceful demonstration.

#### ii. Protection from interference with University operations:

The University community may restrict conduct which interferes with the holding of classes, the carrying forward of University business, properly organized and scheduled University events, or the discharge of responsibility by any University officer, employee or student. Although the mere presence of demonstrators in public areas within buildings does not necessarily constitute interference, demonstrators cannot be allowed physically to obstruct access to University facilities. Noise and boisterous activity is objectionable when it prevents others from exercising their rights and duties.

Persons engaging in disruptive action shall be subject to disciplinary measures, including separation from the University, and also to charges of violation of the law.

#### b. Response to Disruptive Behavior

The response of the University to any disruptive behavior must ultimately depend on the judgment of the officials who are in charge. However, the following guidelines should be observed:

i. Every effort will be made to end the disruption through reason and persuasion. These efforts shall include a clear indication of the willingness to discuss issues and to make clear the procedures for discussion and arbitration of the issues involved. Discussion of the issues will not be conducted under conditions of duress.

ii. If the discussion method fails, the individuals involved will be notified that they are in violation of University regulations and they will be asked to cease the activity. In the event the alleged violators do not cease the activity within a reasonable length of time, temporary sanctions, which may include conduct probation and if necessary, suspension, may be imposed on the scene. However, unless both the student and the University officials agree to a postponement, the University must hold disciplinary hearings within five (5) school days or the temporary sanctions will be dissolved. Such disciplinary hearing shall be held, as far as possible, in accordance with the established disciplinary procedures of the University. No temporary sanction shall be made part of a student's permanent record. If a student is found innocent of the action for which temporary sanctions were imposed, no record of the temporary sanction or of the hearing shall become part of any of the student's files or records and the student shall be given the opportunity to make up work which was not completed because of the disciplinary action.

iii. If the use of institutional sanctions and discussion methods are not effective in ending the disruptions, or when alleged violators are not members of the University community, extra-institutional methods (including the invoking of police force) may be used. Non-members of the University community who are engaged in disruptive behavior may be referred to civil authorities for appropriate action.

iv. Evidence regarding the activity of nonstudent members of the University community who are alleged to have engaged in disruptive behavior may be referred to their supervisors for appropriate action.

The University community abhors the use of force as a method for settling disagreement and will always make exhaustive attempts to deal with issues by rational methods. When, however, such rational efforts prove ineffective or when imminent danger to life or property exists, more forceful methods shall be used to protect the rights and property of members of the community.

**3. Distribution of Printed and Other Materials.** Students are free to express their beliefs and concerns in a variety of ways. Printed and other materials offered free of charge may be distributed at any location on the campus as long as such distribution does not interfere with normal traffic or functions of the University. Such materials may be distributed by any UNO-affiliated person provided such is accomplished in an orderly manner within the framework of University policies and the law. If specific space for distribution of material is desired, a location may be reserved in a designated area of the Milo Bail Student Center, in accordance with existing policies and procedures governing space reservations. Special care is requested of any and all parties distributing literature to prevent littering of the campus and surrounding areas. Such activity shall be conducted so as not to interfere with the rights of others or the normal activities of the University. Any material offered for sale, solicitation of donations, or posting on University bulletin boards must comply with UNO policy concerning these matters. Contact the Director of the Milo Bail Student Center if more specific information is desired.

**4. Information Services.** The facilities of UNO Information Services are available to students, faculty and staff of this institution for the purpose of instruction, research, and other activities as defined by the Chancellor. The computer facilities are University property and their operation is part of University operations. Executive Memorandum No. 16 of the President of the University of Nebraska states the University policy on responsible use of University computers and information systems. Executive Memorandum No. 16 may be accessed on the Internet at: [www.nebraska.edu/about/exec\\_memo16.pdf](http://www.nebraska.edu/about/exec_memo16.pdf). The Student Code of Conduct addresses offenses related to the properties and operation of the University, and, therefore, also applies to computer use and facilities as it applies to all other University resources.

#### **5. Title IX. How Title IX Affects Your Educational Experience.**

1. It is the policy of the University of Nebraska to administer all of its educational programs and related supporting services in a manner which does not discriminate based upon age, race, ethnicity, color, national origin, gender, gender identity, sex, pregnancy, disability, sexual orientation, genetic information, veteran's status, marital status, religion or political affiliation.

Any unwanted conduct of a sexual nature, whether verbal, physical, written, or pictorial, which has the purpose or effect of creating a hostile environment for the person subjected to the conduct, or any solicitation of sexual conduct of any nature when submission to or rejection of such contact is used as the basis for either implicitly or explicitly imposing favorable or adverse terms and conditions of academic standing constitutes sexual harassment and will not be condoned or tolerated. Moreover, sexual misconduct including stalking, dating or domestic violence, sexual exploitation, and sexual assault is prohibited.

b. Appropriate corrective action will be taken toward any student or employee who is found to have violated UNO's non-discrimination, sexual harassment, and/or sexual misconduct policies. Further, UNO commits itself toward the assurance of non-retaliation toward any person who reports harassment, sexual misconduct, or discrimination or who participates in an investigation of such conduct.

c. If you suspect or experience discrimination, sexual harassment, or retaliation toward yourself or others, please keep records or other evidence of specifics and report the conduct.

If you do not feel comfortable telling a person to stop inappropriate behavior, or if the behavior does not cease once you have made the request to do so, you may seek assistance from an administrator, professor, or counselor. Persons designated by the University as Officials with Authority are required to report sexual discrimination, harassment, or misconduct reported to them. Other employees are expected to provide assistance and report.

#### **d. Title IX, Disability or Discrimination Inquiries:**

Associate Vice Chancellor for Diversity, Equity, Access and Inclusion  
Eppley Administration Building #211  
Phone: 402.554.3664

Title IX Coordinator  
Eppley Administration Building #211  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

## **Student Code of Conduct Preamble**

The community of scholars at the University of Nebraska at Omaha is dedicated to providing a safe and positive learning experience that is student-centered and focused on academic excellence and engagement with urban, rural, national, and global communities. By choosing to join the community, each member agrees to comply with certain standards of civilized behavior; and therefore, the University of Nebraska at Omaha adopts this Student Code of Conduct, in order that it might:

1. Reflect the values of UNO and promote a campus environment that supports its educational, research, and outreach missions;
2. Protect the members of the community and its resources from disruption and harm;
3. Provide a guide to appropriate individual and group behavior; and
4. Foster ethical standards and civic virtues.

## **Sanctionable Misconduct by Individual Students or by Student Organizations**

### **A. Jurisdiction of the University Student Code**

1. The Student Code shall apply to conduct that occurs:
  - a. On University premises, including all University of Nebraska locations, physical campuses and any University affiliated programs, events or activities, including those located in other states or countries.
  - b. Off University premises, if the conduct is determined by the Director of Student Conduct and Community Standards to adversely affect a substantial University interest. A substantial University interest is defined to include:
    - i. Any situation where it appears that a student's or student organization's conduct may present a danger to threat to the health or safety of him/herself or others; and/or
    - ii. Any situation that significantly impinges upon the rights, property or achievements of self or others or significantly breaches the peace and/or causes social disorder; and/or
    - iii. Any situation that is detrimental to the educational mission and/or interests of the University.

2. The Student Code applies to student conduct which occurs from the time of enrollment through the actual awarding of a degree, even if the conduct occurs prior to the start of classes or is discovered after a degree is awarded.
3. A Registered Student Organization (RSO) is responsible for a member's conduct from the time the student officially affiliates with the RSO until the student is permanently terminated from membership or is awarded a degree.
4. All allegations of sexual misconduct, including sexual assault, sexual violence, dating violence, domestic violence, or stalking are investigated and addressed in accordance with Board of Regents Policy 2.1.8 and following the procedures set forth in the "University of Nebraska at Omaha Response to Allegations of Student Sexual Misconduct", adopted pursuant to Board of Regents Policy 5.3.3, attached to this Student Code as Appendix "A," or as Appendix "A" may be hereafter amended.

## B. Conduct - Rules and Regulations

Any student found to have committed or to have attempted to commit the following misconduct is subject to the disciplinary sanctions outlined in Article IV:

1. Acts of academic dishonesty, including but not limited to the following:
  - a. **Cheating:** Copying or attempting to copy from an academic test or examination of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for an academic test, examination or exercise, engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise.
  - b. **Fabrication of Falsification:** Falsifying or fabricating any information or citation in any academic exercise, work, speech, research, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting or information.
  - c. **Plagiarism:** Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person. Materials covered by this prohibition include, but are not limited to, text, video, audio, images, photographs, websites, electronic and online materials, and other intellectual property.
  - d. **Abuse of Academic Materials:** Destroying, defacing, stealing, or making inaccessible library or other academic resource material.
  - e. **Complicity in Academic Dishonesty:** Helping or attempting to help another student to commit an act of academic dishonesty.
  - f. **Falsifying Grade Reports:** Changing or destroying grades, scores or markings on an examination or in a faculty member's records.
  - g. **Impermissible Collaboration:** Collaborating on any academic exercise, work, speech, test or examination unless expressly authorized by the faculty member. It is the obligation of the student to know whether collaboration is permitted.
  - h. **Misrepresentation to Avoid Academic Work:** Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.
  - i. **Other:** Academic units and members of the faculty may prescribe and give students prior notice or additional standards of conduct for academic honesty in a particular course, and violation of any such standard of conduct shall constitute misconduct under this Student Code and the University Disciplinary Procedures. Any student found responsible for academic dishonesty may be subject to both academic and disciplinary sanctions. Academic sanctions are issued in accordance with the Undergraduate Academic Integrity Policy or the Graduate Academic Integrity Policy.
2. Furnishing false information to any University official, faculty member, or office.
3. Forgery, alteration, or misuse of any University document, record, or instrument of identification.
4. Disruption or obstruction of teaching, research, administration, disciplinary proceedings, and other University activities on or off-campus, including its public service functions on or off-campus, or of other authorized non-University activities.
5. Physical abuse, verbal abuse, threats, intimidation, harassment, coercion, and/or other conduct that threatens or unreasonably endangers the mental or physical health or safety of any person or oneself, including any such conduct achieved through means of social media or any other means of electronic communication.
6. Attempted or actual theft of and/or damage to property of the University or property of a member of the University community on or off campus.
7. Hazing, defined as any activity by which a person intentionally or recklessly endangers the physical or mental health or safety of an individual for the purpose of initiation into, admission into, affiliation with, or continued membership with any student organization, sports team or other organized group. Such hazing activity shall include, but not be limited to, whipping, beating, branding, forced and prolonged calisthenics, prolonged exposure to the elements, forced consumption of any food, liquor, beverage, drug or harmful substance not generally intended for human consumption, prolonged sleep deprivation, or any brutal treatment of the performance of any act which endangers the physical or mental health or safety of any person.
8. Improper initiation rituals, more specifically described as, intentionally adopting or implementing a practice of activity for the purpose of initiation, admission into, affiliation with, or as a condition for continued membership in a group or RSO that requires exertion or deprivation or embarrassment over a sustained period of time that can reasonably be expected to interfere with a student's academic performance, whether within or outside of the University. The express or implied consent of the victim will not be a defense.
9. Failure to comply with directions of University officials or law enforcement officers acting in the course and scope of their University job duties and/or failure to identify oneself to these persons when requested to do so.
10. Unauthorized possession, duplication or use of keys and/or keycards to any University premises or unauthorized entry to or use of University premises.
11. Violation of any UNO or University of Nebraska policy, rule, or regulation published in hard copy or available electronically on the UNO or University of Nebraska websites. Electronic copy published on the UNO or University of Nebraska websites shall supersede hard copy.
12. Violation of any federal, state or local law.
13. Use, possession, manufacturing, or distribution of marijuana, heroin, narcotics, or other controlled substances, or drug paraphernalia, except as expressly permitted by law.
14. Use, possession, manufacturing, or distribution of alcoholic beverages on University premises (except as expressly permitted by the University), or public intoxication. Alcoholic beverages may not, in any circumstance, be used by, possessed by, or distributed to any person under twenty-one (21) years of age in the State of Nebraska.
  - a. University Student Diversion Policy (seeking emergency treatment for alcohol poisoning or drug reactions)
    - i. Students acting in the best interest of themselves or others by calling Campus Security or 911 (or similar police/emergency medical services) to assist another person experiencing adverse drug reactions, acute alcohol poisoning or other serious alcohol-related injury are eligible to participate in an alternative Student Code procedure. Students seeking to participate in this

- alternative must meet with a designated Conduct Officer to honestly and openly discuss the circumstances surrounding the incident and the decision to call Campus Security or 911/seek emergency medical services
- ii. Students who receive emergency medical assistance for acute alcohol poisoning or a serious alcohol-related injury are eligible for an alternative to the normal Student Code procedure. In lieu of discipline, the student must complete the Brief Alcohol Screening and Intervention for College Students (BASICS) program or such other similar program designated by the University.
  - iii. Students who qualify for and complete these alternative requirements will have their Student Code charges set aside and the incident will not be recorded in the behavioral conduct record of the student, provided the student commits no additional major violations of the Student Code within a twelve month period.
- b. Procedure
    - i. In order for this policy to be in effect, emergency medical services must be summoned and must respond directly to the situation.
    - ii. Students will receive a letter from the Director of Student Conduct and Community Standards or appropriate Residence Hall Director informing them of misconduct charges. Upon meeting with the designated Conduct Officer, it will be determined if the student may be eligible for the UNO Student Diversion Policy/Program.
    - iii. If the student is deemed eligible for the UNO Student Diversion Policy/Program by the Conduct Officer, then upon the student fulfilling the requirements of the policy, the student's record will indicate no violation of the Student Code.
  - c. While the policy diverts sanctions within the Disciplinary Procedures, students may still be charged by law enforcement officials with violations of federal, state or local laws. Additionally, this policy is not a means to excuse students from egregious Student Code violations.
15. Illegal or unauthorized possession of firearms, explosives, other weapons, or dangerous chemicals on University premises or, the use of any such item, even if legally possessed, in a manner that harms, threatens or causes fear to others.
  16. Participating in an on-campus demonstration, riot or activity that infringes, or incites others to infringe, on the rights of other members of the University community and impacts the educational environment or blocks access to or from educational services, including, but not limited to, the ability to legally express oneself, to attend classes or other University activities and programs, or to engage in one's University job duties.
  17. Obstruction of the free flow of pedestrian or vehicular traffic on University Premises or at University sponsored or supervised functions.
  18. Conduct that is disorderly or indecent, including public urination; breach of peace; or aiding, abetting, or procuring another person to breach the peace on University premises or at functions sponsored by, or participated in by, the University or members of the University community.
  19. Theft or other misuse of computer facilities and resources, including but not limited to:
    - a. Unauthorized entry into a file, to copy, use, read, or change the contents, or for any other purpose.
    - b. Unauthorized transfer of a file.
    - c. Use of another individual's identification and/or password.
    - d. Use of computing facilities and resources to interfere with the work of another student, faculty member or University Official.
    - e. Use of computing facilities and resources to send obscene or abusive messages.
    - f. Use of computing facilities and resources to interfere with normal operation of the University computing system.
    - g. Any violation of the University Computer Use Policy (Executive Memorandum No. 16).
  20. Violation of the On-Campus Smoke and Tobacco Use Policy. (The Smoking Policy is found at <https://www.unomaha.edu/campus-policies/smoke-and-tobacco-policy.php>).
  21. Turning in false fire alarm or bomb threat or misusing fire safety equipment on University Premises, including any student housing unit.
  22. Failing to report a fire or any other extremely dangerous condition when known or recognized on the campus.
  23. Violation of any student housing unit policy or regulation. (The Housing Handbooks are found at [housing.unomaha.edu](http://housing.unomaha.edu) (<http://housing.unomaha.edu>)).
  24. Sexual assault or any other uninvited behavior of a sexually explicit nature including but not limited to sexual harassment, dating or domestic violence, and stalking. All allegations of sexual misconduct, including sexual assault, sexual violence, dating violence, domestic violence, or stalking are investigated and addressed in accordance with Board of Regents Policy 2.1.8 and following the procedures set forth in the "University of Nebraska at Omaha Response to Allegations of Student Sexual Misconduct", adopted pursuant to Board of Regents Policy 5.3.3, attached to this Student Code as Appendix "A," or as Appendix "A" may be hereafter amended.
  25. Abuse of the University Disciplinary Proceedings, including but not limited to:
    - a. Failure to comply with the notice from a conduct Board or University official to appear for a meeting or hearing as part of the Disciplinary Proceedings.
    - b. Falsification, distortion, or misrepresentation of information before a Conduct Board.
    - c. Disruption or interference with the orderly conduct of a Conduct Board proceeding.
    - d. Filing a malicious or frivolous complaint.
    - e. Attempting to discourage an individual's desire or efforts to engage in a permitted participation or use of the Disciplinary Procedures.
    - f. Attempting to influence the impartiality of a member of a Conduct Board prior to, and/or during the course of, the Conduct Board proceeding.
    - g. Harassment (verbal or physical) and/or intimidation of a member of a Conduct Board prior to, during, and/or after a disciplinary proceeding for purposes of disruption of the conduct process.
    - h. Failure to comply with the sanction(s) imposed under the Student Code.

## C. Violation of Law and University Discipline

When a student is charged by federal, state, or local authorities with a violation of law, the University will not request or agree to special consideration for that individual because of his or her status as a student. If the alleged offense is also being processed under the Student Code, the University may advise off-campus authorities of the existence of the Student Code and of how such matters are typically handled within the University community. The University will attempt to cooperate with law enforcement and other agencies in the enforcement of criminal law on campus and in the conditions imposed by criminal courts for the rehabilitation of student violators. Individual students and other members of the University community remain free to interact with governmental representatives as they deem appropriate.

## Discrimination and Sexual Harassment Policies

The University of Nebraska at Omaha does not discriminate in its academic, admissions or employment policies and abides by all federal, state, and

regental regulations pertaining to the same. The University of Nebraska at Omaha is an affirmative action/equal opportunity institution.

#### Discrimination Policies

Americans with Disabilities Act (ADA) & Section 504 Grievance

Procedure: [https://www.unomaha.edu/office-of-equity-access-and-diversity/\\_docs/grievance-procedure.pdf](https://www.unomaha.edu/office-of-equity-access-and-diversity/_docs/grievance-procedure.pdf) ([https://www.unomaha.edu/office-of-equity-access-and-diversity/\\_docs/grievance-procedure.pdf](https://www.unomaha.edu/office-of-equity-access-and-diversity/_docs/grievance-procedure.pdf))

## Sexual Harassment Policies

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in the education program or activity that the University operates. The University is required by Title IX of the Education Amendments of 1972 (Title IX) and the accompanying regulations not to discriminate in such a manner. This requirement not to discriminate extends to admission and employment. Inquiries about the application of Title IX and the accompanying regulations may be referred to a University Title IX Coordinator or the Assistant Secretary for Civil Rights of the Department of Education or both.

Beginning with the University of Nebraska charter in 1869, Nebraska law has provided that no person shall be deprived of the privileges of this institution because of sex. Discrimination on the basis of sex is also prohibited by federal law. All members of the University community are expected to conduct themselves in a manner that maintains an environment free from sexual misconduct. Sexual misconduct, which includes domestic violence, dating violence, sexual harassment, sexual assault, sexual exploitation, and stalking, is unacceptable behavior under University of Nebraska policy and against the law. The University of Nebraska has programs to promote awareness of and to help prevent sexual misconduct, and to assist members of the university community who are affected by such behavior.

UNO Title IX Coordinator

Phone: 402.554.2120

Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

#### Important Resources:

University of Nebraska Sexual Misconduct Policy: <https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/index.php> (<https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/>)

For additional assistance or information regarding gender discrimination or sexual misconduct contact the Title IX Coordinator at 402.554.2120

## Graduation

As students prepare to graduate from UNO, there are several things they should know. Please review the following information, and be aware of all relevant deadlines for the semester that you intend to graduate.

UNO students have the opportunity to graduate in May, August, or December. Students graduating in May are eligible to participate in the May commencement ceremony, while students graduating in August and December are eligible to participate in the December commencement ceremony. Participation in a commencement ceremony is not required in order to graduate from any degree program or to receive a diploma.

- Students must complete an Application for Degree during the semester in which they plan to graduate.
  - Deadlines to apply for graduation are included in the academic calendar (<https://www.unomaha.edu/registrar/academic-calendar.php>).

- Log into MavLINK and fill out the application on or before the deadline. Information on how to apply can be found on the Registrar's website (<http://www.unomaha.edu/registrar/students/graduation-and-diplomas/graduation-general-information.php>).
- There is a \$35.00 application for degree fee, payable at the time the application is submitted.
- Please contact the Registrar's Office at 402.554.2314 with any questions.

**Note:** If you apply for graduation and will not complete all of the requirements for the degree, please notify the Office of Graduate Studies. You must REAPPLY to graduate in a future term; no additional fee is charged.

- After applying for the degree, students should visit the UNO Bookstore (<https://www.unobookstore.com/>) as soon as possible to purchase their academic regalia. Please contact the Bookstore at 402.554.2336 with any questions.
- The following requirements must be on file with the Office of Graduate Studies 12 working days prior to commencement:
  - Comprehensive examination results (contact individual departments/schools for procedures to take the exams).
  - All Incomplete (I) and In Progress (IP) grades from previous terms must be completed and the grades submitted to the Office of Graduate Studies.
  - Submit the Report on Completion of Degree (<https://www.unomaha.edu/graduate-studies/current-students/graduate-forms-and-resources.php>) along with the thesis, thesis-equivalent project, EdS field project, or dissertation.
    - Report on Completion of Degree is to be submitted to the Office of Graduate Studies in person or by email to [graduate@unomaha.edu](mailto:graduate@unomaha.edu).
    - The thesis, thesis-equivalent project, EdS field project, or dissertation is to be submitted electronically through ProQuest.

For specific deadlines related to filing an application for degree, submitting comprehensive examination results, Incomplete (I) and In Progress (IP) grades from previous terms, and final copies of thesis, thesis-equivalent projects, EdS field projects, and dissertations, view the Graduation Checklist (<https://www.unomaha.edu/graduate-studies/current-students/graduation-checklist.php>).

In order to remain eligible for graduation, you must maintain enrollment for all currently enrolled courses that are part of your plan of study. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the 15th working day following the date of commencement (or 15 working days after the final day of the summer semester in the case of August graduation). Diplomas will be mailed as soon as possible after the 15 working days have passed.

Your graduation file must be **in complete order** with the exception of grades for current enrollments. Final responsibility rests with you, the graduate student, to check with your advisor and the Office of Graduate Studies to be sure all requirements are met.

**Note: If requirements are not complete by the published deadlines, students will be cancelled from graduation and will NOT be allowed to participate in the commencement ceremony.**

Please be sure all holds are cleared and that the address listed on the degree application is correct, as this is the address to which diplomas are mailed. Diplomas or official transcripts will not be released for students who have outstanding debts or fees owed to the University. The student is responsible for contacting the Office of Cashiering and Student Accounts to make arrangements to clear their account.

# Financing your Education

- Office of Financial Support and Scholarships (p. 970)
- Federal Financial Aid Policies (p. 970)
- Graduate Assistantships (p. 973)

## Office of Financial Support and Scholarships

The Office of Financial Support and Scholarships is committed to making higher education accessible by minimizing financial barriers for students so they may realize their educational goals. We strive to provide services of the highest quality to support the academic mission and goals of the university and its students.

**For information about the various forms of scholarships, grants, work-study and loans, and how to apply:**

Office of Financial Support and Scholarships  
103 Eppley Administration Building  
Omaha, NE, 68182  
402.554.2327  
financialaid.unomaha.edu (<http://financialaid.unomaha.edu>)

## Federal Financial Aid Policies

### Treatment of Title IV Aid When a Student Withdraws

#### Return of Funds Policy for Title IV Aid Recipients Who Withdraw

The Higher Education Amendments of 1998, as well as the program integrity regulations in 2010, established provisions which may require a certain percentage of federal financial aid (Title IV funds) to be returned to the Department of Education when a student completely withdraws from all classes. When a student is considered to have withdrawn, the University is required to determine the amount of earned and unearned Title IV aid.

Federal financial aid funds are awarded to a student under the assumption that the student will attend school for the entire period for which the assistance is awarded. When a student withdraws from all courses for any reason – including medical withdrawals – the student may no longer be eligible for the full amount of Title IV funds that they were originally scheduled to receive. If a student has received Title IV financial aid, a refund must be calculated under the Federal Return of Title IV Funds policy. The refunds are based on the number of days attended for the semester, divided by the total number of days in the semester (minus any scheduled breaks of at least five days in length). Funds are deposited back to the financial aid accounts in accordance with federal regulations.

There are three types of withdrawals that fall under the return to Title IV (R2T4) federal calculation regulations:

1. **Official Withdrawals** – student withdraws from all courses through MavLINK or contacts the Office of the University Registrar to initiate an official withdrawal.
2. **Unofficial Withdrawal** – If a student began attendance and has not officially withdrawn fails to earn a grade in at least one course offered over an entire period, the institution must assume, for Title IV purposes, that the student has unofficially withdrawn. UNO grading policy requires faculty to differentiate between two different types of failing grades – either an F (earned failing grade awarded to students who complete the course but fail to achieve the course objectives; and an FW grade (awarded to students who did not officially withdraw from the course, but who failed to participate in course activities through

the end of the term). For FW grades, faculty report the last date a student last participated in any academically related activity. This date then becomes the basis for the withdrawal calculation. Therefore, a student cannot avoid the federally required return of Title IV Financial Aid by stopping out of classes but remaining enrolled and taking failing marks.

3. **Modular Withdrawals** – A student does not complete all modules the student was scheduled to attend (modules are classes that do not span an entire semester).
  - If a student is enrolled in a standard, term-based program offered in modules and ceases attendance at any point prior to completing the payment period or period of enrollment, unless the school obtains written confirmation from the student at the time of the withdrawal that he or she will attend a module that begins later in the same payment period or period of enrollment, the student is considered a withdrawal for Title IV purposes.
  - If written confirmation of future attendance is received from the student but the student does not return as scheduled, the student is considered to have withdrawn from the payment period or period of enrollment and the student's withdrawal date and the total number of calendar days in the payment period or period of enrollment would be the withdrawal date and total number of calendar days that would have applied if the student had not provided written confirmation of future attendance.

#### How a Withdraw from Class or School Affects Financial Aid

Though your aid is posted to your account at the start of each period, you earn the funds as you complete the period. If you withdraw during your payment period or period of enrollment, the amount of Title IV program assistance that you have earned up to that point is determined by a specific formula. If you received (or your school or parent received on your behalf) less assistance than the amount that you earned, you may be able to receive those additional funds. If you received more assistance than you earned, the excess funds must be returned by the school and/or you.

#### How “Earned” Financial Aid is Calculated

The amount of assistance that you have earned is determined on a pro rata basis. This calculation must be completed within 30 days of the date the school determines that the student has withdrawn. The school is required to return any unearned funds within 45 days. The calculation is completed by the Office of Financial Support and Scholarships. For example, if you completed 25% of your payment period or period of enrollment, you earn 25% of the assistance you were originally scheduled to receive. That means that 75% of the disbursed aid is considered to be “unearned” and must be returned to the federal government. The total number of days used in the calculation will exclude any scheduled breaks of 5 or more days.

Once you have completed more than 60% of the payment period or period of enrollment, you earn all the assistance that you were scheduled to receive for that period.

**IMPORTANT:** You may receive a partial cancellation of your tuition and fees because of your withdraw. UNO's refund policy is separate from the federal regulations on repayment of unearned aid. It is possible that financial aid will not cover a student's balance following the return of funds calculation – even after the tuition and fees cancellation policy has been applied.

#### What Happens When a Student Fails to Begin Attendance?

Federal regulations require that a procedure be in place to know whether a student has begun attendance in all classes for purposes of the Federal Pell Grant Program. Instructors will be contacted to verify attendance for all Pell Grant recipients if they withdraw from class. The Pell Grant will be recalculated based on the student's enrollment status to reflect only those classes for which the student actually began attendance. Instructors will also be contacted to verify attendance for Federal Direct Loan recipients if they withdraw from all classes. If a student does not begin attendance in

any class in the loan period they will lose eligibility and the Federal Direct Loan will be canceled.

### **Student Notification of Results of Calculation**

Upon completion of the Return of Title IV Funds calculation, students will receive notification indicating the amount of aid that will be returned. UNO will return the required funds on the student's behalf to the appropriate federal program(s) by charging the student's account. Students will be able to view the return and any resulting account balance on MavLINK after the return of funds has been processed. The student is responsible for all charges resulting from a Return of Title IV calculation.

### **Which Funds are Subject to the Return of Funds Calculation?**

The Title IV funds that are covered by this law, in order of their required return are:

1. Unsubsidized Direct Loans
2. Subsidized Direct Loans
3. Federal Perkins Loan
4. Direct PLUS Loan
5. Federal Pell Grant
6. Federal Supplemental Educational Opportunity Grant (FSEOG)
7. Federal TEACH Grant
8. Federal Iraq Afghanistan Service Grant

### **Post-Withdrawal Disbursements**

If a student has accepted Title IV, HEA financial aid by the date of the withdrawal, but the financial aid has not disbursed, the student may be eligible for a post-withdrawal disbursement. If the amount disbursed to the student is less than the amount the student earned, and for which the student is otherwise eligible, he or she is eligible to receive a post-withdrawal disbursement for the earned aid that was not received.

Under these circumstances, a R2T4 calculation must be performed to determine whether the student is actually eligible for a post-withdrawal disbursement. If your post-withdrawal disbursement includes loan funds, the University must get your permission before it can disburse them. You may choose to decline some or all of the loan funds so that you don't incur additional debt. The University may automatically use all or a portion of your post-withdrawal disbursement of grant funds for tuition, fees, and room and board charges (as contracted with the school). The University needs your permission to use the post-withdrawal grant disbursement for all other school charges.

Students will be notified of post-withdrawal disbursement eligibility within 30 days of the date of withdrawal determination. The school must return the Title IV funds within 45 days of the date the school determines the student withdrew.

## **Return of Title IV Funds Procedure**

When a student officially, or unofficially withdraws (i.e. quits attending class), during the first 60 percent of the semester, and has received or was eligible to receive federal Title IV funds, the Office of Financial Support and Scholarships is required to perform a Return of Title IV funds calculation. Each semester the Office of Financial Support and Scholarships will review those students who have received, or could have received Title IV assistance, and who have officially withdrawn from all classes.

Additional students who must also be considered are those who have not formally withdrawn, but have stopped attending classes (unofficial withdrawals). UNO grading policy requires faculty to report the last date a student who failed a class participated in any academic activity. Each semester an "All F" report will be run to determine students who have not

officially withdrawn, but instead have unofficially withdrawn from all of their classes.

The calculation steps are as follows:

**Step One:** Establish the withdrawal date and determine how much Title IV aid was earned by the student. The percentage of enrollment period completed by the student is calculated by dividing the number of days a student attended by the total number of days in the semester (percent of aid earned), and then multiplying that percentage by the total amount of Title IV aid disbursed, or could have been disbursed.

**Step Two:** Determine the Title IV aid to be disbursed to student. If the student received less Title IV aid than earned from step one, a post-withdrawal disbursement may be made. This situation may occur in a case where federal aid was approved, or a loan certified, but not yet disbursed before the student withdrew.

**Step Three:** Determine the amount of unearned Title IV aid that must be returned by UNO. UNO must return the lesser of the amount of Title IV aid which the student does not earn, or the amount of institutional charges the student incurred for the semester multiplied by the percentage of Title IV aid not earned. Title IV funds that have to be returned by the school will result in a university obligation to the student. The student will receive a bill from the Cashiering and Student Accounts Office.

**Step Four:** Determine the amount of unearned Title IV aid to be returned by student. Any federal grant and federal loan funds that are calculated to be returned by the student will be returned by the school so a federal overpayment situation does not result and will be included in the amount billed in step three. The balance of any loan not paid by the school will go into repayment in accordance with the terms of the promissory note.

An aid recipient should contact the Office of Financial Support and Scholarships prior to withdrawal from the University. Upon request, the Office of Financial Support and Scholarships will provide written examples of various return of funds calculations.

Below is an example of the Return of Title IV Funds calculation.

<b><u>Title IV Return of Funds</u></b>	<b><u>Amount</u></b>
Institutional Charges	\$5,000
Title IV Loans	\$2,000
Title IV Grants	\$1,000
Total Title IV aid	\$3,000

Student withdrew on 29th day of a 116-day enrollment period.

Percent Earned  $29/116 = 25\%$

Percent Unearned  $100\% - 25\% = 75\%$

Amount of Title IV aid unearned  $\$3,000 \times 75\% = \$2,250$

UNO is responsible for returning the lesser of unearned Title IV aid (\$2,250 from above) or unearned institutional charges ( $\$5,000 \times 75\% = \$3,750$ ). UNO will return aid as follows:

- Title IV Loans \$2,000
- Title IV Grants \$250

Aid the student must personally return - student's aid is returned on his/her behalf by the school and therefore becomes part of the bill that must be repaid to the school. The balance of student's loan not paid by the school will go into repayment in accordance with the terms of the promissory note.

## Standards of Satisfactory Academic Progress

Federal regulations require a student to maintain satisfactory academic progress in the course of study he/she is pursuing in order to receive federal financial assistance. The Satisfactory Academic Progress Policy standards are applied consistently within all institutionally-defined categories of students (undergraduate, master's and doctoral level students) and enrollment levels (full-time and part-time), regardless of whether the student previously received financial aid.

In order to comply with these regulations, the University of Nebraska at Omaha has established the following Satisfactory Academic Progress (SAP) policy.

### Satisfactory Academic Progress Requirements

Satisfactory Academic Progress standards are reviewed annually after the final posting of Spring semester grades and apply to a student's entire academic record. Students returning to UNO following a withdrawal or dismissal will be evaluated upon receipt of the electronic Student Aid Report. To maintain eligibility, you must meet the following criteria:

1. **Grade Point Average (GPA) Standard** You must be in "good academic standing" at UNO. For undergraduates, this is defined as having an earned UNO cumulative GPA of at least 2.00. For graduate students, this is defined as having an earned UNO cumulative GPA of at least 3.00.
2. **Pace of Progression** You must have successfully completed ("D" grade or higher) at least 67% of the total credit hours which you have attempted at UNO, plus any transfer hours accepted from other schools, upon completion of the Spring semester.
  - Grades of Failing (F); No-Credit (NC); No Report (NR); Unsatisfactory (U); Incomplete (I); In Progress (IP); Audit (AU); and Withdraw (W); are considered **unsuccessful** completion of credit hours attempted. A grade of Failing (F) is used in calculating grade point averages.
3. **Maximum Time to Degree Completion** Undergraduate student must complete degree requirements within 180 attempted credit hours, master's degree students must complete degree requirements within 70 credit hours at the graduate level and doctoral students must complete degree requirements within 125 credit hours. For this requirement, students will be suspended from financial aid eligibility the semester following the semester their attempted hours exceed their limit.

Attempted hours include both hours attempted at UNO **and** any transfer hours accepted from other schools you have attended. All credit hours for repeated courses will be included in the attempted hours calculation. Also, if the number of credit hours you still need to graduate, in addition to the number of hours you have already attempted exceeds the maximum attempted hour total above, your aid eligibility will be cancelled.

A course retaken beyond the first retake of a previously **passed** course **cannot** be included in the credit hour total when determining the total number of hours for disbursement of aid. "W" grades are not considered in this retake calculation, even though they are considered in the completion rate calculation in #2 above.

**Please be aware of how each of the following affect your GPA and Pace of Progression**

**Impact of earning an incomplete grade:** An incomplete course counts as credit hours attempted but will not count as credit hours completed/earned until a passing grade has been assigned. An incomplete grade such as a withdrawn course can negatively affect a student's Pace and financial aid eligibility.

**Impact of withdrawing from a course:** Withdrawing from a course counts as credit hours attempted but will not count as credit hours completed/earned. A withdrawn course can negatively affect a student's Pace and financial aid eligibility.

**Impact of repeating courses on GPA and Pace of Progression:** Repeating a course counts as attempted credit hours for each time the course is taken. If credit is earned (repeats as well), it will also count as completed/earned credit hours in Pace and Maximum Time to Degree Completion calculations. However, a course retaken beyond the first retake of a previously passed course cannot be included in the credit hour total when determining the total number of hours for disbursement of aid.

**Impact of transfer credits on GPA and Pace of Progression:** only transfer credits accepted by UNO will be counted as both attempted and completed hours.

## Reinstatement of Eligibility

Students who do not meet one or more of the SAP standards are no longer eligible to receive federal student aid and will be notified by email. Financial aid programs include, but are not limited to, all federal grants, loans and work-study, state grants, and most University of Nebraska at Omaha need-based grants and scholarships.

If you have incurred circumstances such as a death of a close family member, serious illness or injury to yourself, or other serious extenuating circumstances that you feel have significantly contributed to your academic situation, you may appeal the Grade Point Average Standard or Pace of Progression. **Appeals will not be allowed for maximum credit hour issues or multiple retake issues.**

### Appeal Procedures:

1. All appeals are completed via your To-Do List in MavLINK.
2. The appeal must provide a **full explanation** of why the standards were not originally met, and what changes students have made to ensure all SAP standards will be met in future semesters. Supporting documentation is required and can be uploaded via MavLINK after you submit the appeal.
3. No more than **three** appeals will be allowed per student for his/her entire academic career at UNO.
4. Appeals and supporting documentation must be submitted by the following deadlines: Fall semester by October 1st, Spring semester by March 1st, and Summer semester by July 1st.

### Possible Appeal Outcomes:

1. **Appeal Denied:** If your appeal is denied, you will receive an email notification as to what steps you can take, if any, to regain aid eligibility.
2. **SAP Probation:** Financial aid eligibility is reinstated for **one semester only**, with the expectation that all SAP standards will be met after that semester. Upon review, if all SAP standards are not met in this timeframe, students will then become ineligible for aid.
3. **SAP Academic Plan:** In cases where an appeal is approved, but it is not possible to meet all SAP standards in one semester, you will be prescribed an individualized academic plan. You will remain aid eligible as long as you continue to meet the plan requirements. If you cease to meet the plan criteria before you meet the minimum SAP standards, you will become ineligible for aid.

ALL APPEAL DETERMINATIONS BY THE OFFICE OF FINANCIAL SUPPORT & SCHOLARSHIPS ARE FINAL.

## Veteran Standards of Progress Policy

A veteran and/or eligible person must make satisfactory progress toward an approved educational objective. Standard of Progress will be determined utilizing the Satisfactory Academic Progress policy as listed in the college catalog consisting of overall grade point average, pace, program length, maximum time for completion, attendance and/or conduct.

## Graduate Assistantships

### Academic Standards

A graduate assistantship is intended to award students who have demonstrated high academic performance and potential either at the graduate or undergraduate level. As a graduate assistant you will be considered a UNO employee with a tuition waiver, monthly stipend, and subsidized health insurance.

- Graduate assistants must be students in good standing in a degree or certificate program in the Graduate College.
- Dismissal from a graduate program for any reason shall result in simultaneous dismissal from any graduate assistantship position. The student will not be eligible for an assistantship thereafter until fully reinstated in a graduate degree or certificate program.

### Apply, Recruitment, Selection, and Renewal of Graduate Assistants

- Each graduate department/school or other unit, as appropriate, shall establish its own procedure for graduate assistantship recruitment and selection in accordance with university policy on affirmative action/equal opportunity. Graduate Assistantship positions are subject to a background check.
- Assistantships are not automatically renewable and are dependent upon assessment of work and classroom performance. The student is reminded that, whether or not outside work commitments are involved, graduate assistantships may not be renewed if either graduate class work or assistantship duties are not carried out in a satisfactory manner.

### Workload

- The workload for a graduate assistant should average 20 hours per week for the duration of the appointment and shall be construed to be the equivalent of .33 FTE.
- The department/school or unit in which the graduate assistant is employed should make arrangements with its assistants regarding vacation periods.
- The graduate faculty considers a student who is pursuing graduate study and holding a graduate assistantship to be carrying the equivalent of a full-time workload (see course load below) and, therefore, discourages the practice of holding additional jobs which may interfere with satisfactory performance of assigned duties.

### Course Load

- Graduate assistants are expected to carry a minimum of six graduate hours in each of the fall and spring semesters; graduate assistants working in the summer semester are not required to be concurrently enrolled.
- Graduate assistants may not register for more than 12 semester hours without the approval of both their supervisor and the dean for Graduate Studies. The graduate assistantship will not pay for more than 12 semester hours in a semester.
- The six-hour minimum may be waived if the student is in the last semester of graduate work and needs less than six hours of graduate credit in order to complete requirements for graduation. For doctoral

candidates, the six-hour minimum enrollment also may be waived with the approval of their supervisor and dean for Graduate Studies, if all required course hours except the dissertation have been completed. In either case, students still must register for one course.

### Duties

Duties assigned to graduate assistants should be directly related to and in support of graduate studies in their chosen field of study. Typical examples would be one or more of the following:

1. Teaching courses or discussion sections at the undergraduate level.
2. Instructing and supervising undergraduate-level laboratories or tutorial sections.
3. Grading or otherwise evaluating performance of undergraduate students.
4. Collecting and/or processing research data for faculty members.
5. Preparing materials for laboratories or classroom presentations.

In general, other duties which involve direct knowledge and application of knowledge related to the student's field of study would be acceptable. Graduate assistants should not be utilized solely for clerical duties.

It shall be the responsibility of each graduate program committee, in consultation with the cognizant department chairperson or program director, to draw up an agreement with each graduate assistant at the time of the appointment which shall specify the stipend, duration and method of payment, the assistant's duties, and the general conditions of employment. The agreement shall be reviewed by the graduate assistant before it is signed by him/her and the chairperson of the graduate program committee. The graduate program committee, upon the recommendation of the graduate assistant's faculty supervisor and/or the department chairperson/school director or unit director, shall have the responsibility to review the assistant's performance and to terminate the appointment for failure to discharge satisfactorily the duties specified in the agreement.

### Lengths of Appointments

Assistantships may be awarded on an academic, calendar-year or semester-by-semester basis.

## Tuition and Fees

- Tuition and Fees (p. 973)
- Residency for Tuition Purposes (p. 975)

## Tuition and Fees

### Tuition, Fees, Refunds, and Deposits Deadlines

Tuition and fees for the fall and spring semesters are payable in full on Sept. 23 (fall semester) and Feb. 23 (spring semester). Please see the schedule below for approximate billing dates and due dates. Each time a student fails to meet a payment due date, a Late Payment Fee (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/late-payment-fees.php>) will be assessed to the tuition account. Note: Failure to receive the billing notice will not excuse the student from payment responsibility, nor the late payment penalties. Students may review their tuition and fees account using MavLINK or on Cashiering and Student Accounts website (<http://cashiering.unomaha.edu/>).

UNO accepts major credit cards for payment of tuition and fees online only. Credit card payments may be made via MavLINK and are subject to a 2.75% convenience fee on domestic credit cards and 4.25% on international credit cards. Payments by check, cashier's check, or money order may be mailed to the Cashiering and Student Accounts Office, 109 Eppey

Administration Building, 6001 Dodge Street, Omaha, NE 68182. When mailing, please use the remittance form on the tuition and fees statement.

Payments of cash, check, money order, or cashier's check may also be brought to the Cashiering and Student Accounts Office during regular business hours or deposited in the after-hours drop box located outside of the office.

## Fall Semester

- For students who register March through the first week of the semester:

Bill Date: end of August

Tuition Due: Sept. 23

## Spring Semester

- For students who register November through the first week of the semester:

Bill Date: end of January

Tuition Due: Feb. 23

## Summer Sessions

Students will be billed at the end of each month through July for their summer registrations. Tuition and fees will be due and payable in full by the 23rd of each month.

Students who fail to pay tuition and fees by the due date will be assessed a Late Payment Fee.

Failure to make payment on an account will prohibit registration for future semesters. If an account remains unpaid, it may be forwarded to a collection agency.

Students waiting until after the initial due date for payment of tuition and fees to register or add courses will be required to pay the late registration fee and the late payment fees retroactively.

Failure to pay tuition or fees when due, or to meet payments on loans when due, may result in cancellation of registration, legal action, collection efforts and withholding of transcripts. Outstanding financial obligations from previous semesters must be paid prior to registration. Failure to do so will prohibit registration for future semesters.

The university reserves the right to change the amount of tuition or fees at any time and to assess charges for laboratory/special instructional fees, breakage, lost property, fines, penalties, parking, books, supplies, food or special services not listed in this schedule

## Application Fee

The application fee is payable at the time the application for admission form is filed. This fee is non-refundable and does not apply toward tuition or any other fee. Residency for the purpose of assessing tuition is determined by the status of the applicant at the time the application for admission is filed. The undergraduate application fee is not applicable toward the graduate application fee and vice versa.

### Undergraduate Application Fee

Application Fee	\$45.00
-----------------	---------

### Graduate Application Fee (Graduate College)

Application Fee	\$45.00
-----------------	---------

## Tuition

Tuition rates are established by the Board of Regents. Tuition is subject to change. Tuition charges are assessed per credit hour.

**2021-2022 On- or Off-Campus Tuition Rates**  
(<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-rates.php#on-off-campus>)

**2021-2022 Online Tuition Rates** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/tuition-rates.php#online>)

## Audit Fees

The audit fee is set at one-half of the resident undergraduate or graduate tuition rate. The audit tuition rate is effective only during the first week of the semester. In addition, students registering for audit must pay all student fees. Registration for audit requires the permission of the instructor and is subject to available class space after credit registration ends. Students who register to take a course for credit and who later change to audit registration will be required to pay the full resident or non-resident tuition rate. Audit fees are refundable in accordance with the Tuition Refund Schedule.

## University and Student Fees

Fees rates listed are for the 2021-2022 academic year and are subject to change.

**On- or Off-Campus Fees** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/student-fees.php#fees>)

**Online Fees** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/student-fees.php#online>)

**Laboratory/Special Instruction Fees (Non-refundable)** (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tuition-fees-and-refunds/course-fees.pdf>)

## Refund Schedule

Students who drop one or more courses or who completely withdraw will be obligated to the university for that portion of tuition cost based on the refund schedule. Students who completely withdraw are obligated to pay the non-refundable portion of tuition and fees for the course(s) from which they are withdrawing. Refunds are computed from the date application is received by the Registrar, not from the date of withdrawal of classes.

See Withdrawal from Classes policy. Only tuition, technology and library per credit fees are refunded. The UPF flat fee is non-refundable. No other fees are refundable after the first week of classes. Trip fees may not be refundable after a certain point. Please check with the department sponsoring the trip for refundability timelines, otherwise for all other fees, please refer to the fee schedule.

Students are not relieved from the payment of tuition and fees if they withdraw before a tuition due date, or if payment of tuition and fees has been extended by the Office of Financial Support and Scholarships. Students who have received financial aid are subject to special refund rules as established by the U.S. Department of Education. A financial aid recipient should first contact the Office of Financial Support and Scholarships prior to any official withdrawal from the university to ensure he or she fully understands the financial implications of withdrawal.

Failure to make payment will prohibit registration for future semesters and the release of academic transcripts. If an account remains unpaid, it may be forwarded to a collection agency.

## Regular Semester

Before the first official day of the semester, 100 percent refunded.

First week of classes, 100 percent refunded.

Second week of classes, 75 percent refunded.

Third week of classes, 50 percent refunded.

Fourth week of classes, 25 percent refunded.

Fifth week of classes, 0 percent refunded.

## Summer Sessions (5 and 6 weeks)

Before first official day of semester, 100 percent refunded.

First three days of classes, 100 percent refunded.

Remainder of first week, 50 percent refunded.

Second week of classes, 25 percent refunded.

Third week of classes, 0 percent refunded.

## Summer Evening and Special Contracts (7 and 8 weeks)

Before first official day of semester, 100 percent refunded.

First three days of classes, 100 percent refunded.

Remainder of first week, 75 percent refunded.

Second week of classes, 50 percent refunded.

Third week of classes, 25 percent refunded.

Fourth week of classes, 0 percent refunded.

Courses that run less than ten weeks have unique refund schedules. Students considering withdrawal from such a course should check with the Office of the University Registrar for the applicable refund schedule.

## Special Service Fees

Graduation Fee	\$35.00
Late Application for Degree	\$70.00

# Residency for Tuition Purposes

## Regulations for Determination of Residency for Tuition Purposes

Residency requirements are subject to change by the Board of Regents and/or the Nebraska State Legislature.

### Preamble

Pursuant to Article VII, Section 10 of the Constitution of the State of Nebraska, and Neb. Rev. Stat., 85-501 and 85-502, the University has been authorized to develop regulations and make determinations regarding Nebraska residency for tuition purposes. These regulations provide the bases upon which university staff shall determine, on a uniform intercampus basis, whether an individual qualifies as a Nebraska resident for tuition purposes.

It should be emphasized that the statutes provide a set of minimum standards which will govern a determination of resident status for tuition purposes only. In some instances, it will be possible that an individual may qualify as a "resident" of Nebraska for one purpose (such as securing a Nebraska driver's license) and still not meet the standards established by the Board of Regents for resident tuition status. Individuals seeking a Nebraska residency determination for tuition purposes should, therefore, carefully study all aspects of the law and these regulations before seeking resident tuition status.

## Applying for Residence Classification for Tuition Purposes

The statutes of Nebraska provide that all state educational institutions shall charge nonresident tuition for each nonresident of Nebraska who matriculates at any state institution. Nonresident status is determined in accordance with these statutes and current institutional policies, and is based upon evidence provided in the application for admission and related documents. Additional written documents, affidavits, verification, or other evidence may be required as deemed necessary to establish the status of any applicant. The burden of establishing exemption from nonresident tuition is the responsibility of the student. Erroneous classification as a resident or willful evasion of nonresident tuition may result in disciplinary action as well as payment of required tuition for each semester attended.

Individuals seeking to establish resident status for tuition purposes will be required to have established a home in Nebraska for at least 12 months unless it is not required by the specific category listed on the residency application form. However, any individual who has moved to Nebraska primarily to enroll in a post-secondary institution in Nebraska will be considered a nonresident for tuition purposes for the duration of his/her attendance. Enrolling more than halftime for any term at a university, college, or community college in Nebraska during the 12 months immediately preceding the term or semester for which residence status is sought, will be considered as strong evidence that an individual moved to Nebraska primarily to enroll in a post-secondary institution in Nebraska. Students who have been classified as a nonresident and feel they qualify for resident status should review the "Application for Residence Classification for Tuition Purposes (<https://www.unomaha.edu/admissions/undergraduate/docs/residency-application.pdf>)". A student should submit both the application and supporting documentation by the deadline noted within the application.

## Nebraska State Income Tax Credit

Individuals who do not qualify for resident tuition status and/or reside outside of Nebraska but pay Nebraska income tax, and the spouses or dependents of such individuals, are entitled to tuition credit upon

documented evidence of such payment to the State. The tuition credit granted shall equal up to the amount of Nebraska income tax paid for the immediately preceding calendar year except that the remaining obligation cannot be less than the amount of the resident tuition.

Applications for the Non-Resident Nebraska Income Tax Tuition Credit are available at UNO's Cashiering and Student Accounts Office, 109 Eppley Administration Building, 402.554.2324. Additionally, the form can be downloaded from the Cashiering and Student Accounts website (<https://www.unomaha.edu/accounting-services/cashiering-and-student-accounts/tax-information/>). Specific qualifications and guidelines regarding the tax credit are provided on the applications.

## Midwest Student Exchange Program

The University of Nebraska at Omaha (UNO) participates in the Midwest Student Exchange Program (MSEP), an interstate initiative established by the Midwestern Higher Education Compact (<https://www.mhec.org/>) to increase educational opportunities for students in its member states. This program serves residents from Indiana, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, and Wisconsin.

Graduate students: The MSEP program enables residents from these states to enroll at reduced tuition rates. Students may review eligibility requirements/guidelines and complete the MSEP Agreement Form. (<https://www.unomaha.edu/graduate-studies/financing-your-degree/midwest-student-exchange-program.php>)

Undergraduate students: Those who are academically qualified are awarded scholarships to help offset the costs of out-of-state tuition.

For more information visit the UNO Advantage Scholarship (<https://www.unomaha.edu/admissions/financial-support-and-scholarships/types-of-aid/scholarships/uno.php#advantage>).

## Metropolitan Advantage Program (MAP)

### Tuition Reduction Program for Eligible Iowa Students

Eligible students include current residents and/or graduates of high schools within specific Iowa counties who meet UNO's admission requirements. The following counties are currently eligible for the Metropolitan Advantage Program: Cass, Crawford, Fremont, Harrison, Mills, Monona, Montgomery, Page, Pottawattamie, Shelby, and Woodbury. International students on a visa are not eligible for Metropolitan Advantage Program rates. Additionally, these rates are not applicable toward distance education (online) courses.

Undergraduate students: Transfer students who are currently full-time and residing on one of the Iowa community college campuses may be eligible. In addition to Metropolitan Advantage Program, a student may be eligible for the UNO Advantage Scholarship. Please visit the website (<https://www.unomaha.edu/admissions/financial-support-and-scholarships/types-of-aid/scholarships/uno.php#advantage>) for more information.

## Contact Information

If you have questions regarding residency or residence regulations, contact the offices listed below:

Undergraduate Students  
UNO Undergraduate Admissions  
6001 Dodge Street,  
111 Eppley Administration Building  
Omaha, NE 68182  
Phone: 402.554.2393

Graduate Students  
UNO Office of Graduate Studies  
6001 Dodge Street  
203 Eppley Administration Building  
Omaha, NE 68182

Phone: 402.554.2341

# Community Engagement Opportunities

As a UNO student, community engagement activities provide you with diverse ways to achieve your education while building your resume and networking in the community. Some examples include volunteering, taking a class that brings you out into the community to complete your coursework, capstone projects and research involving a community organization, and much more.

## Office of Civic and Social Responsibility

The Office of Civic and Social Responsibility (OCSR) is dedicated to developing engaged, civic-minded citizens and leaders for our communities. UNO believes service and engagement are vital components for the educational development of all students and for a sustainable, healthy community. Learn more on the Civic and Social Responsibility website (<https://www.unomaha.edu/student-life/civic-and-social-responsibility/>).

## Service Learning Academy

Service learning is an experiential, collaborative method of teaching that incorporates community projects that promote academic learning. These projects are directly linked to academic curriculum and meet community-identified needs while engaging students in their community and provide real-world context to coursework. As such, service learning course "classrooms" often exist in the community and engage community partners as co-teachers. Throughout the course students reflect on their experiences, consider the relationship to their reading and research, relevance to community growth, and impact on their personal values, development, and professional skills.

Every semester, there are a variety of courses in all UNO colleges that use service learning as a method of instruction. By choosing a service learning course, students are able to:

- Apply textbook knowledge to the real world and engage with homework
- Use and develop strengths
- Discover new skills & talents
- Explore their leadership style
- Learn to communicate with others and work in teams
- Sharpen skills that employers want such as problem solving, critical thinking, innovation, and creativity
- Explore the assets in the community
- Build their résumé

To search for service learning courses, choose service learning under the Program tab in the class search function.

To explore service learning course options and project examples, please visit the Service Learning Academy (<http://www.unomaha.edu/servicelearning/>) website.

## Community Engaged Scholarship Transcript Designation (CESTD)

The CESTD is a transcript designation that documents and recognizes undergraduate students for their community engagement experiences. This designation offers incentive and competitive edge for students who choose to tailor their involvement and academic work in a way that capitalizes on UNO's comparative advantage.

- Completion of 1 community based-learning experience (3 credit hours)
- Completion of 6 hours of service-learning coursework
- Completion of 135 volunteer/community service hours (outside of the classroom)
- Completion of written reflection piece (one for each category along with a final reflection).
- Minimum 3.0 Cumulative GPA at graduation

## Barbara Weitz Community Engagement Center (CEC)

As a metropolitan university, UNO encourages its students to be active and civically engaged members and leaders in a diverse and evolving society. The CEC is a unique place where UNO students can access volunteer opportunities, service events, service learning inquiries, service learning projects and events, student jobs and internships, and community engagement-based events. The CEC is home to over 35 university and community building partner organizations that work side by side in flexible office spaces to improve the quality of life for those they serve.

Learn more about the CEC (<https://www.unomaha.edu/community-engagement-center/>).

## Student Success and Academic Support Services

- Student Success (p. 977)
- Academic Support Services (p. 980)
- Testing Services (p. 980)

## Student Success Student Success Services

The services provided by the Division of Student Affairs are designed to promote the growth and development of the whole student – intellectually, physically, emotionally, socially, financially, environmentally, occupationally and spiritually – to allow students to develop skills that lead to success both during school and throughout life. An integrated, holistic approach to inclusion, civic and social responsibility, wellness, achievement, and involvement programs links students to both curricular and co-curricular learning by providing support, activities, and engagement that enriches the student experience on campus and better prepares them to be an active and engaged citizens in our global community.

## Wellness

### Counseling and Psychological Services (CAPS)

Caring Staff

Our office is staffed by licensed mental health practitioners and a graduate assistant who are eager to create a vibrant and safe campus community. Each person is committed to providing you support and encouraging your personal success in identifying and reaching your goals.

### Personal Counseling

Concerns, struggles, and changes are all normal parts of life. Sometimes we can work through them on our own; other times, talking to a professional can help. CAPS offers a safe, confidential atmosphere in which personal concerns can be openly explored and discussed. Topics often include anxiety, depression, alcohol and drug issues, goal setting, grief and loss, relationships, sexual identity, self-esteem, and stress. CAPS also provide referrals, making available a large number of professional resources at UNO and in the community. Appointments may be made by stopping by the office at the Wellness Center, 102 H&K, or by calling 402.554.2409. Learn more on the Counseling and Psychological Services website (<https://www.unomaha.edu/student-life/wellness/counseling-center/>).

## Health Services

Health Services offers on-campus appointments with Board Certified Professionals and various medical services. These medical services include examinations for wellness, women's reproductive health, men's health, illness, injury, and STI/HIV testing. Labs, x-rays, and vaccinations are offered on-site and over the counter medications are available upon request. Provider visit costs are included in your student fees. In addition to medical services, Health Services offers health and wellness education. We welcome questions about your health. Appointments with a physician, nurse practitioner, or registered nurse can be made in person or by phone. Walk-in patients are seen as schedules permit. Health Services is located in the Wellness Center, 102 H&K. Hours are Monday through Friday, 8 A.M. to 5 P.M. To schedule an appointment, please call 402.554.2374.

### Costs

Most services offered by Health Services are included in student fees, with the exception of x-rays, physicals, immunizations, and laboratory tests. For these services, either students can pay at the time of service or the clinic can submit a claim to the student's insurance plan. Health services accepts insurance plans from United Healthcare, Blue Cross Blue Shield, Aetna, Coventry, Midlands Choice, and Tricare; Medicare and Medicaid are not accepted.

### Immunizations

Health Services offers Flu shots, Measles, Mumps, Rubella, Chickenpox, Meningococcal, Tetanus, and Hepatitis A and B.

## Student Health Insurance

The major medical student insurance policy is available to UNO undergraduate students enrolled in at least seven (7) credit hours or a degree-seeking graduate student. This reasonably priced policy is designed to provide benefits for medical and dental expenses.

### Graduate Assistants

All new graduate assistants (GAs) receive insurance information. GAs are offered a subsidized plan. GAs must return the form accepting the Bronze Plan or decline all insurance; otherwise they will be automatically enrolled in the student plan which provides more extensive coverage for lower cost. The GA's cost is added to their MavLINK tuition statements and paid per semester with their student fees. GAs should refer to their graduate packet for more information or call the Health Services office.

## Campus Recreation

Campus Recreation (Campus Rec) supports students on their journey to living a healthy and balanced lifestyle while at UNO. If you are enrolled in at least one credit hour on-campus, a Campus Rec membership is included as part of your University Program and Facilities (UPF) Fees. There is no need

to purchase a membership separately while taking an on-campus class. A valid membership is determined on a semester basis. If you are enrolled in an online, remote, research, or thesis class, a Campus Rec membership would need to be purchased. Campus Rec is located in the H&K Building. Learn more on the Campus Recreation website (<https://www.unomaha.edu/student-life/wellness/campus-recreation/>).

## Accessibility Services

The Accessibility Services Center (ASC) provides leadership in facilitating equal access to all campus opportunities for students with disabilities.

### Student Accommodations

ASC provides individualized services to students with disabilities to establish appropriate accommodations and supports, and to remove barriers through consultation, collaboration, and accommodations. ASC inspires students to become responsible decision makers, problem-solvers, and self-advocates to request and access their accommodations.

### Requesting Accommodations

Once you are admitted to UNO, requesting accommodations can be done in three easy steps. If you are not sure if you qualify for support services, do not hesitate to contact ASC at 402.554.2872 or stop by the ASC in 104 Health and Kinesiology Building. Learn more about requesting accommodations on the Accessibility Services Center website (<https://www.unomaha.edu/student-life/inclusion/disability-services/>).

## Request for Reasonable Accommodation in Field Placements

The University of Nebraska at Omaha (UNO) supports students with disabilities and encourages their full participation in all academic programs, including field placements of all kinds. "Field placements" for the purpose of this document include any practicum, field experience, clinical practice, internship, training, clinic, or work experiences (or similar) conducted for academic credit. In accordance with Section II of the Americans Disabilities Act and Section 504 of the Rehabilitation Act, UNO's Accessibility Services Center is the designated office to work with students with disabilities to provide reasonable accommodation so they may enjoy the same benefits, experiences, and opportunities as persons without disabilities.

## Student Conduct and Community Standards

The university has an obligation to maintain conditions under which the work of UNO can go forward freely, in accordance with the highest standards of quality, institutional integrity, and freedom of expression, with full recognition by all concerned of the right and privileges, as well as the responsibilities, of those who comprise the UNO community. UNO expects students to maintain standards of personal integrity that are in accordance with the goals of the institution. This means that students are expected to assume responsibility for their actions; observe national, state, and local laws and university policies; and respect the rights and property of other people. As members of the academic community, students are subject to the responsibilities laid out by the university and are urged to become familiar with all documents that pertain to your rights and responsibilities. View the full Student Code of Conduct (<https://www.unomaha.edu/student-life/student-conduct-and-community-standards/policies/code-of-conduct.php>). For more information, contact the Office of Student Conduct and Community Standards visit the Student Conduct and Community Standards website (<https://www.unomaha.edu/student-life/student-conduct-and-community-standards/>) or call 402.554.3537.

## Inclusion

### The Office of Military & Veteran Services

The Office of Military and Veteran Services exists to encourage a military community on campus, online, and overseas. This office supports UNO's military community by providing military and veteran students with resources and services developed to help them succeed. Learn more on the Military and Veteran Services website (<https://www.unomaha.edu/student-life/inclusion/military-and-veteran-services/>).

### Gender & Sexuality Resource Center

The Gender and Sexuality Resource Center welcomes and encourages people of all genders and sexualities to participate in the center's offerings. The GSRC fosters and promotes equity, access, and inclusion for all genders and sexualities through education, resources, advocacy, and activism. This office provides specific programs and services for women, lesbian, gay, bisexual, queer spectrum, trans spectrum, intersex, asexual spectrum, non-straight, and gender non-conforming (LGBTQIA+) peoples, and survivors of interpersonal violence in the UNO community. Learn more on the Gender and Sexuality Resource Center website (<https://www.unomaha.edu/student-life/inclusion/gender-and-sexuality-resource-center/>).

### Multicultural Affairs

The Office of Multicultural Affairs (MCA) is responsible for developing and maintaining programs and services to ensure the successful recruitment, retention, and graduation of underrepresented students on UNO's campus. Through scholarship aid, academic services, and personal support, students are empowered to attain their educational and professional goals. Cultural programming includes celebrating cultural months (including Black History Month, Latino Heritage Month, Native Heritage Month, and Diversity Month) as well as three annual Native American events. MCA is inclusive of all UNO students. Learn more on the Multicultural Affairs website (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>).

### Summer Scholars Pre-College Program

The Summer Scholars Program provides college bound high school juniors the opportunity to enroll in a course at UNO to earn college credits, prepare for college life and connect with University of Nebraska at Omaha faculty, staff, and students. The goal of the Summer Scholars Program is to expose high school students to the dynamics of a college campus environment through a five-week pre-college summer session. Participants learn about college academic coursework, time management, college admissions, ACT/SAT preparation, college scholarships, and the financial aid process. They interact with university faculty and staff, explore career options and participate in community service activities. In addition to the academic benefits of the program, the scholars receive an increased awareness of social and cultural issues. Outside of the classroom, the Summer Scholars spend a week living at the Scott Residence Hall on UNO's Scott Campus. Learn more about Summer Scholars (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/bridge-program-and-scholarships.php>).

## Office of Civic & Social Responsibility

The Office of Civic and Social Responsibility (OCSR) is dedicated to developing engaged, civic-minded citizens and leaders for our communities. UNO believes service and engagement are vital components for the educational development of all students and for a sustainable, healthy community. Learn more on the Civic and Social Responsibility website (<https://www.unomaha.edu/student-life/civic-and-social-responsibility/>).

### The Collaborative

The Collaborative creates programs that empower students to affect positive change within the community. The Collaborative is a program that connects UNO students with nonprofit organizations for an all-encompassing professional experience during the academic year. The

Collaborative has several student worker positions available, and they receive ongoing education about the nonprofit sector.

## Maverick Food Pantry

The Maverick Food Pantry contributes to UNO's culture of caring by providing healthy, sustainable, and culturally sensitive food items to those in immediate need as well as connecting them with resources in the greater Omaha area for long-term support. UNO students, faculty, and staff can anonymously request a food package online and pick up the package in the Barbara Weitz Community Engagement Center within 24 hours of the request. Maverick Food Pantry's model uses volunteers to sort donations, assemble food packages, and assist those picking up packages.

## 60 Minutes of Service

OCSR offers monthly opportunities for students to complete service projects. Stop by the CEC on the first Wednesday of every month from 12 P.M. to 1 P.M. to serve with Omaha nonprofit organizations and enjoy a free lunch.

## Signature Service Days

Each academic year, UNO sponsors multiple days of service in which volunteers engage in service projects around the community for a day. On a Signature Service Day, UNO students, faculty, and staff, along with our K-12 partners, Metro Community College, and community volunteers, come to the CEC and are transported into the community to complete service projects.

## Clinton Global Initiative University

OCSR provides support to Clinton Global Initiative University (CGI U) applicants. CGI U connects students, university representatives, topic experts, and celebrities to discuss and develop innovative solutions to pressing local and global challenges. OCSR provides mentorship to students creating their own commitments to action that address issues on campus, in local communities, or around the world.

## New Student and Family Programs (NSFP)

New Student and Family Programs helps you and your family transition to UNO. Learn more on the New Student and Family Programs website (<https://www.unomaha.edu/student-life/achievement/new-student-and-family-programs/>). NSFP is primarily responsible for Campus Visit (<https://www.unomaha.edu/admissions/visit/>) experiences and New Student Orientation (<https://www.unomaha.edu/student-life/achievement/new-student-and-family-programs/orientation/>).

### Ambassadors

Our Ambassadors serve as guides for your transition experience. They are university students committed to helping first-year and transfer students by sharing all of the need-to-know information about policies and procedures, student services, academic support programs, and opportunities for involvement. The goal of our Ambassadors is to ensure that you know all about the university and to inspire you to make the most of your college experience.

## Academic & Career Development

The Academic and Career Development Center (ACDC) empowers students to explore, develop, and succeed at UNO and beyond. ACDC builds bridges between students and on-campus support, community members, and local employers. Learn more on the Academic and Career Development Center website (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/>).

## Undeclared Majors

It's great to be undeclared at UNO! ACDC is dedicated to advising undeclared students and helping them choose a major before the completion of 36 credit hours. ACDC guides students to choose an academic major with confidence and keep on track for graduation. In addition to advising appointments, ACDC offers a variety of resources to support students in the exploration process.

## Career Development

ACDC is here to help you transition successfully from backpack to briefcase. ACDC advisors help with résumé and cover letter reviews, and you can even schedule a mock interview to help prepare for interviews. Students also have access to exclusive job postings in Handshake (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/career-development/handshake.php>) to find part-time jobs, internships, and full-time careers.

## Student Involvement

Getting involved is an important part of the college experience. With new organizations being created almost every week, there is something for everyone. Learn more on the Student Involvement website (<https://www.unomaha.edu/student-life/involvement/>).

## Student Organizations

There are tons of ways to get involved at UNO. Joining organizations that complement your studies or appeal to your personal interests can enrich your college experience. Organizations on campus are created to suit the diverse interests of students that range from academics to volunteerism to art and music and beyond. They are a great way to get involved, make new connections, and share a common interest with your peers.

## Fraternity & Sorority Life

OMAHA GREEKS shapes amazing individuals with fascinating life stories into students who are independent thinkers and hard workers. OMAHA GREEKS operate up the five pillars of leadership opportunities, lifelong friendship, commitment to philanthropy, reach beyond Omaha, and academic achievement.

## Student Government

Student Government represents UNO students to administration, faculty, and staff, as well as the University of Nebraska Board of Regents and the community. They strive to lead, support, and make lasting, positive contributions to the student body.

## Maverick Productions

Concerts, comedians, great giveaways, and tons of interactive events are just some of what Maverick Productions (MavPro) offers to UNO students. As the programming board at UNO, MavPro strives to bring the best events to campus. In doing so, the Maverick Community is brought together through #MavSPIRIT.

## Team Maverick: Student Employment Program

Team Maverick is an intentional student employment program within the Division of Student Affairs at UNO. There are numerous positions on campus that allow students to gain work experience and develop their leadership skills. Team Maverick student employees are dedicated to guaranteeing excellence in the programs and services offered across the Division of Student Affairs. Team Maverick takes pride in helping offices hire outgoing, friendly individuals who are seeking an engaging and challenging employment experience. Students interested can view on-campus job opportunities by visiting UNO Human Resources website (<https://unomaha.peopleadmin.com/>) to get started.

## Housing & Residence Life

Housing and Residence life creates a positive residential experience and supports the evolving needs of students at UNO. Six different on-campus housing options are available to UNO students: Maverick Village (MV) and University Village (UV) on Dodge Campus; Scott Court (SC), Scott Crossing (SX), Scott Hall (SH), and Scott Village (SV) on Scott Campus. Housing and Residence life is proud to offer apartment, traditional, and graduate-style housing to UNO students. Learn more on the Housing and Residence Life website (<https://www.unomaha.edu/student-life/housing-and-residential-life/>).

### Gender-Inclusive Housing

Students and allies of all sexual orientations, gender identities, and gender expressions are eligible to live in designated Gender-Inclusive Housing. Apartment features are the same as other housing facilities.

## Academic Support Services

### Math-Science Learning Center

The Math-Science Learning Center (<https://www.unomaha.edu/college-of-arts-and-sciences/math-science-learning-center/>) (MSLC) provides UNO students the assistance they need to conquer academic challenges in Math and Science. Model students serve as tutors, supplemental instruction leaders and study group facilitators trained to assist their peers in achieving academic success. The MSLC houses meeting alcoves, study/tutoring space, tutorial computers and reserve study materials. It also offers academic consultation for students seeking to increase their overall learning effectiveness and efficiency.

The Math-Science Learning Center is located in 107 Durham Science Center.

### Speech Center

The UNO Speech Center assists all UNO students, faculty, and staff in preparing oral presentations and/or incorporating them into their courses.

The Speech Consulting Room provides consulting and coaching services for all UNO students, graduate students, faculty, and staff from all disciplines, assistance to faculty in support of Speaking Across the Curriculum effort at UNO and assessment documentation for the UNO oral communication general education requirement.

The Speech Center (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/speech-center/>) is located in 183 and 185 Arts & Science Hall, or can be reached at 402.554.3201.

### Writing Center

The Writing Center invites UNO student, faculty, and staff in all university divisions to work with a writing consultant on any university-related writing project. You may use this free service to work on your writing assignments, application essays, business letters or other projects. Our goal is to help you become an effective, independent writer; we will not edit papers for you: instead we will help you develop the ability to edit your own work.

Graduate students may reserve an hour-long appointment instead of the standard half hour, since graduate-level essays are often lengthy. You may wish to work with one of our Graduate Consultants. To schedule an appointment, call the Writing Center at 402.554.2946 or visit the Writing Center website (<http://www.unomaha.edu/college-of-arts-and-sciences/writing-center/>).

## UNO Libraries

The University of Nebraska Omaha (UNO) libraries include the Dr. C.C. and Mabel L. Criss Library (Criss Library) and the KANEKO-UNO Library. The Libraries fulfill the UNO mission through our dynamic services, highly

qualified and adaptive personnel, unique and extensive collections, and accessible learning spaces and environments.

The KANEKO-UNO library, located within the KANEKO gallery at 11<sup>th</sup> and Jones Streets in Omaha's Old Market, is a distinctive space for study, research, collaboration, and investigation. With a focus on stimulating and celebrating creativity, the space and collection inspire visitors to expand their awareness and knowledge within an atmosphere of flexible learning.

Criss Library is centrally located on UNO's Dodge campus, and is an inclusive and engaged space for teaching, learning, research, and service. Collaborative spaces include: flexible seating on our lower and main levels; group study rooms equipped with monitors, screen sharing technology, and whiteboards; and four instruction labs, including two with laptops and configurable seating. For focused learning, the library has individual study rooms, and maintains quiet study space throughout the third floor.

The Creative Production Lab offers one-on-one help for students, faculty, and staff to explore their creative interests and learn how to use cutting-edge hardware and software, including virtual reality, laser cutting, 3D printing and scanning, and multi-media production.

The Archives & Special Collections acquires and preserves unique, rare, and specialized materials, and provides expertise on incorporating these materials into creative projects. The department's diverse collections include the University Archives, U.S. Senator Chuck Hagel Archives, as well as other special collections including regional history, rare books, and the Arthur Paul Afghanistan Collection.

Additional spaces of note include: an outdoor garden patio, café, theater room, and the H. Don and Connie Osborne Family Art Gallery.

The library's collection supports the teaching, learning, research, and creative needs of students, faculty, and staff through a variety of formats including, print and e-books, physical and streaming media, digital image collections, journals, newspapers, electronic databases, and government documents. Material not available in the Criss Library collection can be borrowed from other libraries via Interlibrary Loan.

Librarians are available both in person and online to answer questions, help students and faculty use library resources, and assist with research when and where it is needed. Librarians also offer instruction sessions tailored toward a particular course or assignment.

For additional information, visit [library.unomaha.edu](http://library.unomaha.edu) (<http://library.unomaha.edu/>).

## Testing Center

### Testing Center

The University of Nebraska at Omaha (UNO) Testing Center provides a variety of services to UNO students, faculty and staff. These services extend into the Omaha community and beyond to persons needing testing related assistance. The types of services include university placement exams, certification/licensure exams, online distance education exams, admission exams, proficiency exams, national exams, career assessments, personality indicators, departmental challenge exams, correspondence exams and testing accommodations for students with disabilities. The Testing Center will also consider special requests associated with individual needs. For more information regarding testing services, please contact:

The University of Nebraska at Omaha  
Testing Center

522 Kayser Hall  
Omaha, NE 68182-0318  
402.554.4800

[testingcenter.unomaha.edu](http://testingcenter.unomaha.edu/) (<http://testingcenter.unomaha.edu/>)

## National Exams

The Testing Center may be able to provide information for many nationally administered exams including computer-based testing for Educational Testing Service exams. Among exams offered are the Graduate Record Exam (GRE), PRAXIS series exams, Law School Admission Test (LSAT), ACT Assessment, Miller Analogies Test (MAT), Test of English as a Foreign Language (TOEFL), Test of English for International Communications (TOEIC), College-Level Examination Program (CLEP), DSST exams formerly known as DANTES Subject Standardized Tests, NCAA Coaches Certification Exam, Major Field Test (MFT), and many other certification/licensure exams.

## Placement Exams

Placement exams include the English Placement Proficiency Exam (EPPE), Math Placement Exam, French Placement Exam (FPE), and the Spanish Placement Exam (SPE).

## English Placement

The English Placement/Proficiency Exam (EPPE) is required for undergraduate students (first-time freshmen and transfer students) and international students, including some applying for graduate studies. Students should check with their UNO academic advisor to see whether they are exempt from taking the EPPE. The EPPE is a 90-minute essay. Examinees should allow approximately two hours for an exam session. A student may take the EPPE twice in a calendar year.

## Chemistry Placement

Entrance into CHEM 1180 General Chemistry I depends on a student's ACT or SAT Math Sub-Score or their score on the Math Placement Exam. CHEM 1180 placement is determined according to the following criteria.

ACT Math Sub-Score – 25+

SAT Math Sub-Score Placement of 570+ (590+ for 2012-2016 scores)  
OR

Math Exam Score – 6 with placement into:

Code	Title	Credits
MATH 1220	COLLEGE ALGEBRA	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
MATH 1330	TRIGONOMETRY	3
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	5
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
STAT 1530	ELEMENTARY STATISTICS	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3
MATH 1940	CALCULUS FOR BIOMEDICINE	5

Math Exam Score - 7 with placement into:

Code	Title	Credits
MATH 1220	COLLEGE ALGEBRA	3
MATH 1320	PRE-CALCULUS ALGEBRA	3
MATH 1330	TRIGONOMETRY	3
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS	5
MATH 1370	APPLIED ALGEBRA AND OPTIMIZATION WITH DATA ANALYSIS	4
STAT 1530	ELEMENTARY STATISTICS	3
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES	3

MATH 1940	CALCULUS FOR BIOMEDICINE	5
MATH 1950	CALCULUS I	5

A student may challenge their ACT or SAT Math Sub-Score placement by taking the Math Placement Exam. The exam must be taken before the opening of enrollment for the term in which CHEM 1180 is to be taken. Math Placement scores within the last two years are acceptable for placement into CHEM 1180.

Alternative CHEM 1180 Criteria:

Math Exam Placement above or completion of MATH 1320 or MATH 1340 (with a C- or greater)

OR Completion of CHEM 1120 (with a B- or greater)

OR Completion of CHEM 1140 (with a C- or greater)

Please refer to the Math Placement section for additional information on the Math Placement exams.

## Math Placement

Entrance into certain Math courses is contingent on a student's ACT or SAT Math Sub-Score, or their score on the Math Placement Exam. Placement is determined according to the following criteria.

ACT Math Sub-Score	SAT Math Sub-Score	SAT 2016 Sub-Score	Math Exam Score	Placement Course(s)
0-18	220-450	230-490	1	MATH 1000 (only a score "1" is eligible)
19-22	460-530	500-560	3	MATH 1220 or STAT 1530
23-24	540-560	570-580	4	MATH 1220, MATH 1320, MATH 1370 or STAT 1530
23-24	540-560	570-580	5	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370 or STAT 1530
25	570-580	590-600	6	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370, STAT 1530, MATH 1930, or MATH 1940
26+	590+	610+	7	MATH 1220, MATH 1320, MATH 1330, MATH 1340, MATH 1370, STAT 1530, MATH 1930, MATH 1940, or MATH 1950

**A student may challenge their ACT or SAT Math Sub-Score placement by taking the Math Placement Exam.**

The Math Placement Exam is an adaptive, computer-based test and is untimed. A two to five-hour testing window is scheduled which includes check-in, instructions, testing, and check-out. An on screen calculator is

available during the exam, therefore personal calculators are not allowed. A student may take the Math Placement Exam twice in a two-year period. ACT or SAT Math Sub-Score placement is valid for five years after the test date. Math Placement Exam results are valid for two years.

## Foreign Language Placement

French and Spanish placement is required for any student with prior language experience who wants to enroll in their first UNO French or Spanish course. Native speakers should contact a French or Spanish advisor in the Foreign Language Department for permission to enroll. A student with no prior French or Spanish experience does not need to take a placement exam. A student who is placed into French or Spanish at the 1120-level or higher may be eligible for retroactive credit for UNO courses they test out of. The student must earn a final course grade of “C” or better in the course they are placed into in order to receive retroactive credit.

Both exams include a short listening comprehension section; a written section; and a short composition section. Exam time is one hour and 30 minutes, not including check-in, instructions, and check-out. Examinees should allow approximately two hours for an exam session. A retest is not permitted less than one year after the prior test. Results are valid for one year.

## Accommodated Testing

The University of Nebraska at Omaha (UNO) supports students with disabilities and encourages their full participation in all academic programs, including field placements of all kinds. “Field placements” for the purpose of this document include any practicum, field experience, clinical practice, internship, training, clinic, or work experiences (or similar) conducted for academic credit. In accordance with Section II of the Americans Disabilities Act and Section 504 of the Rehabilitation Act, UNO’s Accessibility Services Center is the designated office to work with students with disabilities to provide reasonable accommodation so they may enjoy the same benefits, experiences, and opportunities as persons without disabilities. For more information please visit the Accessibility Services Center website (<https://www.unomaha.edu/student-life/inclusion/disability-services/>).

## Credit by Examination at UNO

Credit by Examination allows students the opportunity to gain academic credit for prior learning they have acquired by self-study or experience. Tests may be taken in many subject areas and credit may be earned by achieving acceptable scores on these tests. Benefits include saving tuition dollars and shortening the time it takes to earn a degree.

Two types of examinations may be taken for credit at UNO: The College-Level Examination Program (CLEP) and UNO’s Special Examination Program.

Many postsecondary institutions now offer credit on the basis of CLEP examinations annually. The CLEP exams include General Examinations and Subject Examinations. Both are designed to measure factual knowledge and understanding, problem-solving ability, and mastery of college-level, introductory course content in a wide range of disciplines.

UNO’s Special Examination procedure involves “challenging” one of the courses taught at this university by attempting a Departmental Examination. These examinations are constructed by the department for the purpose of measuring knowledge in a particular course being offered at UNO. Credit is granted for the course upon successful completion of the examination.

- An examination may not be attempted more than once.
- A student who has failed to earn credit in an attempted college course may not receive Credit by Examination in the same course. Neither will credit be granted to raise a grade earned in any course.

- A maximum of 30 hours Credit by Examination (the College of Business has a limit of 24 hours) may be applied toward graduation, e.g., CLEP, by Challenge, etc.
- Credits earned by examination may not be used as part of the terminal residency requirements, so you should check the requirements of your college.
- Students taking Departmental Examinations must be registered at UNO at the time they attempt the exam. (Registration is not required to take CLEP exams.) You must be a UNO student to have the credit applied to UNO.
- Students attempting Credit by Examination in courses in which they are currently enrolled must do so before they have completed one month of the course.
- Credit by examination will not be given for courses that are prerequisites for courses that the student has already earned credit. For exceptions, check with the department.
- Credit earned on a General Examination will be reduced by the amount of comparable credit already earned in the division.

The fee for each CLEP exam is \$80.00, plus a separate nonrefundable service fee of \$25.00. There is a \$10.00 fee for optional essays. You must pay separately for each exam you take. CLEP exams and optional essays are free for military personnel with proper ID (the Center’s \$25.00 fee is still required). There is a \$25.00 charge for each Departmental Exam (Challenge Exam). In addition to the cost of taking the examinations, payment for recording hours earned through CLEP and Challenge Exams shall be assessed at the rate of one-half resident tuition per credit hour. The \$25.00 fee for Departmental Exams is applied to the overall payment for credit earned. Visit the CLEP informational bulletin (<http://clep.collegeboard.org/>) for more details. (Fees are subject to change.)

Credit earned by examination will be recorded as “CR” on the transcript, and this credit will not be used in calculating grade point average.

If you need additional information or have any questions, feel free to stop by (522 KH) or call the Testing Center at 402.554.4800. Questions regarding Departmental Challenge Examinations other than those noted should be directed to the appropriate department.

## Additional Campus Services and Support

### Academic & Career Development Center (ACDC)

The Academic and Career Development Center (ACDC) empowers students to explore, develop, and succeed at UNO and beyond. ACDC builds bridges between students and on-campus support, community members, and local employers. Learn more on the Academic and Career Development Center website (<https://www.unomaha.edu/student-life/achievement/academic-and-career-development-center/>).

### Ombuds Services

Ombuds Services provides informal, confidential help when you have a conflict or problem with individuals, offices, or policies at the university. The Ombuds (Ombudspersons) help you analyze your situation, obtain information, identify your options, and develop a plan to address your concerns. The Ombuds do not take sides in a dispute; they are advocates for fairness and the equitable resolution of conflicts and problems. Communicating with an Ombuds is off-the-record. If you wish to make a record, or to make UNO aware of a problem, the Ombuds can provide information and help you do so. Exceptions to Ombuds confidentiality occur only when there is an imminent risk of serious harm and no other reasonable option to prevent it.

For more information or to make an appointment, please go to the Ombuds Services (<https://www.unomaha.edu/ombuds-services/>) web page. Services are free to all UNO students and employees.

## Diversity, Equity, Access and Inclusion

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

Learn more about the Office of Diversity, Equity, Access and Inclusion (<https://www.unomaha.edu/office-of-equity-access-and-diversity/>)

## Title IX

Title IX is a comprehensive federal law that prohibits discrimination on the basis of sex (including gender identity) in any federally funded education program or activity.

To contact the Title IX Coordinator:  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

Learn more about Title IX (<https://www.unomaha.edu/office-of-equity-access-and-diversity/title-ix-information/>)

## International Programs (INPR)

Current programs under INPR include:

International Student Advising (<https://www.unomaha.edu/international-studies-and-programs/student-support/advising.php>) for all international students and scholars.

The Education Abroad (<https://www.unomaha.edu/international-studies-and-programs/study-abroad/>) office assists students in exploring their many options for overseas academic programs.

The International Studies Major (<https://www.unomaha.edu/international-studies-and-programs/academics/major.php>) offers an interdisciplinary, career-focused bachelor's degree for students seeking to work in diplomacy, national security, non-governmental organizations, and international businesses.

ILUNO Intensive English (<https://www.unomaha.edu/international-studies-and-programs/iluno/>) is one of the oldest and most highly regarded English as a Second Language programs in the region.

The International Professional Development (IPD) Program (<https://www.unomaha.edu/international-studies-and-programs/ipd/>) offers an alternative way to learn English that is uniquely tailored to professionals.

The Center for Afghanistan Studies (<https://www.unomaha.edu/international-studies-and-programs/center-for-afghanistan-studies/>) continues to serve as America's primary cultural and scholarly link between the two countries.

For further information, contact the International Programs office at 402.554.2293 or [world@unomaha.edu](mailto:world@unomaha.edu)

## Multicultural Affairs

The Office of Multicultural Affairs (MCA) is responsible for developing and maintaining programs and services to ensure the successful recruitment, retention, and graduation of underrepresented students on UNO's campus. Through scholarship aid, academic services, and personal support, students are empowered to attain their educational and professional goals. Cultural programming includes celebrating cultural months (including Black History

Month, Latino Heritage Month, Native Heritage Month, and Diversity Month) as well as three annual Native American events. MCA is inclusive of all UNO students. Learn more on the Multicultural Affairs website (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>).

## UNO Graduate Studies

UNO Graduate Studies offers over 70 graduate programs at Doctoral, Master's, and Certificate levels. UNO is recognized as a Carnegie Doctoral Research University. Our graduate faculty represents the very best in their fields, earning national teaching awards, and they are dedicated to individual student instruction and mentoring. For additional information, visit the Graduate Studies website (<https://www.unomaha.edu/graduate-studies/>).

## Scholarships

UNO has established a wide range of scholarship programs to recognize excellent high school achievement by first-year students and exceptional scholastic performance by upper-class students already in attendance at the university. For more information:

Office of Financial Support and Scholarships  
103 Eppley Administration Building  
Omaha, NE, 68182  
402.554.2327  
[financialaid.unomaha.edu](http://financialaid.unomaha.edu) (<http://financialaid.unomaha.edu/>)

## Digital Learning

The Office of Digital Learning provides strategic direction to the campus for online and hybrid programs and courses, in addition to providing tier-two technology support for faculty. Digital Learning considers the areas of student support and preparedness for online learners, quality and instructional support for online instructors, and growth and process improvement for online initiatives at the institution. Working in close collaboration with UNO's Center for Faculty Excellence, the instructional designers in the Office of Digital Learning support UNO faculty in developing and re-envisioning the delivery of courses in online and blended formats.

Jaci Lindburg - Director of Digital Learning • 402.554.2020 • [jlindburg@unomaha.edu](mailto:jlindburg@unomaha.edu)

## UNO Libraries

The University of Nebraska Omaha (UNO) libraries include the Dr. C.C. and Mabel L. Criss Library (Criss Library) and the KANEKO-UNO Library. The Libraries fulfill the UNO mission through our dynamic services, highly qualified and adaptive personnel, unique and extensive collections, and accessible learning spaces and environments. For additional information, visit [library.unomaha.edu](http://library.unomaha.edu) (<http://library.unomaha.edu/>).

## Research

At UNO, research is thriving because our students have access to resources they might not find at another university. Undergraduate and graduate students work with our faculty to understand and uncover new and innovative methods for solving problems. Learn more about the research at UNO (<https://www.unomaha.edu/research/>).

## MavIGATION Station

The MavIGATION Station, located on the first floor of the Eppley Administration Building, provides general information and referrals to appropriate offices. The general information number is 402.554.2800 or 1.800.858.8648.

## Information Technology Services

Information Technology Services supports most of the major computer systems on campus including email and Canvas, as well as the campus network and telecommunications. Email [unohelpdesk@unomaha.edu](mailto:unohelpdesk@unomaha.edu) for assistance.

## Milo Bail Student Center

The Milo Bail Student Center (MBSC) is the student involvement hub located in the heart of Dodge Campus. MBSC is where you can take care of business at MavCARD Services (<https://www.unomaha.edu/milo-bail-student-center/mavcard/>) or the Bookstore (<https://www.unobookstore.com/>), connect with student services like Accessibility Services (<https://www.unomaha.edu/student-life/inclusion/disability-services/>), Multicultural Affairs (<https://www.unomaha.edu/student-life/inclusion/multicultural-affairs/>), the Gender and Sexuality Resource Center (<https://www.unomaha.edu/student-life/inclusion/gender-and-sexuality-resource-center/>), the Office of Military and Veteran Services (<https://www.unomaha.edu/student-life/inclusion/military-and-veteran-services/>), and join programs geared specifically toward students like the Fraternity and Sorority Life (<https://www.unomaha.edu/student-life/involvement/omaha-greeks/>), Maverick Productions (<https://www.unomaha.edu/student-life/involvement/maverick-productions/>), Dance Marathon (<https://www.unomaha.edu/news/events/dance-marathon.php>), and Student Government (<https://www.unomaha.edu/student-life/involvement/student-government/>). The MBSC also offers delicious food options in the MBSC Food Court (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/mbsc-food-court.php>), Durangos Grill (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/durangos-grill.php>), and the Maverick Den (<https://www.unomaha.edu/milo-bail-student-center/food-services-and-catering/convenience-store.php>).

## Bookstore

The UNO Bookstore, owned and operated by the University of Nebraska at Omaha, is located on the first level of MBSC. The Bookstore offers new and used textbooks, rental books, digital e-books, Omaha's largest selection of UNO apparel, gifts, and home décor. The UNO Bookstore website, [unobookstore.com](http://unobookstore.com) (<http://unobookstore.com/>), offers free in-store pickup and free residence hall delivery for textbooks, apparel and more.

## Campus Recreation

Campus Recreation (Campus Rec) supports students on their journey to living a healthy and balanced lifestyle while at UNO. If you are enrolled in at least one credit hour on-campus, a Campus Rec membership is included as part of your University Program and Facilities (UPF) Fees. There is no need to purchase a membership separately while taking an on-campus class. A valid membership is determined on a semester basis. If you are enrolled in an online, remote, research, or thesis class, a Campus Rec membership would need to be purchased. A purchase is necessary since these classes do not pay the University Program and Facilities (UPF) Fees. Campus Rec is located in the H&K Building. Learn more on the Campus Recreation website (<https://www.unomaha.edu/student-life/wellness/campus-recreation/>).

## Housing & Residence Life

Housing and Residence life creates a positive residential experience and supports the evolving needs of students at UNO. Six different on-campus housing options are available to UNO students: Maverick Village (MV) and University Village (UV) on Dodge Campus; Scott Court (SC), Scott Crossing (SX), Scott Hall (SH), and Scott Village (SV) on Scott Campus. Housing and Residence life is proud to offer apartment, traditional, and graduate-style housing to UNO students. Learn more on the Housing and Residence Life website (<https://www.unomaha.edu/student-life/housing-and-residential-life/>).

## Parking Services

For information on parking services, visit the parking services website (<https://www.unomaha.edu/business-and-finance/support-services/parking-services/>).

## Facilities

Visit the UNO Buildings and Maps (<https://www.unomaha.edu/about-uno/buildings-and-maps/>) website for detailed information on buildings and locations.

## Alumni Engagement/NU Foundation

The UNO Alumni Association (<https://unoalumni.org/>) and the University of Nebraska Foundation have partnered to advance the overall mission and priorities of UNO, and to connect the dreams and passions of alumni and friends with the mission of the university. Click here for more information (<https://nufoundation.org/uno/areas/uno-alumni-association/>).

## Public Safety

Department of Public Safety  
6001 Dodge St.  
Eppley Administration Building Room 100  
402.554.2648

For ON-CAMPUS EMERGENCIES dial 402.554-2911.

UNO Department of Public Safety is available to the University community 24-hours a day, protecting life and property, providing building and grounds patrol; enforcing traffic and parking rules and regulations, and encouraging everyone to follow University regulations; UNODPS also maintains the University key system, manages the safety of youth on campus, and provides crime prevention programs for all persons on campus.

---

## Title IX

Title IX is a comprehensive federal law that prohibits discrimination on the basis of sex (including gender identity) in any federally funded education program or activity.

To contact the Title IX Coordinator:  
Phone: 402.554.2120  
Email: [equity@unomaha.edu](mailto:equity@unomaha.edu)

Learn more about Title IX (<https://www.unomaha.edu/office-of-equity-access-and-diversity/resources/title-ix/>).

---

## Security

Buildings are patrolled 24 hours daily. Anyone found in a UNO building after established closing hours, without a UNO identification card, will be asked to leave. Report items stolen or damaged to the Department of Public Safety.

---

## University Building Access

Department of Public Safety is responsible for the control of the university electronic access and key system. Eligible University employees should make requests for access (electronic or keyed) through their department chairperson.

---

## Services

The Department of Public Safety provides assistance to motorists 24 hours daily. Officers respond to help get your vehicle started, open a locked vehicle, and will assist in a tire inflation where possible.

## Parking Traffic

All accidents should be reported to Department of Public Safety immediately.

## Personal Escorts

Officers are available to escort individuals to/from campus buildings 24 hours a day for anyone who has a safety concern.

## Personal Safety Checks

Individuals who may be working alone, outside normal working hours are encouraged to contact Department of Public Safety. Security officers will periodically check on your safety while you are here.

## Operation I.D.

Your personal belongings may be engraved to aid in finding lost or stolen property. Stop by the Department of Public Safety Office and check out an engraver and instructions to engrave your property

## Lost and Found

Department of Public Safety maintains the lost and found system. Lost and found items are held for 30 days.

## Fingerprints

The Department of Public Safety provides a fingerprinting service for individuals who require finger prints for job applications and military needs. This service also applies for children of students, staff, faculty, and alumni. It is strictly for the benefit of the parents should a child ever be missing; no record will be maintained by Department of Public Safety. Contact Department of Public Safety for times of service or an appointment at 402.554.2648.

## Environmental Health and Safety

It is the goal of the university to provide a safe, healthy environment to work and study. In order to achieve this, Environmental Health and Safety (EHS) provides a number of training programs and consultation services for students, faculty and staff. Programs directed by EHS include: employee safety and passenger van training, hazardous waste management, emergency preparedness, fire protection, and accident investigations.

Safety Data Sheets and other information related to the safe handling and disposal of chemicals can be obtained from the EHS website. Students can help maintain a safe environment at UNO by reporting unsafe conditions on campus. Visit the EHS website (<https://www.unomaha.edu/business-and-finance/support-services/environmental-health-and-safety/>); call 402.554.3596, or visit EHS in 211 Eppley Administration Building.

## Graduate Degree Programs, Certificates & Minors

- Accounting, MACC (p. 986)
- Advanced Writing Certificate (p. 1174)
- Ancient Mediterranean Studies Minor (p. 1368)
- Applied Behavior Analysis Certificate (p. 1307)
- Applied Behavior Analysis, MS (p. 1306)
- Art History Minor (p. 1369)
- Artificial Intelligence Certificate (p. 1077)
- Athletic Training, MA (p. 990)
- Biology, MS (p. 997)
- Biomechanics and Kinesiology, PhD (p. 1179)
- Biomechanics, MS (p. 1000)
- Biomedical Informatics, MS (p. 1004)
- Biomedical Informatics, PhD (p. 1007)
- Biomedical Science Certificate (p. 999)
- Black Studies Minor (p. 1369)
- Business Administration Minor (p. 1369)
- Business Administration, MBA (p. 1018)
- Business Administration, MBA and Economics, MS (MBA/ECON) (p. 1040)
- Business Administration, MBA and Management Information Systems, MS (MBA/MIS) (p. 1036)
- Business Administration, MBA and Public Health, MPH (MBA/MPH) (p. 1045)
- Business Administration, MBA and UNMC Doctor of Physical Therapy (p. 1050)
- Business Administration, MBA and UNMC Master of Perfusion Science (p. 1053)
- Business Administration, MBA and UNMC Master of Physician Assistant Studies (p. 1055)
- Business Administration, MBA and UNMC Nursing (MBA/MSN) (p. 1051)
- Business Administration, MBA and UNMC PharmD (MBA/PharmD) (p. 1048)
- Business Administration-Executive MBA (p. 1027)
- Business for Bioscientists Certificate (p. 999)
- Business in Health Administration Certificate (p. 1057)
- Communication Certificate (p. 1064)
- Communication Networks Certificate (p. 1078)
- Communication, MA (p. 1063)
- Computer Science Education Certificate (p. 1082)
- Computer Science Education, MS (p. 1081)
- Computer Science, MS (p. 1073)
- Counseling, MS (p. 1083)
- Criminology and Criminal Justice Minor (p. 1369)
- Criminology and Criminal Justice, MA (p. 1093)
- Criminology and Criminal Justice, MS (p. 1094)
- Criminology and Criminal Justice, PhD (p. 1097)
- Critical and Creative Thinking, MA (p. 1102)
- Cybersecurity Certificate (p. 1110)
- Cybersecurity, MS (p. 1108)
- Data Analytics Certificate (p. 1256)
- Data Management Certificate (p. 1258)
- Data Science, MS (p. 1112)
- Economic Education Certificate (p. 1149)

- Economics Minor (p. 1369)
- Economics, MA (p. 1143)
- Economics, MS (p. 1145)
- Educational Administration & Supervision, EdS (p. 1154)
- Educational Administration, EdD (p. 1155)
- Educational Leadership, MS (p. 1153)
- Elementary Education, MS (p. 1156)
- English Minor (p. 1369)
- English, MA (p. 1173)
- French Minor (p. 1369)
- Geographic Information Science Certificate (p. 1189)
- Geography Minor (p. 1370)
- Geography, MS (p. 1187)
- German Minor (p. 1370)
- Gerontology Certificate (p. 1194)
- Gerontology Minor (p. 1370)
- Gerontology, MA (p. 1193)
- Gerontology, PhD (p. 1192)
- Global Information Operations Certificate (p. 1288)
- Government Certificate (p. 1289)
- Health and Kinesiology, MS (p. 1201)
- History Certificate (p. 1207)
- History Minor (p. 1370)
- History, MA (p. 1205)
- Human Resources and Training Certificate (p. 1065)
- Industrial/Organizational Psychology, MS (p. 1303)
- Information Assurance Certificate (p. 1259)
- Information Technology, Executive MS (p. 1208)
- Information Technology, PhD (p. 1209)
- Intelligence and National Security Certificate (p. 1291)
- IT Innovation, MS (p. 1225)
- Kodaly Certificate (p. 1279)
- Language Teaching, MA (p. 1230)
- Literacy, MS (p. 1233)
- Literature and Culture Certificate (p. 1176)
- Management Information Systems Minor (p. 1370)
- Management Information Systems, MS (p. 1244)
- Managing Juvenile and Adult Populations Certificate (p. 1101)
- Mathematics Minor (p. 1370)
- Mathematics, MA (p. 1266)
- Mathematics, MAT (p. 1269)
- Mathematics, MS (p. 1270)
- Medieval/Renaissance Studies Minor (p. 1370)
- Music, MM (p. 1274)
- Native American Studies Minor (p. 1371)
- Nonprofit Management Certificate (p. 1323)
- Political Science Minor (p. 1371)
- Political Science, MS (p. 1284)
- Project Management Certificate (p. 1260)
- Psychology, MA (p. 1298)
- Psychology, PhD (p. 1301)
- Public Administration, MPA (p. 1312)
- Public Administration, MPA and Management Information Systems, MS (MPA/MIS) (p. 1254)
- Public Administration, MPA and Social Work, MSW (MPA/MSW) (p. 1317)
- Public Administration, PhD (p. 1315)
- Public Management Certificate (p. 1322)
- Religious Studies Minor (p. 1371)
- School Psychology, EdS (p. 1304)
- School Psychology, MS (p. 1305)
- Secondary Education, MS (p. 1323)
- Secondary Mathematics Specialist Certificate (p. 1274)
- Social Work, MSW (p. 1341)
- Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) (p. 1099)
- Social Work, MSW and Public Health, MPH (MSW/MPH) (p. 1347)
- Sociology, MA (p. 1350)
- Software Engineering Certificate (p. 1078)
- Spanish Certificate (p. 1232)
- Spanish Minor (p. 1371)
- Special Education, MS (p. 1355)
- Speech-Language Pathology, MS (p. 1361)
- Supply Chain Management Certificate (p. 1058)
- Systems Analysis and Design Certificate (p. 1262)
- Systems and Architecture Certificate (p. 1079)
- Teaching English to Speakers of Other Languages Certificate (p. 1177)
- Technical Communication Certificate (p. 1178)
- Urban Studies, MS (p. 1364)
- Writing, MFA (p. 1366)

## Accounting, MACC

**School of Accounting, College of Business Administration**

### Vision Statement

The Master of Accounting (MACC) program at UNO offers graduates an affordable, high-quality graduate education from an AACSB-accounting-accredited institution. Specialized accounting accreditation by the AACSB (Association to Advance Collegiate Schools of Business) is earned by demonstrating that we meet international standards of excellence relating to delivering and managing undergraduate and graduate accounting programs, and fewer than 190 institutions worldwide hold AACSB accounting accreditation. A very practical benefit of having our MACC program AACSB-accounting-accredited is that the Nebraska Board of Public Accountancy recognizes AACSB accounting accreditation as “Level 1 accreditation” and accepts the UNO MACC degree, without additional verification, as evidence that our graduates meet all educational requirements to sit for the CPA exam (see Chapter 9 of Rules and Regulations Title-288 ([http://www.sos.state.ne.us/rules-and-regs/regsearch/Rules/?l=Board\\_of\\_Public\\_Accountancy&t=Title-288](http://www.sos.state.ne.us/rules-and-regs/regsearch/Rules/?l=Board_of_Public_Accountancy&t=Title-288))).

The MACC program is designed for dedicated students with career aspirations demanding a high level of accounting expertise. As such, the program involves both intensive and extensive professional preparation. Our program provides a broad-based preparation for individuals seeking careers in public, private or not-for-profit organizations and also offers focused concentration choices. For more information regarding career options in accounting, please visit [MAcc.unomaha.edu](http://MAcc.unomaha.edu) (<https://MAcc.unomaha.edu>)

### Program Contact Information

Jennifer Riley, PhD, Graduate Program Chair (GPC)  
370 Mammel Hall (MH)  
6708 Pine Street  
402.554.3984  
[jenriley@unomaha.edu](mailto:jenriley@unomaha.edu)

Program Website (<https://MAcc.unomaha.edu>)

## Other Program Related Information

### Financial Assistance

MAcc students are eligible to apply for graduate scholarships, fellowships, and assistantships and will find information about these opportunities at MAcc.unomaha.edu (<https://www.unomaha.edu/college-of-business-administration/accounting/graduate-program/>). Employed applicants should explore tuition reimbursement plans from their employers.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Admissions Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- Applicants must have earned a minimum GPA of (3.0/4.0) in their undergraduate program. The baccalaureate degree must have been received from a properly accredited institution. If the applicant's undergraduate degree is in accounting, then we further require a minimum GPA of 3.0 overall and upper-division accounting GPA. Applicant's with a GPA less than 3.0 may petition for admission after they have submitted a satisfactory GMAT score.
- Entrance Exam:** Applicants may be admitted by taking the GMAT and scoring at least 550. The student must score at least 26 or in the 40th percentile on the verbal section and 35 or in the 40th percentile on the quantitative section of the GMAT.
- GMAT exemptions: Applicants may qualify for a GMAT exemption under one of the following four conditions:
  - Earned CPA license; OR
  - Successful completion a master's degree in a business field from an AACSB-accredited university; OR
  - ALL of the following must be met:
    - Completion of an undergraduate business degree with a major in accounting from an AACSB-accredited school, AND
    - Upper-division (3000/4000-level) accounting GPA of 3.0 or higher, AND
    - Overall GPA of 3.0 or higher; OR
  - ALL of the following must be met:
    - Currently working on an undergraduate business degree with a major in accounting from an AACSB-accredited school, AND
    - Earned a minimum of twelve upper-division (3000/4000-level) accounting credit hours with a GPA 3.0 or higher in these accounting courses, AND
    - Overall GPA of 3.0 or higher, AND
    - Maintaining the accounting and overall GPAs of 3.0 or higher through degree conferral
- An applicant with an earned bachelor's degree with a major in accounting from a non-AACSB college or university with 3.0 or higher overall and upper-division accounting GPAs will be evaluated individually for a GMAT waiver.
- An applicant with an earned bachelor's degree in a field other than accounting with a 3.0 or higher overall GPA will be evaluated individually for a GMAT waiver.
- Credit received for internships is excluded from these calculations of overall and upper-division accounting GPAs.

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120

- Note:** Applicants who have met the admission requirements above, but who have not completed all of the foundation course requirements, will be admitted provisionally. Provisionally admitted students must earn a minimum GPA of B (3.0/4.0) in all foundation courses taken to satisfy the requirements set out in their provisional admittance. Provisionally admitted students who do not earn a minimum GPA of B (3.0/4.0) in all foundation courses will be immediately dismissed from the MAcc program.

## Degree Requirements

### Foundation Requirements

Accounting is a technical subject and graduate work in the discipline requires a solid understanding of the material covered in the undergraduate curriculum. To make sure our students are adequately prepared we have a list of foundation requirements below. Students may be provisionally accepted to the program before they have completed or attempted any of the foundation requirements. However, admission will be provisional and no graduate-only accounting classes may be taken before the foundation requirements have been successfully completed—except students enrolled in their final Foundation course may elect to enroll in graduate classes that do not require that course as a prerequisite.

Students who have completed the foundation requirements or their equivalents at a properly accredited institution before their application must have an overall GPA of (3.0/4.0) in these courses and earned no grade on any of the foundation courses lower than a C (2.0/4.0).

Code	Title	Credits
ACCT 2010	PRINCIPLES OF ACCOUNTING I	3
ACCT 2020	PRINCIPLES OF ACCOUNTING II	3
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
ACCT 3020	BASIC FEDERAL INCOME TAXATION	3
ACCT 3030	INTERMEDIATE FINANCIAL ACCOUNTING I	3
ACCT 3040	INTERMEDIATE FINANCIAL ACCOUNTING II	3
ACCT 3050	INTERMEDIATE MANAGERIAL ACCOUNTING	3
ACCT 3080	ACCOUNTING INFORMATION SYSTEMS	3
ACCT 4080	PRINCIPLES OF AUDITING	3
<b>Total Credits</b>		<b>33</b>

Note: ECON 1200 may substitute for ECON 2200 and ECON 2220. Contact the Director of the MAcc Program.

### Degree Requirements

The basic structure of the MAcc program is as follows:

- 15 credit hours of Accounting Core Courses
- 6 credit hours of Contemporary Business Environment Courses
- 9 credit hours of Elective Courses

Students select one of the four concentration areas. The choice will determine the courses to be completed within the three sections above.

## Exit Requirement

- Comprehensive Examination

## Other Program-Related Information

**Transfer credits:** All transfer credits must be approved by the Director of the MACC Program. A maximum of 6 credit hours may be considered, and must be earned at an AACSB-accredited institution.

## Generalist Concentration

Code	Title	Credits
<b>Required Core Courses</b>		
Select five of the following: <sup>1</sup>		15
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8250	SEMINAR IN ACCOUNTING <sup>2</sup>	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3
<b>Required Contemporary Business Environment Courses (6 hours) <sup>4</sup></b>		
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
<b>Designated Electives <sup>5</sup></b>		
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
<b>Electives</b>		
In consultation with the MACC advisor, select 6 credit hours of additional graduate work.		6
<b>Total Credits</b>		<b>30</b>

## Financial Reporting and Auditing Concentration

Code	Title	Credits
<b>Required Core Courses: choose from three of the four courses below <sup>1</sup></b>		
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3
<b>Choose from two of the six courses listed below or from the above courses not taken</b>		<b>6</b>
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8250	SEMINAR IN ACCOUNTING	3

ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
<b>Contemporary Business Environment Courses (6 hours) <sup>4</sup></b>		
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
<b>Designated Electives <sup>5</sup></b>		<b>9</b>
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	3
ACCT 8076	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	3
<b>Total Credits</b>		<b>30</b>

## Strategic Management Accounting Concentration

Code	Title	Credits
<b>Required Core Courses: choose three of the four courses below: <sup>1</sup></b>		
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
<b>Choose from two of the six courses listed below or from the above course not taken</b>		<b>6</b>
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8250	SEMINAR IN ACCOUNTING	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3
<b>Contemporary Business Environment courses (6 hours) <sup>4</sup></b>		
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
<b>Designated Electives <sup>5</sup></b>		
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	3
<b>Electives</b>		
In consultation with the MACC advisor, select three credit hours of additional graduate coursework.		3
<b>Total Credits</b>		<b>30</b>

## Information Analysis Concentration

Code	Title	Credits
<b>Required Core Courses- Choose three of the four courses below <sup>1</sup></b>		<b>9</b>
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3
<b>Choose two of the six courses listed below or from the above courses not taken</b>		<b>6</b>
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8250	SEMINAR IN ACCOUNTING	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
<b>Contemporary Business Environment Courses (6 hours) <sup>4</sup></b>		
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
<b>Designated Electives <sup>5</sup></b>		
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
<b>Electives</b>		
In consultation with the MACC advisor, 6 credit hours of additional graduate work may be selected.		6
<b>Total Credits</b>		<b>30</b>

## Electives

Students may select a minor in an area of interest. A minor usually requires 9 credit hours (no 8–6 courses) and the permission of the minor department/school.

A maximum of 9 credit hours of "8–6" (dual-level) courses may be included in the MACC program of study. Courses completed as undergraduates cannot be repeated for graduate credit.

Any MACC student who plans to sit for the CPA Examination in Nebraska and who has not previously completed an approved equivalent course should take ACCT 8076 as a MACC elective.

<sup>1</sup> Transfer credit will not be accepted to meet the required Core Courses.

<sup>2</sup> ACCT 8250 topics may vary. A student may take ACCT 8250 twice if the topics covered are different.

<sup>3</sup> ACCT 8910 (Independent Study) has special requirements that can be found on your Plan of Study. ACCT 8910 is used very infrequently to meet MACC degree requirements.

<sup>4</sup> Students who have completed graduate courses in one or more of these areas must, in consultation with their MACC advisor, select another non-accounting graduate course(s).

<sup>5</sup> If the designated elective has been completed as an undergraduate, another advisor-approved elective will replace it. Consult your advisor for more information.

## Academic Performance

In addition to the Quality of Work Standards required by the UNO Graduate College, MACC students may repeat only once any ACCT 8–0 or ACCT 8–6 level course in which they receive any grade, including "W" or "I".

Students earning a third grade of "C+" or below (or any single grade of "C-" (1.67 on a 4.0 scale) will be automatically dismissed from the MACC program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for MACC credit in any subsequent semester or summer session until reinstatement has been granted by the MACC graduate program committee (MACC GPC).

Students who have been dismissed from the MACC program may submit a written petition for reinstatement to the MACC GPC. Students who have petitioned the MACC GPC for reinstatement may not enroll in any courses for MACC credit. Upon receiving a petition for reinstatement, the MACC GPC will evaluate the student's petition. As part of the reinstatement petitioning process, the MACC GPC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student, and this information may be used by the MACC GPC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege, and not all students who are dismissed will be reinstated. Students who have been reinstated will be subject to reinstatement conditions as specified by the MACC GPC. These reinstatement conditions may include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" (3.0)). Students not achieving the reinstatement conditions will be automatically dismissed with no additional opportunity for reinstatement.

### ACCT 8016 ADVANCED FINANCIAL ACCOUNTING (3 credits)

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 4010).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3040 with a grade of "C+" (2.33) or better in each. Not open to non-degree graduate students.

### ACCT 8026 ANALYTICS FOR ACCOUNTING (3 credits)

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 4020).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3080 with a grade of "C" (2.0) or better in each. Not open to non-degree graduate students.

### ACCT 8046 ADVANCED FEDERAL INCOME TAXATION (3 credits)

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 4040).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3020 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8050 FINANCIAL STATEMENT ANALYSIS (3 credits)**

Using the financial statement and supplemental information as inputs, this course utilizes a systematic fundamental analysis approach across a variety of decision-making contexts to understand how a business generates value for shareholders.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3040 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8066 ADVANCED MANAGERIAL ACCOUNTING (3 credits)**

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3050 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8076 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8080 DATABASE DEVELOPMENT AND USE IN AIS (3 credits)**

This course will cover tools and methods that facilitate business analytic techniques, including database development and use, data mining, and information analysis for decision-making. A working understanding of spreadsheet software is assumed.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course presents a broad overview of the professional practice of information systems audit, emphasizing control and audit procedures related to security along with Information Technology General Controls. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Admission to MAcc or MBA program or permission of instructor. Not open to non-degree graduate students.

**ACCT 8210 FINANCIAL ACCOUNTING THEORY (3 credits)**

The development of accounting, current accounting theory and present controversies and suggested theory and practice.

**Prerequisite(s)/Corequisite(s):** ACCT 3040. Not open to non-degree graduate students.

**ACCT 8220 GRADUATE TOPICS IN INCOME TAXATION (3 credits)**

This course will discuss commonly encountered tax issues such as gift and estate taxation, income taxation of estates and trusts, and exempt organizations, as well discuss current events while introducing the student to practitioner-oriented research publications.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better, or concurrent enrollment in ACCT 4040 or ACCT 8046. Not open to non-degree students.

**ACCT 8230 MANAGEMENT ACCOUNTING ISSUES (3 credits)**

An analysis of information to assist managers in determining successful strategies, developing those strategies into plans and controlling operating activities to achieve strategic goals.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3050 or BSAD 8210 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8250 SEMINAR IN ACCOUNTING (3 credits)**

A study of a specific area within the accounting discipline. Possible areas include: auditing, financial, managerial, systems and tax. May be repeated, but no area can be taken more than once.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA programs or permission of instructor. Not open to non-degree students.

**ACCT 8260 FEDERAL TAX RESEARCH AND PLANNING (3 credits)**

This course is intended to provide students with a working knowledge of the primary and secondary tax resources used in practice to solve tax problems, as well as basic tax planning concepts.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better. Not open to non-degree students.

**ACCT 8280 SEMINAR IN ACCOUNTING INFORMATION SYSTEMS (3 credits)**

This course examines current topics in Accounting Information Systems (AIS), how AIS contributes to business effectiveness and ineffectiveness, and the interaction between AIS and human decision-makers.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8290 ADVANCED FINANCIAL AUDITING (3 credits)**

This course will provide students with an intense study of financial auditing in accordance with generally accepted auditing standards.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 4080 with a grade of "C" (2.0) or better.

**ACCT 8900 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course in which the student completes a focused project, typically individual research, under faculty supervision to supplement graduate study in a specific area within the Accounting discipline.

**Prerequisite(s)/Corequisite(s):** Completed contract and permission needed from director of MACC program. Not open to non-degree graduate students.

**ACCT 8910 SPECIAL TOPICS IN ACCOUNTING (3 credits)**

A variable content course with accounting topics based on student and faculty interest. May be repeated to a maximum of six (6) hours.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc program and permission of instructor. Not open to non-degree graduate students.

## Athletic Training, MA

### School of Health and Kinesiology, College of Education, Health, and Human Sciences

#### Vision Statement

The mission of the athletic training program at the University of Nebraska at Omaha is to prepare students for successful careers or advanced academic studies in the field of athletic training by providing didactic and clinical education, resources, and opportunities which lead to the growth and development of dedicated practitioners, reflective scholars, and responsible citizens.

#### Accreditation

This program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

#### Program Contact Information

Adam B. Rosen, PhD, Director, Athletic Training Programs and Graduate Program Chair (GPC)

207Y School of Health and Kinesiology (H&K)

402.554.2057

[arosen@unomaha.edu](mailto:arosen@unomaha.edu)

**Program Website** (<https://www.unomaha.edu/college-of-education/health-kinesiology/graduate/athletic-training/>)

## Alternative Entry into the MA in Athletic Training from the BS in Kinesiology

The School of Health and Kinesiology offers an alternative entry into the MA in athletic training, which allows outstanding students to complete the BS in Education undergraduate kinesiology degree and the MA in athletic training graduate degree. The alternative entry program is designed for dedicated students who are motivated and willing to take on early the challenges relating to graduate education. Interested students are encouraged to meet with their academic advisor for more information about this program.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Summer 2022)

- Summer: The priority candidate deadline is January 15. Applications will be accepted through April 15.

### Other Requirements

- Minimum cumulative undergraduate GPA of 3.0/4.0 is required for unconditional admission.
  - Students with a 2.70-2.99 cumulative GPA may apply and be admitted provisionally. Provisional admission typically means that the admitted student must maintain a 3.0 GPA or higher, and earn "B" or higher on all courses during the first 12 hours of graduate coursework.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105 in order to be considered a strong candidate for admission.
- **Statement of Purpose:** Address the following in under 1000 words:
  - Why should you be selected for the University of Nebraska at Omaha Graduate Athletic Training Program?
  - Describe your ATTRIBUTES that you feel are clearly and directly related to the profession of Athletic Training.
  - What in your life has most directly influenced your choice of becoming an Athletic Trainer?
  - What is/are your primary career goal(s)?
- **Letters of Recommendation:** Two letters from individuals who should be able to speak about your abilities as a student, your leadership and problem-solving skills, and your potential as an athletic training student.
- Applicants must complete a minimum of 25 hours of observation with an athletic trainer (ATC).
  - These hours should be completed in the 12-month period prior to application to the program. For students with more than 25 hours, a minimum of 25 hours must be completed in the 12-month period prior to application.
- All graduate candidates accepted to the UNO Athletic Training Program:
  - Who received their bachelor's degree from another institution must provide the course syllabi and course outlines/schedules in order to provide evidence that specific National Athletic Trainers'

Association Educational Competencies and Proficiencies were completed.

- Must show proof of current Cardiopulmonary Resuscitation for the Professional Rescuer and Healthcare Provider prior to beginning their fall clinical experience. Certification must remain current through April of the applicant's first year in the program. Certification by the American Red Cross is strongly preferred. A course for an additional fee will be offered during the first Summer term for students who do not have their CPR certification or their CPR certification will lapse prior to the completion of the program. **Students are required to maintain these certifications throughout the entire academic program.**
- Must provide proof of physical examination and required vaccinations prior to admission. The physical exam must be completed within 12 months of the first day of our summer session course (typically the first week of July).

## Degree Requirements

The following undergraduate prerequisites (deficiencies) must be completed prior to admission with a grade of "C" or better:

- Anatomy and Physiology (6 Credits)
- Biology (3 Credits)
- Biomechanics (3 Credits)
- Chemistry (3 Credits)
- Exercise Physiology (3 Credits)
- Nutrition (3 Credits)
- Physics (3 Credits)
- Psychology (3 Credits)

### Other Requirements

Once admitted to the athletic training program, the student will obtain clinical hours as part of course requirements. Students will be expected to obtain an average of 20 hours of clinical experience per week during each fall and spring semester, which include some nights, weekends, and travel. Required clinical experiences must be obtained over a minimum of six (6) semesters.

Code	Title	Credits
<b>Required Courses</b>		
In order to graduate with an MA in athletic training, the following courses must be completed with an overall cumulative GPA 3.0 or higher.		
ATHT 8110	ATHLETIC TRAINING TECHNIQUES	2
ATHT 8120	EMERGENCY MANAGEMENT OF INJURY AND ILLNESS	2
ATHT 8130	THERAPEUTIC INTERVENTIONS I	2
KINS 8320	EVIDENCE-BASED PRACTICE IN SPORTS MEDICINE	3
ATHT 8230	THERAPEUTIC INTERVENTIONS II	2
ATHT 8240	ORTHOPEDIC ASSESSMENT I	2
ATHT 8250	CLINICAL PRACTICUM IN ATHLETIC TRAINING I	2
ATHT 8330	THERAPEUTIC INTERVENTIONS III	2
ATHT 8340	ORTHOPEDIC ASSESSMENT II	2
ATHT 8350	CLINICAL PRACTICUM IN ATHLETIC TRAINING II	2
ATHT 8360	ADVANCED ORTHOPEDIC & MEDICAL ASPECTS OF ATHLETIC TRAINING	3
ATHT 8410	ATHLETIC TRAINING ADMINISTRATION	2
ATHT 8450	INTERNSHIP IN ATHLETIC TRAINING	2
ATHT 8530	THERAPEUTIC INTERVENTIONS IV	2

ATHT 8540	ORTHOPEDIC ASSESSMENT III	2
ATHT 8550	CLINICAL PRACTICUM IN ATHLETIC TRAINING III	2
ATHT 8650	CLINICAL PRACTICUM IN ATHLETIC TRAINING IV	2
KINS 8966	TOPICS IN SPORTS MEDICINE	3
<b>Electives/Thesis</b>		
Select one of the following (with advisor): <sup>1</sup>		6
Six graduate hours of electives (ATHT, KINS, PHHB, BMCH)		
HEKI 8990	THESIS (6 hours)	
<b>Total Credits</b>		<b>45</b>

<sup>1</sup> For more information, please call 402.554.2670.

## Exit Requirements

In order to graduate with an MA in athletic training, the following criteria must be met:

- Successful completion of a Comprehensive Examination administered during the student's final semester.
- Successful completion of all clinical education requirements as given in course syllabi and the Athletic Training Student Handbook.

### ATHT 8110 ATHLETIC TRAINING TECHNIQUES (2 credits)

Overview course including basic components of the athletic training profession including the prevention, recognition, evaluation and immediate care of athletic injuries. Medical terminology, tissue healing, taping procedures, and professional considerations will be covered.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training. Not open to non-degree graduate students.

### ATHT 8120 EMERGENCY MANAGEMENT OF INJURY AND ILLNESS (2 credits)

The purpose of this course is to prepare students to respond to emergent conditions that affect patients involved in physical activity. Students will learn to recognize the signs and symptoms of acute injury and illness, assess patients using evidence-based methods, apply appropriate treatments, make appropriate referral decisions, and implement effective prevention strategies to reduce the risk of injury and illness.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training program. Not open to non-degree graduate students.

### ATHT 8130 THERAPEUTIC INTERVENTIONS I (2 credits)

This course will cover the pathophysiology of musculoskeletal injuries as well as the theory, physiology and application of physical agents used in the treatment of these injuries. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### ATHT 8230 THERAPEUTIC INTERVENTIONS II (2 credits)

This course will introduce students to the use of basic theories and principles of athletic injury rehabilitation including therapeutic exercise. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8130/HEKI 8130. Not open to non-degree graduate students.

### ATHT 8240 ORTHOPEDIC ASSESSMENT I (2 credits)

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the lower extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the foot, ankle, lower leg, knee, thigh and hip. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training Program. Not open to non-degree graduate students.

### ATHT 8250 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (2 credits)

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training program, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Not open to non-degree graduate students.

### ATHT 8330 THERAPEUTIC INTERVENTIONS III (2 credits)

This course will introduce students to the use of basic theories and principles of physical agents and manual therapies. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8230/HEKI 8230. Not open to non-degree graduate students.

### ATHT 8340 ORTHOPEDIC ASSESSMENT II (2 credits)

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the upper extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the shoulder, elbow, wrist, hand and fingers. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8240/HEKI 8240. Not open to non-degree graduate students.

### ATHT 8350 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (2 credits)

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8250/HEKI 8250 Clinical Practicum I. Not open to non-degree graduate students.

### ATHT 8360 ADVANCED ORTHOPEDIC & MEDICAL ASPECTS OF ATHLETIC TRAINING (3 credits)

This course will provide the student with knowledge and skill in the area of orthopedic and medical aspects of athletic training. Students will gain this knowledge through directed observation, experiential learning, literature review, and hands-on experience under the supervision of local medical professionals. The student will be exposed to advanced evaluation of medical conditions, systemic diseases, and other disorders; observe common surgical procedures for orthopedic conditions; and medical management of patients and physically active populations in conjunction with other healthcare providers.

**Prerequisite(s)/Corequisite(s):** Admission to Master of Arts in Athletic Training Program

**ATHT 8410 ATHLETIC TRAINING ADMINISTRATION (2 credits)**

This course will introduce students to administrative topics related to athletic training. Management strategies for financial resources, personnel, facilities, medical records, and third-party reimbursement will be covered. Additionally, legal and ethical professional practice standards will be introduced.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ATHT 8450 INTERNSHIP IN ATHLETIC TRAINING (2 credits)**

This course is designed to provide an immersive athletic training clinical experience for students. The internship is a supervised, educational clinical work experience of at least 300 hours over a minimum of 4-weeks during a single semester. This experience will allow the student the opportunity to take more responsibility for the care, prevention, and rehabilitation of athletic injuries with a particular team or group of patients, as well as help plan and provide daily coverage for practices or clinical appointments.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor or program director. Not open to non-degree graduate students.

**ATHT 8530 THERAPEUTIC INTERVENTIONS IV (2 credits)**

This course will introduce students to the use of basic theories and principles of athletic training related to pharmacology, nutrition and psychosocial wellness. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8330/HEKI 8330. Not open to non-degree graduate students.

**ATHT 8540 ORTHOPEDIC ASSESSMENT III (2 credits)**

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the head, face and spine. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the head, face and spine. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8340/HEKI 8340. Not open to non-degree graduate students.

**ATHT 8550 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (2 credits)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8350/HEKI 8350 Clinical Practicum II. Not open to non-degree graduate students.

**ATHT 8650 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (2 credits)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8550/HEKI 8550 Clinical Practicum III

## Biology

### Degree Programs Offered

- Biology, MS (p. 997)

### Certificates Offered

- Biomedical Science Certificate (p. 999)
- Business for Bioscientists Certificate (p. 999)

**BIOL 8010 SEMINAR IN BIOLOGY (1 credit)**

A study of current research in any of the divisions of biology. Graduate students will complete this course once for credit.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8020 INDEPENDENT RESEARCH IN BIOLOGY (1-6 credits)**

Research work under supervision of a member of the graduate faculty. May be taken more than once for credit; up to 4 credits for thesis option of M.S. degree and up to 6 credits for the non-thesis option of the M.S. degree.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8030 EVOLUTION: FROM GENOMES TO ECOSYSTEMS (3 credits)**

This course will prepare students to evaluate and discuss evolution as an underlying concept in all of biology. Further, it will provide a comprehensive overview of evolutionary processes related to the evolution of genomes, development, physiology, morphology, behavior, and ecosystems. (Cross-listed with STEM 8030).

**Prerequisite(s)/Corequisite(s):** Courses for graduate admission or equivalent, or with permission of instructor.

**BIOL 8036 SPECIAL TOPICS IN BIOLOGY (3 credits)**

A lecture and/or laboratory course for biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit. (Cross-listed with BIOL 4030).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**BIOL 8060 ADVANCED TOPICS IN BIOLOGY (3 credits)**

Lecture and/or laboratory courses for graduate students designed to provide exposure to biological specialties not offered in the regular curriculum.

**Prerequisite(s)/Corequisite(s):** Graduate and permission. Not open to nondegree students.

**BIOL 8070 ADVANCED READINGS IN BIOLOGY (1-3 credits)**

An in-depth study of the literature in a limited segment of the biological sciences under the supervision of a graduate faculty member. May be taken more than once for credit up to a total of six credits.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8106 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOG 4100, GEOG 8106, GEOL 4100, GEOL 8106)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**BIOL 8116 STATISTICS FOR BIOLOGICAL SCIENCES (4 credits)**

Introduction to statistical methods and software used to display, summarize, analyze, and interpret biological and medical data. (Cross-listed with BIOL 4110)

**BIOL 8126 CONSERVATION BIOLOGY (3 credits)**

Study of biological diversity at the genetic, species and ecosystem levels, its values, and the factors that threaten it. We will explore the scientific basis of conservation biology and how it can be applied to the maintenance of biological diversity. Usually offered every year. (Cross-listed with BIOL 4120).

**Prerequisite(s)/Corequisite(s):** Graduate student in Biology. Not open to non-degree graduate students.

**BIOL 8136 MOLECULAR GENETICS (4 credits)**

A lecture and lab course that explores the frontiers of molecular genetics research. Topics addressed will include DNA replication, gene function, gene expression, genetic manipulation, cloning, mutational analysis, genome sequencing, and epigenetics. Research techniques will include DNA/RNA isolation, PCR, cloning, gel electrophoresis, transgene generation, data analysis, and quantitative rtPCR. Students will get a solid grounding in scientific writing and presentations, as well as reading and assessing primary scientific literature. Lecture, discussion, and laboratory. Usually offered fall semester. (Cross-listed with BIOL 4130)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2260 or their equivalents. Not open to nondegree students.

**BIOL 8146 CELLULAR BIOLOGY (4 credits)**

This course is a modern study of mammalian cell function. Focus will be placed on developing skills in experimental cellular biology. Material covered will include tissue culture techniques, cell staining applications, fluorescent microscopy, determination of gene expression, and high-throughput assay design. (Cross-listed with BIOL 4140)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2250. Junior or senior undergraduate standing or graduate standing. Must enroll in laboratory section and lecture for this course. Not open to non-degree graduate students.

**BIOL 8156 CANCER BIOLOGY (3 credits)**

The etiology of cancers, differences between types of malignancies, oncogenes and genetic modifiers, treatments, susceptibility, and tumor-induced immunosuppression are discussed. This is an active course focused on inquiry-based learning and the purpose of this course is to provide students a foundation in cancer biology while applying tools learned through cell biology, genetics, and immunology courses. (Cross-listed with BIOL 4150).

**BIOL 8166 BIOINFORMATICS FOR BIOLOGISTS (3 credits)**

This course intends to introduce fundamental concepts in bioinformatics with an emphasis on how to use biological databases and computational tools to solve common bioinformatics problems in biology and biomedicine. The topics consist of sequence database access and searching, sequence alignment and phylogeny, functional prediction of DNA and protein sequences, and genome sequencing and annotation. Students are expected to learn fundamental concepts in bioinformatics and gain extensive experience with the use of bioinformatics analysis tools. (Cross-listed with BIOL 4160).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics; BIOL 3020 Molecular Biology of the Cell; Or Permission of instructor

**BIOL 8170 ECOSYSTEM ANALYSIS FOR EDUCATORS (3 credits)**

This course is designed for education graduate students who wish to take a field-based biology course that uses an interdisciplinary approach to understanding the ecosystem of the tallgrass prairie. This course engages graduate students in methods reflecting multidisciplinary STEM strategies (e.g. scientific inquiry, modeling, geographic information system mapping, etc.) associated with research taking place at the Glacier Creek Preserve. Graduate students completing this course will develop advanced knowledge of ecology, restoration ecology, and monitoring of prairie habitat restoration. Graduate students will focus on the technical, biogeochemical, ecological and cultural aspects of analyzing and restoring the prairie ecosystem and its various habitats. (Cross-listed with STEM 8170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**BIOL 8186 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 4180, ENVN 4180).

**Prerequisite(s)/Corequisite(s):** Prerequisites: BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Registration requirements: Must enroll in lab. Not open to non-degree graduate students.

**BIOL 8190 COMMUNITIES AND ECOSYSTEMS (3 credits)**

Advanced study of populations, communities and ecosystems; may require overnight weekend field trips.

**Prerequisite(s)/Corequisite(s):** BIOL 3340/8345, graduate in biology. Not open to nondegree students.

**BIOL 8200 PLANT ECOLOGY (4 credits)**

Advanced study of plant communities and of individual plant species including relationships with the environment and vegetative dynamics. Emphases on methods of evaluation and analysis. May require overnight field trips.

**Prerequisite(s)/Corequisite(s):** BIOL 3340/8345, graduate in biology. Recommended: BIOL 3530/8535. (Fall) Not open to nondegree students.

**BIOL 8216 FIRE ECOLOGY (3 credits)**

Study of fire in ecosystems including characteristics of fire, effects on flora, fauna and the abiotic environment, and use in maintaining native ecosystems. May include two weekend field exercises. (Cross-listed with BIOL 4210)

**Prerequisite(s)/Corequisite(s):** BIOL 3340, graduate in biology. Not open to nondegree students.

**BIOL 8226 POPULATION BIOLOGY (4 credits)**

Population biology takes a conceptual approach to study the dynamics, ecology, genetics, and evolution of populations. Topics include the growth and regulation of populations, population interactions, selection on individuals and groups, mating systems, and life history evolution. Implications of these topics for areas such as the ecology and evolution of disease, conservation, and resource management will be highlighted. Concepts are reinforced through labs emphasizing interpretation of results from population simulations and the relationship between theory and experimentation in population biology. Usually offered in alternate years. (Cross-listed with BIOL 4220).

**Prerequisite(s)/Corequisite(s):** Graduate student in Biology or permission of instructor

**BIOL 8236 EVOLUTION (3 credits)**

The course emphasizes the general principles of evolution, particularly focusing on evolutionary changes and the mechanisms of evolution (natural selection, gene flow, mutation and genetic drift) that apply to all or most organisms. The course covers micro- and macroevolution, speciation, and human evolution. Students will discover how scientists can learn about what has happened in the evolutionary past and the most common patterns of change (i.e., changes that have characterized various groups of organisms). (Cross-listed with BIOL 4230).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140, junior or senior undergraduate status, Biology graduate status, or permission by the instructor. Not open to non-degree graduate students.

**BIOL 8246 MARINE BIOLOGY (3 credits)**

An introduction to the marine environment, this course explores physical conditions of the ocean including ocean chemistry, salinity, waves and currents, and tides as well as the ecology of planktonic, nektonic and benthic organisms— their communities and environments. Impacts of humans on the marine environment will also be covered. (Cross-listed with BIOL 4240)

**Prerequisite(s)/Corequisite(s):** BIOL 1750

**BIOL 8250 DESIGN AND ANALYSIS OF BIOLOGICAL RESEARCH (3 credits)**

This course examines the statistical aspects of the design of laboratory and field experiments in biology. Basic statistical methods are reviewed and advanced methods presented. Statistical computer packages are used.

**Prerequisite(s)/Corequisite(s):** Undergraduate course in statistics is recommended. Not open to nondegree students.

**BIOL 8256 FIELD MARINE BIOLOGY (1 credit)**

This lab is a hands-on introduction to the marine environment using a field trip to the Gulf Coast. Students will observe first-hand examples of local marine habitats and organisms. Students will be required to take a trip to the Gulf Coast of Texas, Louisiana, Mississippi, and Alabama during Spring Break. Students will be required to provide their own basic camping and snorkeling gear. (Cross-listed with BIOL 4250)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, previous or concurrent enrollment in BIOL 4240 and permission of instructor.

**BIOL 8266 BEHAVIORAL ECOLOGY (3 credits)**

Behavioral ecology is the study of behavior from an evolutionary and ecological point of view. Through the integration of research at different organizational levels and the use of many different organisms, behavioral ecology is one of the most integrative fields in biological sciences. This course will provide an introduction to the basic concepts of behavioral ecology and the integrative approaches used in behavioral ecology. Further, the course will train students in critical reading and discussion of primary literature in writing and in an oral setting. (Cross-listed with BIOL 4260)

**Prerequisite(s)/Corequisite(s):** Admission into the graduate college. Not open to non-degree graduate students.

**BIOL 8276 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with BIOL 4270, PSYC 4270, PSYC 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**BIOL 8286 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with BIOL 4280, PSYC 4280, PSYC 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**BIOL 8296 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, NEUR 4290, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**BIOL 8326 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with BIOL 4320, PSYC 4320, PSYC 8326)

**Prerequisite(s)/Corequisite(s):** Admission to graduate level PSYC program or permission of dept. Not open to non-degree graduate students.

**BIOL 8345 ECOLOGY (4 credits)**

Study of interrelationships between organisms and their biotic and abiotic environment; includes the physical environment, population biology, community dynamics, biotic interactions and evolution. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 3340).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750; junior-senior or Biology graduate student; or permission by instructor. Not open to non-degree graduate students.

**BIOL 8416 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with ENVN 4410 and BIOL 4410)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**BIOL 8426 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 4420, ENVN 4420)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**BIOL 8446 PLANT PHYSIOLOGY (4 credits)**

A study of plant processes and functions with emphasis on photosynthesis, growth and development, metabolism and mineral nutrition. (Cross-listed with BIOL 4440)

**Prerequisite(s)/Corequisite(s):** BIOL1450, BIOL1750, and CHEM 2210 or CHEM 2250; or permission of instructor.

**BIOL 8450 BIOLOGY EDUCATION RESEARCH METHODS (3 credits)**

In this course, students will learn the methods of conducting pedagogical research in Biology, understand how people learn the concepts, practices, and ways of thinking in science and engineering; understand the nature and development of expertise in a discipline; help identify and measure appropriate learning objectives and instructional approaches that advance students toward those objectives; contribute to the knowledge base in a way that can guide the translation of statistical findings to classroom practice; and identify approaches to make science and engineering education broad and inclusive. Students will work with live data sets to evaluate effective pedagogical approaches in the biology classroom of various audiences (K-16).

**BIOL 8454 VIROLOGY LABORATORY (1 credit)**

A laboratory to accompany virology lecture. This course enables students to work with viruses in the laboratory and to conduct experiments using viral systems. Experimental design, data gathering, data analysis and manuscript writing will be integral parts of the course. The experiments include host cell characterization, viral infection, virus purification from infected cells, viral genome isolation and viral transfection. Sequence analysis and sequence comparison will also be introduced. Laboratory exercises will emphasize fundamental molecular biology techniques and instrumentation. Usually offered in Fall semester. (Cross-listed with BIOL 4454)

**BIOL 8456 VIROLOGY (3 credits)**

A comprehensive course about viruses. The course will address principles of viral infection, virus-host interaction, viral evolution and viral disease processes. Cellular and molecular aspects of viral infection will be the primary focus. This will include examination of viral particles, viral multiplication cycles, regulation of gene expression, viral assembly and viral escape. Viral immunology, viral defenses, viral vaccines and antiviral compounds will also be addressed. Emerging viruses and current viral topics will be a major part of the course. Usually offered in Fall semester. (Cross-listed with BIOL 4450)

**BIOL 8466 COMPARATIVE IMMUNOLOGY (4 credits)**

This course is an exploration of comparative immunology across kingdoms. There will be a strong focus on human as well as mouse immunology. Laboratory sessions require dissections to determine lymphoid anatomy of representative organisms. Samples will be prepared and analyzed using immunological techniques such as flow cytometry. (Cross-listed with BIOL 4460).

**Prerequisite(s)/Corequisite(s):** Two classroom sessions and one laboratory session per week. Graduate standing. Not open to non-degree graduate students.

**BIOL 8496 MEDICINAL USES OF PLANTS (3 credits)**

A scientific study of the biochemical properties and physiological effects of medicinal plants, including their historical uses, current applications to varying systems of the human body, and pathways by which today's potent drugs have transitioned from wild flora. Usually offered Fall semesters of even-numbered years. (Cross-listed with BIOL 4490)

**BIOL 8535 FLORA OF THE GREAT PLAINS (4 credits)**

A study of common vascular plants found in the Great Plains region, including identification, description, and classification techniques and an introduction to the plant communities of Nebraska. Usually offered every Fall and Summer. (Cross-listed with BIOL 3530.)

**Prerequisite(s)/Corequisite(s):** BIOL 1450-1750. Not open to nondegree students.

**BIOL 8606 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 4600, ENVN 4600)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**BIOL 8646 MICROBIAL PHYSIOLOGY (4 credits)**

This course will cover the diversity in structures, genetics, metabolism, and regulation observed in microorganisms with a focus on bacteria. Usually offered Fall semesters. (Cross-listed with BIOL 4640).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140 and BIOL 3020 or equivalents. Not open to non-degree graduate students.

**BIOL 8654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 4654, CHEM 4654, CHEM 8654).

**BIOL 8656 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 4650, CHEM 4650, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. BIOL 8654 must be taken concurrently.

**BIOL 8664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 4664, CHEM 4664, CHEM 8664).

**BIOL 8666 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipid, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 4660, CHEM 4660, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 8656 and CHEM 8654 or BIOL 8656 and BIOL 8654 with a grade of B- or better. BIOL 8664 must be taken concurrently.

**BIOL 8685 BIOLOGY OF AFRICA (3 credits)**

Biology of Africa (3) Introduction to the plants, animals, and habitats of Africa. Although other groups are included, this course will focus on the large mammals of east Africa and will pay particular attention to elephant reproduction and biology. Other topics include Serengeti migrations, hippos, lions and other large cats, reptiles, and human evolution. Usually offered alternate Spring semesters. (Cross-listed with BIOL 3680).

**BIOL 8716 TOXICOLOGY (3 credits)**

An overview of the fundamentals of toxicology. Concepts include the dose-response relationship, absorption, distribution and excretion of toxicants, and the biotransformation of xenobiotics. Emphasis will be given to metals, pesticides, pharmaceutical compounds, chemical carcinogenesis and endocrine disruption. Usually offered Fall. (Cross-listed with BIOL 4710)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or 2260 and BIOL 1750, BIOL 3020 or equivalent.

**BIOL 8735 FAUNA OF THE GREAT PLAINS (3 credits)**

A survey of the common animal groups found in the Great Plains, including their evolution, ecology, distribution and specific adaptations to the environment of the temperate North American grasslands. (Cross-listed with BIOL 3730)

**Prerequisite(s)/Corequisite(s):** BIOL 1750. Not open to nondegree students.

**BIOL 8736 VERTEBRATE ENDOCRINOLOGY (3 credits)**

An overview of the fundamentals of vertebrate endocrinology. Concepts include: the mammalian hypothalamus-pituitary system, the endocrinology of mammalian reproduction, the mammalian adrenal glands, endocrine disruption, endocrinology and metabolism. (Cross-listed with BIOL 4730)

**Prerequisite(s)/Corequisite(s):** Organic chemistry, Biol 1750, Biol 3020 or equivalent.

**BIOL 8746 ANIMAL PHYSIOLOGY (3 credits)**

An overview of the fundamentals of animal physiology. Concepts include: the physiology of nerve and muscle function, endocrine function, cardiovascular and respiratory function, oxygen and carbon dioxide delivery by the blood, and osmoregulation and excretion. The course is comparative in nature, including examples from humans, mammals, vertebrates and invertebrate animals. Usually offered Spring. (Cross-listed with BIOL 4740.)

**BIOL 8760 CLINICAL REASONING (3 credits)**

This is an intensive class in which students will translate biological concepts into solving case-based scenarios in clinical medicine. Relevant readings will prepare students to address these challenges in small-group settings. Intended as an advanced preparatory course for healthcare professionals or students desiring exposure to clinical decision-making. Usually offered during Summer semester.

**Prerequisite(s)/Corequisite(s):** Molecular Biology; Microbiology or Immunology; plus instructor approval.

**BIOL 8766 GENOME TECHNOLOGY AND ANALYSIS (3 credits)**

This course will introduce the latest genome sequencing technologies and their broad applications in biology and medicine. Students will learn how genome sequencing is conducted by different platforms and obtain practical experience of how to use bioinformatics tools for genome analysis. Students are expected to be able to perform sequence analysis efficiently and interpret the results properly. (Cross-listed with BIOL 4760)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; or Permission of instructor

**BIOL 8770 CLINICAL READINGS (3 credits)**

This course is a rigorous study of current biomedical, translational, and clinical primary literature spanning a wide range of human health and disease.

**Prerequisite(s)/Corequisite(s):** Graduate and written permission of graduate faculty member.

**BIOL 8786 VERTEBRATE ZOOLOGY (4 credits)**

A study of the general biology of the subphylum vertebrata including the morphology, anatomy, physiology and ecology of vertebrate representatives. (Cross-listed with BIOL 4780)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750, and Junior or Senior standing.

**BIOL 8796 MAMMALOGY (4 credits)**

The biology of mammals, including their evolution, functional morphology, physiology, ecology, zoogeography, behavior, classification and identification, with emphasis on North American groups. Field trips. Usually offered in alternate years. (Cross-listed with BIOL 4790)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, junior or senior standing. Must enroll in laboratory section.

**BIOL 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

Seminar on environmental law and regulation. The course will address federal regulations, implementing instructions, legal principles and requirements. The major federal environmental laws, air and water quality, solid and hazardous waste, and pollution prevention and remediation will be discussed. Usually offered Fall semesters.

**Prerequisite(s)/Corequisite(s):** Junior-senior and permission.

**BIOL 8836 DEVELOPMENTAL GENETICS (2 credits)**

This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics. (Cross-listed to BIOL 4830)

**Prerequisite(s)/Corequisite(s):** This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics.

**BIOL 8846 HERPETOLOGY (4 credits)**

The biology of amphibians and reptiles, including their evolution, classification, anatomy, physiology, ecology, distribution and identification, with emphasis on North American groups. Methods for studying herptiles are examined. Usually offered in Spring semesters of even years. (Cross-listed with BIOL 4840).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750 and Junior-Senior standing. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 8856 DEVELOPMENTAL BIOLOGY (3 credits)**

This course explores principles underlying the development of multicellular organisms, stressing the environmental, genetic, molecular, cellular, tissue, and evolutionary mechanisms of animal development. Usually offered once per year. (Cross-listed with BIOL 4850)

**BIOL 8866 COMPARATIVE GENOMICS (3 credits)**

This course will introduce fundamental concepts in genomics and genome comparison. Students will learn how genomes are constructed, how they evolve, how individual genomes are unique, and what genomic knowledge means in terms of human health and medicine. (Cross-listed with BIOL 4860)

**BIOL 8876 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, NEUR 4870, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

**BIOL 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with BIOL 4890, NEUR 4890, NEUR 8896, PSYC 8896)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BIOL 8946 ENTOMOLOGY (4 credits)**

The study of insects; their classification, morphology, physiology, behavior, life histories, ecology and evolution. (Cross-listed with BIOL 4940)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**BIOL 8966 ADVANCED GENETICS (3 credits)**

An in-depth consideration of topics in genetics, including the conceptual and molecular definition of a gene, cytogenetics, mutation, population genetics, developmental genetics, gene regulation and the application of genetics to other areas of biology. (Cross-listed with BIOL 4960).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and BIOL 3020 and concurrent enrollment or completion of either CHEM 3650 or CHEM 4610 or CHEM 4650 or BIOL 4650, or permission of the instructor.

**BIOL 8976 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 4970, ENVN 4970).

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**BIOL 8986 ORNITHOLOGY (4 credits)**

An introduction to the general biology of birds, including their anatomy, physiology, behavior, ecology, classification and identification with emphasis on North American groups. Usually offered in alternate years. (Cross-listed with BIOL 4980)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**BIOL 8990 THESIS (1-6 credits)**

An original and independent research project written under the supervision of a faculty thesis advisory committee.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

## Biology, MS

Department of Biology, College of Arts and Sciences

## Vision Statement

The goal of the Department of Biology is to provide students with individualized, broad training in biology leading to a Master of Science (MS) degree. Original research is an integral part of both the thesis and non-thesis degree options. Faculty areas of expertise include ecology, physiology, genetics, molecular biology, taxonomy, behavior, and developmental biology of a wide variety of organisms. The MS degree prepares students for employment in industry, private or government agencies, and academics, as well as further education in professional programs, such as the PhD or MD.

## Program Contact Information

James Wilson, PhD, Graduate Program Chair (GPC)  
109C Allwine Hall (AH)  
402.554.2585  
jameswilson@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/biology/>)

## Other Program Related Information

The Department of Biology annually awards 17 graduate assistantships. New applicants should indicate their interest in applying for an assistantship as part of the admission application and should include your employment history along with names and contact information of three references in your resume or CV. The assistantships require 20 hours per week of teaching and/or other assignments.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: February 15
- Spring: October 15
- Summer: February 15

## Other Requirements

- The applicant's GPA in undergraduate biology courses will be determined and must be 3.0 or above (on a 4.0 scale)
- An applicant must normally present 24 semester hours of credit in the biological sciences, including genetics (sophomore level or above), ecology (junior level or above) and molecular/cell biology (junior level or above). Preparation in the supporting sciences must include a course in inorganic or introductory chemistry, a course in organic chemistry or biochemistry, a course in introductory physics and a course in mathematics (college algebra, trigonometry or calculus) or statistics. Applicants with inadequate backgrounds in biology or the supporting sciences may be admitted provisionally and will be required to complete courses in the named areas.
- **Entrance Exam:** Graduate Record Exam (GRE) General Test with a combined score (verbal + quantitative) of 297 and a minimum writing score of 3.5.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 588, Internet-based TOEFL: 95, IELTS: 7.5, PTE: 76, Duolingo: 115.
- **Statement of Purpose:** The Department of Biology strongly encourages applicants to contact a professor whose research interests

overlap with their own goals for graduate research. Due to the individualized nature of the biology graduate program, otherwise qualified applicants may not be admitted if appropriate faculty are not available to serve as advisors. Please indicate in your statement of purpose which faculty member has been contacted or plan to contact.

- **Resume or curriculum vitae (CV)**- including an outline of educational background, employment history, research experience, and a list of references.
- **Letters of Recommendation:** Three letters are required
- Applicants not meeting the criteria in terms of GPA or standardized test scores may provide written evidence of experience or potential to perform outstanding graduate work and petition the department for provisional admission as long as their biology GPA is above the 2.7 minimum set by the Graduate College. Students seeking provisional admission should contact two or more biology faculty to discuss admission. Provisional admission will not be removed until the student has earned at least the grade of "B" (3.0 on a 4.0 scale) in each course involved in the first 12 hours of graduate study. Questions about requirements for admission should be directed to the Department of Biology.

## Degree Requirements

### Thesis Option

At least 50% of the 30 credit hours will be taken in 8000-level (graduate only) courses. The 30 credit hours of graduate course work must include:

Code	Title	Credits
<b>Required Course</b>		
BIOL 8010	SEMINAR IN BIOLOGY	1
<b>Electives</b>		
To be determined by the student, and approved by his/her graduate advisory committee; graduate courses in other departments may be included.		23
<b>Exit Requirement</b>		
BIOL 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

### Non-Thesis Option

At least 50% of the 36 credit hours will be taken in 8000-level (graduate only) courses. The 36 credit hours of graduate course work must include:

Code	Title	Credits
<b>Required Courses</b>		
BIOL 8010	SEMINAR IN BIOLOGY	1
BIOL 8020	INDEPENDENT RESEARCH IN BIOLOGY (minimum of 2 credit hours)	2
<b>Electives</b>		
To be determined by the student, and approved by his/her graduate advisory committee; graduate courses in other departments may be included.		33
<b>Total Credits</b>		<b>36</b>

## Exit Requirements

All degree students must form a supervisory committee of faculty, chaired by a major advisor from the Department of Biology. In consultation with the supervisory committee, students will develop a plan of study list courses required for graduation. This will include any deficiencies required as a condition of admission and a minimum of 30 graduate credits for the thesis option and a minimum of 36 credits for the non-thesis option. Graduate students are expected to attend the Graduate Seminar (BIOL 8010) even when not registered for it.

**Thesis Option (6 hours):**

Thesis candidates must complete 6 credit hours of BIOL 8990, Thesis. All candidates should carefully review the Graduate College requirements for forming a Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

**Non-Thesis Option:**

Comprehensive Examination administered by the supervisory committee.

## Biomedical Science Certificate

Department of Biology, College of Arts and Sciences

**Vision Statement**

The goal of the proposed certificate is to provide a post-baccalaureate experience that will prepare students for future clinical training, particularly schooling for medicine, dentistry, pharmacy, physician assistant, or veterinarian. This certificate is distinct from the MS in biology, which aims to provide a broad experience in biological research. Certificate students receive integrated career and academic advising through the UNO Health Careers Resource Center (HCRC).

**Program Contact Information**

James Wilson, PhD, Graduate Program Chair (GPC)  
109C Allwine Hall (AH)  
402.554.2585  
jameswilson@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/biology/>)

**Admissions**

General Application Requirements and Admission Criteria (p. 945)

**Program-Specific Requirements****Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Fall: February 15
- Spring: October 15

**Other Requirements**

- Applicants are required to have completed a bachelor's degree and present a GPA of 3.0 or above (on a 4.0 scale).
- Applicants must complete the following prerequisite courses: applicants who have not completed all courses may apply for admission and will be expected to complete remaining prerequisites during their first semester.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 587, Internet-based TOEFL: 95, IELTS: 7.5, PTE: 76, Duolingo: 115
- **Entrance Exam:** Graduate Record Exam (GRE) General Test with scores for the verbal and quantitative sections above the 35th percentile and a minimum writing score of 3.5
- **Letters of Recommendation:** Two letters of recommendation from college or university faculty members are required

## Degree Requirements

Code	Title	Credits
<b>Prerequisite Courses</b>		
BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS	2
BIOL 2140	GENETICS	4
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
Two courses in neuroscience, psychology or sociology		6
Calculus or statistics course		3
English composition course		3
Physics course		3
Microbiology or immunology course		3
<b>Total Credits</b>		<b>35</b>

Code	Title	Credits
<b>Required certificate courses</b>		
BIOL 8760	CLINICAL REASONING	3
BIOL 8770	CLINICAL READINGS	3
BIOL 8060 or CHEM 8990 or BIOL 8020 or BIOL 8250	ADVANCED TOPICS IN BIOLOGY RESEARCH IN CHEMISTRY INDEPENDENT RESEARCH IN BIOLOGY DESIGN AND ANALYSIS OF BIOLOGICAL RESEARCH	3
CHEM 8666 & CHEM 8664	BIOCHEMISTRY II and BIOCHEMISTRY II LABORATORY <sup>1</sup>	4
<b>Elective course <sup>2</sup></b>		<b>3</b>
CHEM 8215	INTRODUCTION TO MOLECULAR MODELING	
BIOL 8136	MOLECULAR GENETICS	
BIOL 8146	CELLULAR BIOLOGY	
BIOL 8156	CANCER BIOLOGY	
BIOL 8456 & BIOL 8454	VIROLOGY and VIROLOGY LABORATORY	
BIOL 8736	VERTEBRATE ENDOCRINOLOGY	
BIOL 8746	ANIMAL PHYSIOLOGY	
BIOL 8856	DEVELOPMENTAL BIOLOGY	
BIOL 8876	MOLECULAR AND CELLULAR NEUROBIOLOGY	
BIOL 8966	ADVANCED GENETICS	
<b>Total Credits</b>		<b>16</b>

<sup>1</sup> If a student has completed UNO CHEM 4660 within three years; CHEM 8666 and CHEM 8664 will be waived and four additional credit hours will be fulfilled with elective hours.

<sup>2</sup> Courses taken for undergraduate credit cannot be retaken for graduate credit.

## Business for Bioscientists Certificate

Department of Business Administration, College of Business Administration; Department of Biology, College of Arts and Sciences

**Vision Statement**

This certificate program provides a basic understanding of business principles to biomedical PhD students. While UNMC PhD students receive

extensive training in research methods and the principles of biology and medicine, they receive no formal training in business fundamentals. However, a significant portion of biomedical PhD students obtain employment in pharmaceutical, biotechnology, and other industries. For students with these career goals, formal training in business would markedly enhance their career options and competitiveness for these industry positions.

## Program Contact Information

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-business-administration/mba/program/other-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022 and Fall 2022)

- Spring: November 1
- Fall: July 1 (June 1 for international students)

### Other Requirements

- All applicants must be current UNMC PhD students.
- All applicants must have earned a minimum junior/senior GPA of 2.85.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Include employment and educational history

## Degree Requirements

The 12 credit hours needed to fulfill certificate requirements does not include the foundation courses listed below.

### Foundation Courses

Code	Title	Credits
These courses are not applicable to the completion of the certificate requirements.		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Total Credits</b>		<b>6</b>

## Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>4</b>
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
<b>Electives</b>		
Select a minimum of 5 hours from the following:		5
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
<b>Exit Requirements</b>		
BSAD 8910	SPECIAL TOPICS IN BUSINESS (Business for Bioscientists) <sup>1</sup>	3
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> All other courses in the program must have been completed prior to enrolling in BSAD 8910.

## Biomechanics, MS

Department of Biomechanics, College of Education, Health, and Human Sciences

The MS in biomechanics is housed within the Department of Biomechanics at the University of Nebraska at Omaha. It is a degree program designed to enable students from Nebraska, nationally, and abroad to develop skills and competencies in the field of biomechanics. This program provides a new understanding of the dynamical aspects of human movement via multidisciplinary research using an evidence-based approach through clinical and translational research.

The goal of the program is to prepare students for the workforce or the pursuit of a doctoral degree. The coursework related to this degree program will provide the students with a strong and broad base which will enable students to enter the workforce at a professional level commensurate with a master's degree or to continue their training in numerous doctoral program areas. An additional strength of the coursework is its emphasis on quantitative sciences. This emphasis allows students to stand out among other candidates for fellowships, assistantships, and scholarships given to these students.

The program is enhanced by an evidence-based approach through interdisciplinary clinical and translational research. This program is designed to be an excellent choice for students planning to continue their education beyond the bachelor's degree in the fields of biomechanics, medicine, physical therapy, occupational therapy, and other science based programs. With the high number of applicants in health professions, the MS in biomechanics gives applicants additional training in movement and quantitative sciences to stand out among other applicants.

### Program Contact Information

Nathaniel Hunt, PhD, Graduate Program Chair (GPC)  
Department of Biomechanics  
402.554.4195  
nhunt@unomaha.edu

Laura Rotert, Program Coordinator  
Department of Biomechanics  
402.554.5892

lecampbell@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-education/biomechanics-core-facility/>)

## Other Program Related Information

### Fast Track Program

The Department of Biomechanics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing a BS in Biomechanics desiring to pursue a MS in Biomechanics.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - Applicants for this program are highly encouraged to pursue research opportunities in the Department of Biomechanics or comparable programs.
  - The admit term must be after the completion term of the undergraduate degree.

All 8000 level BMCH courses are eligible for students part of the Fast Track program.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework. Priority deadline of February 1 for consideration of department funded graduate assistantships.

### Other Requirements

- GPA of 3.0 in undergraduate program
- **Entrance Exam:** Graduate Record Exam (GRE)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency course requirement in order to be considered for admission.
  - Paper-based TOEFL: 550; Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105, with no exceptions to this policy.

studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf), must meet the minimum language proficiency course requirement in order to be considered for admission.

- **Statement of Purpose:** Written statement of goals and rationale for entering this graduate program. Also, identify the intended area of focus and the name of the faculty advisor with whom you wish to work (maximum one-page).
- **Resume or Curriculum Vitae (CV)**
- **Letters of Recommendation:** Two are required
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Seminar Requirement (2 sections)</b>		
BMCH 8000	SEMINAR IN BIOMECHANICS	0
<b>Statistics Requirement-Select 3 hours</b>		<b>3</b>
BMCH 8030	BIOSTATISTICS IN BIOMECHANICS I	
KINS 8040	ADVANCED STATISTICS	
<b>Select 3 hours (other courses can be used as electives)</b>		<b>3</b>
BMCH 8400	MOTOR LEARNING I	
BMCH 8410	MOTOR CONTROL I	
BMCH 8420	MOTOR DEVELOPMENT	
BMCH 8450	ADVANCED BIOMECHANICS	3
BMCH 8200	MATLAB FOR MOVEMENT SCIENCES	3
BMCH 8900	INDEPENDENT RESEARCH IN BIOMECHANICS	3
<b>Select Thesis or Non-Thesis Option</b>		<b>21</b>
<b>Thesis Option</b>		
BMCH 8990	THESIS IN BIOMECHANICS	
15 Credit Hours of Electives-Graduate courses with KINS, BMCH or HEKI prefix and other advisor approved courses.		
<b>Non-Thesis Option</b>		
21 Credit Hours of Electives-Graduate courses with KINS, BMCH or HEKI prefix and other advisor approved courses.		
All required courses require a grade of B or better.		
<b>Total Credits</b>		<b>36</b>

### Exit Requirements

- Thesis Option- 6 hours BMCH 8990
- Non-Thesis Option - Comprehensive Examination

The student and faculty advisor will determine the Program of Study, including the elective courses and general area of research for the thesis. The Program of Study must be submitted to the Graduate Program Committee by the end of the student's first semester.

**BMCH 8000 SEMINAR IN BIOMECHANICS (0 credits)**

Required non-credit course for graduate students in biomechanics. Intended to familiarize the graduate student with current ongoing biomechanical research at UNO and other institutions. The seminar will additionally include topics focusing on professional development, job and educational opportunities, and biomechanical methodologies.

**Prerequisite(s)/Corequisite(s):** Must be a student in BMCH graduate program. Not open to non-degree graduate students.

**BMCH 8006 BIOMATERIALS (3 credits)**

Students will learn the classification, properties, characterization methods, body interactions, applications, and design principles of biomaterials. (Cross-listed with BMCH 4000).

**BMCH 8030 BIostatISTICS IN BIOMECHANICS I (3 credits)**

The focus of the course is to prepare students to understand and apply research and biostatistical methods needed in the design and analysis of biomechanical investigations. The major topics to be covered include research design and multiple linear regression. (Cross-listed with BMKI 9031)

**Prerequisite(s)/Corequisite(s):** Graduate Standing in Biomechanics program or Department Permission.

**BMCH 8100 NONLINEAR ANALYSIS FOR MOVEMENT STUDIES (3 credits)**

This course is to introduce different nonlinear methods for the analysis of biological and movement time series. Emphasis will be given on understanding the algorithms behind each nonlinear method. (Cross-listed with BMKI 9101).

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**BMCH 8106 BIOINSPIRED ROBOTICS (3 credits)**

The goal of the course is to involve students in an interdisciplinary vision of biomechanics, biology, engineering and architecture by learning how humans and other animals function in their environment. These design principles from nature can be translated into novel devices, structures, and robots. (Cross-listed with BMCH 4100).

**BMCH 8200 MATLAB FOR MOVEMENT SCIENCES (3 credits)**

Introduction to Matlab software, plotting data, spectral analysis and the Fourier transform, data smoothing, and image analysis of movement related data. All topics will be implemented using Matlab. (Cross-listed with BMKI 9201).

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**BMCH 8206 METHODS IN BIOMECHANICS I (3 credits)**

In this course students learn about the methods and equipment used in biomechanics as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. (Cross-listed with BMCH 4200).

**Prerequisite(s)/Corequisite(s):** Department Permission

**BMCH 8216 METHODS IN BIOMECHANICS II (3 credits)**

In this course students learn about advanced methods and equipment used in biomechanics, as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. This course builds on the experience gained in BMCH 4200/8206, Methods in Biomechanics I. (Cross-listed with BMCH 4210).

**Prerequisite(s)/Corequisite(s):** BMCH 8206 or Department Permission

**BMCH 8400 MOTOR LEARNING I (3 credits)**

Discussion and analysis of scientific principles related to the learning of motor skills; review related literature and research in motor learning. The focus of the course is on recent theories of how movements are acquired and performed, and on factors that have implications for motor learning throughout the life span. (Cross-listed with BMKI 9401).

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 8410 MOTOR CONTROL I (3 credits)**

The focus of the course is to explore the study of the conditions and factors that influence the control and performance of motor skills from both neurophysiological and psychobiological perspectives. (Cross-listed with BMKI 9411).

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

**BMCH 8420 MOTOR DEVELOPMENT (3 credits)**

This course focuses on the study of motor development, the processes that underlie this development and the factors that influence it. Students will gain an understanding of the major theoretical perspectives of motor development across the life span with special emphasis given in child development. (Cross-listed with BMKI 9421).

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 8450 ADVANCED BIOMECHANICS (3 credits)**

The course will address the biomechanical basis of human performance including mechanical analysis of human gait, fundamental movement patterns and techniques used for collecting biomechanical data. (Cross-listed with BMKI 9451).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 (Biomechanics) [previously PE 4630] or Instructor Permission.

**BMCH 8646 ORTHOPEDIC BIOMECHANICS (3 credits)**

Orthopedic Biomechanics focuses on the use of biomechanical principles and scientific methods to address clinical questions that are of particular interest to professionals such as orthopedic surgeons, physical therapists, rehabilitation specialists, and others. (Cross-listed with BMCH 4640).

**Prerequisite(s)/Corequisite(s):** Department Permission

**BMCH 8666 CLINICAL IMMERSION FOR RESEARCH AND DESIGN (3 credits)**

This course will involve exposure to current clinical practices, identification of unmet clinical needs, and information regarding future career options. In this course, students will be matched with local clinical sites to provide a unique opportunity for innovative and interdisciplinary approaches to problem solving subject to practical constraints. Concepts in clinical rehabilitation, integrated assessments, regulation of medical devices in health care will be covered. This course will review the latest research efforts for rehabilitation in the context of device design and implementation. (Cross-listed with BMCH 4660).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BMCH 8676 INTRODUCTION TO MECHANICS OF BIOMATERIALS (3 credits)**

In this course students will learn how to analyze the stresses and strains in different structures under complex loading conditions with extensive examples from biomaterials and materials generally used in the medical device field. (Cross-listed with BMCH 4670).

**Prerequisite(s)/Corequisite(s):** BMCH 3000 or Department Permission

**BMCH 8686 SPORTS BIOMECHANICS (3 credits)**

This course is intended to provide students with a foundational knowledge on how to analyze sport movements through biomechanical analytical methods. Students will utilize foundational biomechanical principles and apply them to a variety of sports and associated movements. (Cross-listed with BMCH 4680).

**Prerequisite(s)/Corequisite(s):** BMCH 4630

**BMCH 8900 INDEPENDENT RESEARCH IN BIOMECHANICS (1-6 credits)**

In this course individuals or groups will conduct research projects for the study and analysis of biomechanical topics.

**Prerequisite(s)/Corequisite(s):** Permission of the Department and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8910 INDEPENDENT STUDY IN BIOMECHANICS (1-6 credits)**

This is a variable credit course designed for graduate students in Biomechanics who would benefit from independent reading assignments and problems. Independent study enables individual students or a small group of students to focus on topics typically not explored in other offerings or to explore topics currently offered in further depth. (Cross-listed with BMKI 9911).

**Prerequisite(s)/Corequisite(s):** Graduate student in BMCH and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8990 THESIS IN BIOMECHANICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's advisory committee. In this project the student will develop skills in research design, research conduct, data analysis, and reporting. The final product of this course will be an original thesis of independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

## Biomedical Informatics

### Degree Programs Offered

- Biomedical Informatics, MS (p. 1004)
- Biomedical Informatics, PhD (p. 1007)

**BMI 8000 ADVANCES IN BIOMEDICAL INFORMATICS (0 credits)**

BMI 8000 provides a regular forum for BMI graduate students, where the latest developments in the field of Biomedical Informatics are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in BMI. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in BMI and PhD in BMI program may register. Not open to non-degree graduate students.

**BMI 8020 ADVANCED COURSE IN BIOINFORMATICS (3 credits)**

This is a special topics course designed to explore the research interests of faculty and students. Therefore, topics may include, but are not limited to, such areas of study as next-generational sequencing, biological networks, proteomics, metabolomics, and biomedical informatics.

**Prerequisite(s)/Corequisite(s):** Admission to the MS/PhD Program in the College of Information Science and Technology, or permission of the instructor. Not open to non-degree graduate students.

**BMI 8080 SEMINAR IN BIOMEDICAL INFORMATICS (1-3 credits)**

This is a variable-content course that engages students in current research in Biomedical Informatics and develops skills in the oral and written presentation of scientific research.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Additional prerequisite courses may be required for particular course offerings.

**BMI 8100 INTRODUCTION TO BIOMEDICAL INFORMATICS (3 credits)**

This course offers students an overview of the field of biomedical informatics, combining perspectives from computing, biosciences and medicine. The historical development of the field and its influence on biological, clinical, and translational research will be discussed. Issues related to bioinformatics, clinical, bioimaging and public health/population informatics will be explored.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8300 PUBLIC HEALTH GENOMICS (3 credits)**

This course will address the biopsychosocial issues that bridge genomics and public health, which are generally considered two vastly different disciplines. The focus will center on understanding how genomics may be incorporated into health promotion and disease prevention efforts for individuals and population.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8400 LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI (3 credits)**

Matrix Analysis and Linear Algebra are at the core of several important algorithms and techniques that are widely used in machine learning for data analytics, imaging informatics, and bioinformatics. The course will explore fundamental concepts of matrix analysis and linear algebra as they apply to machine learning, emphasizing applications over proofs. Students will have an opportunity to perform "pencil and paper" calculations as well as more sophisticated numerical computations using a programming language/statistical environment of their choice. Applications of linear algebra to machine learning in the context of imaging informatics and biomedicine will be covered in depth.

**Prerequisite(s)/Corequisite(s):** Proficiency in programming and knowledge of calculus are required. Familiarity with concepts from biology is beneficial but not required.

**BMI 8540 FOUNDATIONS IN PROGRAMMING FOR BIOMEDICAL INFORMATICS (3 credits)**

Foundations in programming, software development, pipeline management, and version control are critical for developing a capable biomedical informatics workforce. This course will provide foundations in programming skills necessary for students with a limited computer science background to develop fluency and basic skills in the concepts of software development for biomedical informatics. Specific topics covered will include Unix/Linux shell programming, Python, databases, Applications Programming Interface (APIs), software versioning, and data management.

**Prerequisite(s)/Corequisite(s):** Experience with programming in a scripting, database management, or object-oriented programming language is strongly recommended but not required.

**BMI 8850 BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL (3 credits)**

This course will cover the basic principles of molecular and cellular biology, human anatomy, physiology, and pathology that are essential to an informed use of biomedical data. The biomedical topics will be interspersed and complemented with discussions about relevant data sources and datasets, emphasizing their strengths and weaknesses, and the lectures will be enriched with virtual anatomical dissections. Reading assignments from the primary literature and multimedia materials will supplement the textbook.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above

**BMI 8866 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BIOI 4860).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BMI 8896 GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the course will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor.

**BMI 8900 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

The content of the course will vary, however both the student and the faculty member must sign an Independent Research Agreement and file it with the Biomedical Informatics Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward the MS BMI program should be completed.

**BMI 8910 INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Biomedical Informatics graduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Students must have completed a minimum of 12 credit hours towards the MS in BMI program. Not open to non-degree graduate students.

**BMI 8970 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for graduate students in bioinformatics who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Permission of a supervising faculty member and approval of the Bioinformatics Program Committee Chair. A formal description of the problem area to be investigated, the resources to be used, and the results to be produced must be prepared.

**BMI 8990 THESIS IN BIOMEDICAL INFORMATICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Graduate major in BMI and approval of the Thesis Advisory Committee. Not open to non-degree graduate students.

**BMI 9900 ADVANCED RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course provides a format for exploring advanced research areas for doctoral students in Biomedical Informatics and related fields. Specific topics will vary in keeping with research interest of faculty and students.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Biomedical Informatics. Not open to non-degree graduate students.

**BMI 9980 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in Biomedical Informatics and permission of instructor. Not open to non-degree graduate students.

**BMI 9990 DISSERTATION (1-12 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee supervisory committee.

The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in health or bioinformatics and demonstrate technical mastery of the discipline.

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in Biomedical Informatics and candidacy for the Ph.D. degree. Prior to enrolling for dissertation hours, the students must have permission of the supervisory committee. Not open to non-degree graduate students.

# Biomedical Informatics, MS

**School of Interdisciplinary Informatics, College of Information Science & Technology**

## Vision Statement

The vision of this program is to develop the next generation of biomedical specialists who are uniquely positioned to advance research and practice in contemporary information and knowledge management that impact biomedical, clinical and translational research, healthcare services, healthcare practice, public health care, and healthcare delivery in general. Graduates will be able to use their preparation to apply and investigate information and communication technologies to solve problems in the related biomedical fields in a comprehensive, competitive and effective way.

The program is designed as a research-oriented program with the goals of preparing graduate students to conduct advanced basic and applied research while capably serving as prospective employees in academic research as well as the IT healthcare industry. The program is geared towards motivated traditional students and technology specialists with the appropriate educational background that are ready to expand their knowledge of contemporary biomedical informatics issues and become biomedical informatics in academic, clinical, and organizational settings.

## Program Contact Information

Dario Gheri, PhD, Graduate Program Chair (GPC)  
173B Peter Kiewit Institute (PKI)  
402.554.2097  
dghersi@unomaha.edu

Carlee Heylman, Advisor  
176C Peter Kiewit Institute (PKI)  
402.554.3819  
carleebrown@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

## Other Program Related Information

### Fast Track

The College of Information Science & Technology (CIST) has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree desiring to pursue an MS in either the same or a related CIST field.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of Computer Science, which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.

- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS in selected CIST program. The application fee will be waived, and the applicant must contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, you may be recommended for admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements

- The minimum undergraduate grade point average (GPA) requirement for the MS in BMI program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a 4-year undergraduate degree.
- **Entrance Exam:** International applicants without a baccalaureate or equivalent degree from the United States are required to submit GRE scores. Minimum acceptable scores are: Verbal: 146, Quantitative: 154
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation, or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.

- **\*Note:** If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **Statement of Purpose:** a two-page, double-spaced, word-processed essay that addresses the following two topics:
  - Discussion of two accomplishments that demonstrate your potential for success in the graduate program
  - Discussion of your unique personal qualities and life experiences that distinguish you from other applicants to this graduate program
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Letters of Recommendation:** Two letters of recommendation from references who can evaluate your work and/or academic achievements are required
- **Interview (optional):** Although not required, applicants are strongly encouraged to arrange for an interview either one or more members of the Graduate Program Committee by directly contacting the committee chair. Telephone interviews are highly recommended for applicants outside the local area.

## Degree Requirements

### Science Foundation Requirements

Foundation courses ensure that all students in the Biomedical Informatics (BMI) MS program have a strong foundation on which to build the rest of the program. These courses not only provide essential prerequisite knowledge and skills for subsequent classes in the program, but they also contain a distinct body of knowledge that is an important part of the BMI professional's education. All foundation courses are required for all students. However, applicants who have obtained an undergraduate BMI degree will typically already have this foundation. In such cases, most, if not all, foundation courses are waived. Applicants with undergraduate degrees in other disciplines, including computer science, management information systems, or engineering, will usually require one or more foundation courses. Occasionally, an applicant's work experience may be sufficient to waive one or more of the foundation courses.

Waivers for foundation courses are granted by the chair of the graduate program committee upon the recommendation of the faculty member who is responsible for an individual course. Students requesting a waiver for a particular course should be prepared to meet with a faculty member and answer questions in the area of the course. They should bring to the meeting any relevant transcripts, course syllabi, course material, or evidence of practical experience. Some foundation courses may have an option for testing out.

Applicants should have background in anatomy, physiology, cell biology or equivalent (any health science degree). Applicants with degrees in other disciplines will usually have to take foundation courses.

Foundation courses cannot be used to satisfy the 36 semester hours required for the MS in biomedical informatics degree. Applicants who have not completed all the foundation course requirements may be admitted on a provisional status until those requirements have been completed. All foundation courses must be completed prior to or concurrent with the first six hours of MS in BMI graduate coursework.

Code	Title	Credits
BIOL 2140	GENETICS	4
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

## Information Technology Foundation Requirements

Foundation courses ensure that all students in the MS BMI program have a strong foundation on which to build the rest of the program. These courses not only provide essential prerequisite knowledge and skills for subsequent classes in the program, but they also contain a distinct body of knowledge that is an important part of the BMI professional's education. All foundation courses are required for all students. However, applicants who have obtained an undergraduate BMI degree will typically already have this foundation. In such a case, most, if not all, foundation courses are waived. Applicants with undergraduate degrees in other disciplines, including computer science, management information systems, or engineering, will usually require one or more foundation courses. Occasionally, an applicant's work experience may be sufficient to waive one or more of the foundation courses.

Waivers for foundation courses are granted by the chair of the graduate program committee upon the recommendation of the faculty member who is responsible for an individual course. Students requesting a waiver for a particular course should be prepared to meet with a faculty member and answer questions in the area of the course. They should bring to the meeting any relevant transcripts, course syllabi, course material, or evidence of practical experience. Some foundation courses may have an option for testing out.

Applicants should have background in programming languages, data structures & algorithms, statistics, math or experimental methods (any engineering, computer science related degree). Applicants with degrees in other disciplines will usually have to take foundation courses.

Foundation courses cannot be used to satisfy the 36 semester hours required for the MS in biomedical informatics degree. Applicants who have not completed all the foundation course requirements may be admitted on a provisional status until those requirements have been completed. All foundation courses must be completed prior to or concurrent with the first six hours of MS in BMI graduate coursework

Code	Title	Credits
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	3
CSCI 1204	COMPUTER SCIENCE PRINCIPLES LABORATORY	1
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 3320	DATA STRUCTURES	3
CSCI 8010	FOUNDATIONS OF COMPUTER SCIENCE	3

## Requirements

Code	Title	Credits
<b>Required Each Semester</b>		
BMI 8000	ADVANCES IN BIOMEDICAL INFORMATICS	
<b>Core Courses</b>		<b>12</b>
BMI 8100	INTRODUCTION TO BIOMEDICAL INFORMATICS	
BMI 8300	PUBLIC HEALTH GENOMICS	
ISQA 8060	RESEARCH IN MIS	
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	
<b>Elective Core Courses</b>		<b>6</b>

Select two of the following:

BMI 8400	LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI	
BMI 8866	BIOINFORMATICS ALGORITHMS	
CSCI/MATH 8050	ALGORITHMIC GRAPH THEORY	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
ISQA 8106	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	
ISQA 8410	DATA MANAGEMENT	
<b>Research Electives</b>		<b>6</b>
Select two of the following:		
BIOI 8850	SPECIAL TOPICS IN BIOINFORMATICS	
BMI 8020	ADVANCED COURSE IN BIOINFORMATICS	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
<b>Track Electives</b>		<b>6</b>
Select one of the following (see details below):		
Bioinformatics Track		
Health Informatics Track		
BMI 8990	THESIS IN BIOMEDICAL INFORMATICS	6
<b>Total Credits</b>		<b>36</b>

### Bioinformatics Track Electives

Code	Title	Credits
Select 6 hours from the following:		
BIOL 8136	MOLECULAR GENETICS	
BMI 8080	SEMINAR IN BIOMEDICAL INFORMATICS	
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	
BMI 8896	GENETIC SEQUENCE ANALYSIS	
BMI 8900	INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS	
BMI 8970	INDEPENDENT STUDY IN BIOINFORMATICS	
CSCI 8340	DATABASE MANAGEMENT SYSTEMS II	
CSCI 8876	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8750	STORYTELLING WITH DATA	
<b>Total Credits</b>		<b>6</b>

### Health Informatics Track Electives

Code	Title	Credits
Select 6 hours from the following:		
BMI 8080	SEMINAR IN BIOMEDICAL INFORMATICS	
BMI 8086	SPECIAL TOPICS: HEALTH INFORMATICS RESEARCH METHODS	

BMI 8900	INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS	
BMI 8970	INDEPENDENT STUDY IN BIOINFORMATICS	
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	
PA 8740	HEALTH CARE POLICY	
<b>Total Credits</b>		<b>6</b>

## Exit Requirements

- Thesis Option: BMI 8990 6 Hours
  - All candidates should carefully review the Graduate College requirements for forming a Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis. This committee will be responsible for planning and supervising the student's thesis in coordination with the BMI GPC. A supervisory committee shall be formally established for each student upon completion of at least nine hours of coursework or one year (which ever comes first) in the MS program. This committee will have responsible for planning and supervising the student's thesis in coordination with the campus-based BMI graduate program committee.

# Biomedical Informatics, PhD

School of Interdisciplinary Informatics, College of Information Science & Technology

## Vision Statement

The Doctor of Philosophy in biomedical informatics (BMI) degree is designed to prepare the next generation of biomedical informatics researchers who are uniquely positioned to advance research and practice in contemporary information and knowledge management that impact biomedical, clinical and translational research, healthcare services, healthcare practice, public health care, and healthcare delivery in general. Graduates will be able to use their preparation to investigate and apply information and computer technologies to solve problems in the biomedical domain.

The mission of the PhD program is to prepare students with the following abilities:

- Understand the theory and application of biomedical informatics focused around the core areas of computer science, medicine, biology, and healthcare
- Knowledge of the analysis, design, development, and implementation of current and future biomedical informatics systems & technologies
- Competence in conducting and managing high quality, basic and applied research in the BMI domain
- Solid grounding in the fundamentals of academic teaching
- Strong foundation in multidisciplinary and emergent areas in biomedical informatics

## Program Contact Information

Dhundy (Kiran) Bastola, PhD, Graduate Program Committee Chair  
173A Peter Kiewit Institute (PKI)  
402.554.4899  
dkbastola@unomaha.edu

Ms. Carlee Heylman, Advisor  
176C Peter Kiewit Institute (PKI)  
402.554.3819

carleebrown@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- **Entrance Exam:** Graduate Record Exam (GRE): Scores must be submitted but are only one component of a holistic admission decision. Successful applicants typically have GRE scores of 150 verbal and 160 quantitative or better.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum acceptable scores are:
  - Paper-based TOEFL: 577, Internet-based TOEFL: 90, IELTS: 7.0, PTE: 61, Duolingo: 110
- **Statement of Purpose** (not to exceed two pages) which address the following questions:
  - What do you hope to accomplish with a PhD in biomedical informatics?
  - Why you are applying to this specific program?
  - What background or qualifications do you have that you believe are essential to success in this program?
  - What general area or topics do you hope to study?
  - What you expect to be doing five to ten years after completion of the doctoral program?
- **Writing Sample:** Evidence of graduate potential in the form of academic papers, publications, theses or project reports done in an academic or industrial setting.
- **Resume**
- **Letters of recommendation:** Three letters from references who are able to give an in-depth evaluation of your strengths and weaknesses with respect to academic work, and who are competent to judge your probability of success in graduate school.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. Applicants will be notified by the individual program if an external course-by-course evaluation is required.

- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

Applicants must follow the formal procedures established for admission to the graduate program at the appropriate NU campus. Applicants must have:

- successfully completed a baccalaureate degree from an accredited institution: preference will be given to students with a masters or doctoral degree from a related field
- demonstrate superior performance in mathematics, including calculus, discrete mathematics and statistics, and a sequence of courses in the theory and practice of one or more information technology areas
- documented test aptitude, interest and commitment to scholarly activities and research
- proficiency in English, sufficient to engage in advanced studies

Evaluation for admission will be based on a portfolio approach that will include the following:

- class standing during the applicant's baccalaureate and masters level studies.
- grade point average in the undergraduate degree that is equivalent to 3.5 or higher.
- verbal, quantitative, and analytic scores on the aptitude tests of the Graduate Record Examination (GRE)
- letters of recommendation
- other evidence of graduate potential, such as a portfolio of quality of papers or publications, projects, etc., completed by the applicant either in an academic or industrial setting.
- A personal interview, if warranted and feasible.

International students may be assessed for English proficiency and asked to take courses in English as a second language. All students will be encouraged to take courses to improve their technical writing and professional communication skills.

## Degree Requirements

The doctoral BMI program typically requires 90 credit hours beyond a baccalaureate degree. It consists of common required foundation/core courses to include doctoral seminars and colloquia, a major field of study, and a cognate/minor field of study in a related discipline.

The doctoral program is divided into four phases from a student's perspective: foundation/core coursework, major field of study/research coursework, additional elective coursework in cognate field/minor field of study (as advised by the student's supervisory committee), and doctoral research and dissertation.

## Information Technology Prerequisites

Applicants should have a background in programming languages, data structures, statistics, math or experimental methods (any engineering, computer science related degree). Students with degrees in other disciplines will usually have to take foundation courses. Occasionally, a student's work experience may be sufficient to waive one or more foundation courses.

Code	Title	Credits
CSCI 1200	COMPUTER SCIENCE PRINCIPLES	3
CSCI 1204	COMPUTER SCIENCE PRINCIPLES LABORATORY	1
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3

CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
CSCI 3320	DATA STRUCTURES	3
CSCI 8010	FOUNDATIONS OF COMPUTER SCIENCE	3

## Science Prerequisites

Applicants should have a background in anatomy, physiology, cell biology or equivalent (any health science degree). Students with degrees in other disciplines will usually have to take foundation courses. Occasionally, a student's work experience may be sufficient to waive one or more foundation courses.

Code	Title	Credits
BIOL 2140	GENETICS	4
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL	3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

## Requirements

Code	Title	Credits
<b>Foundation Courses</b>		<b>24</b>

A maximum of 24 credit hours of graduate coursework can be transferred from courses taken in a graduate program prior to admission into the PhD program. These must be approved by the doctoral program committee and included on the plan of study. BMI 8100, Introduction to Biomedical Informatics or equivalent must be included in the 24 hours.

### Required Each Semester

BMI 8000	ADVANCES IN BIOMEDICAL INFORMATICS	
----------	------------------------------------	--

### Research Requirement **12**

ISQA 9010	FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH	
-----------	---	--

Select 9 hours from the list below.

BIOI 8850	SPECIAL TOPICS IN BIOINFORMATICS	
BMI 8020	ADVANCED COURSE IN BIOINFORMATICS	
BMI 8070	HEALTH INFORMATICS RESEARCH METHODS	
CIST 9080	RESEARCH DIRECTIONS IN I.T.	
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	

Any doctoral level qualitative research method course approved by the Doctoral Program Committee

### Major Field of Study **18**

Select one of the following:

Bioinformatics Track	
Health Informatics Track	

### Cognate Field **9**

Graduate courses (8000 or higher) in the areas of biology, ISQA, information assurance, neuroscience, public health, computer science, and pathology are determined with faculty advisement.

### Colloquia **3**

CIST 9040	COLLOQUIUM ON IT RESEARCH	
CIST 9050	COLLOQUIUM ON IT TEACHING	
CIST 9060	COLLOQUIUM ON IT PROFESSION AND ETHICS	

### Exit Requirement **24**

BMI 9990	DISSERTATION
<b>Total Credits</b>	<b>90</b>

## Track Options

(18 hours from either **Bioinformatics or Health Informatics**)

At least 3 courses (9 credits) must be 9000-level BMI courses. The remaining courses can include at least one 8000-level graduate-only course and up to six hours of 8xx6 courses.

### Bioinformatics Track

Code	Title	Credits
Select 18 hours from the following:		18
BMI 8080	SEMINAR IN BIOMEDICAL INFORMATICS	
BMI 8300	PUBLIC HEALTH GENOMICS	
BMI 8400	LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI	
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	
BMI 8860	SPECIAL TOPICS IN BIOMEDICAL INFORMATICS	
BMI 8866	BIOINFORMATICS ALGORITHMS	
BMI 8896	GENETIC SEQUENCE ANALYSIS	
BMI 9900	ADVANCED RESEARCH IN BIOMEDICAL INFORMATICS	
BMI 9980	INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
CSCI 8876	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	
CIST 9900	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	
ISQA 8410	DATA MANAGEMENT	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8750	STORYTELLING WITH DATA	
ISQA 9020	TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH	
ISQA 9030	BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
<b>Total Credits</b>		<b>18</b>

### Health Informatics Track

Code	Title	Credits
Select 18 hours from the following:		18
BMI 8080	SEMINAR IN BIOMEDICAL INFORMATICS	
BMI 8086	SPECIAL TOPICS: HEALTH INFORMATICS RESEARCH METHODS	
BMI 8300	PUBLIC HEALTH GENOMICS	
BMI 8400	LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI	
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	

BMI 9980	INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS
CIST 9900	SPECIAL TOPICS IN INFORMATION TECHNOLOGY
ISQA 8060	RESEARCH IN MIS
ISQA 8106	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN
ISQA 8410	DATA MANAGEMENT
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD
ISQA 8700	DATA MINING: THEORY AND PRACTICE
ISQA 8736	DECISION SUPPORT SYSTEMS
ISQA 8750	STORYTELLING WITH DATA
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS
ISQA 9020	TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH
ISQA 9030	BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS
<b>Total Credits</b>	<b>18</b>

## Doctoral Program Supervisory Committee

The supervisory committee shall be established before a doctoral student begins the last 45 credit hours of their program of study. This committee will have responsibility for planning and supervision of the student's doctoral program in coordination with the BMI graduate program committee, including the development of the comprehensive exam, defense of the doctoral dissertation proposal, the approval of the completed dissertation, and the final oral examination. Review the BMI Doctoral Handbook for more information on requirements for selecting the supervisory committee members. The student's dissertation advisor will nominate the individual to serve on the supervisory committee in consultation with the student. The responsibilities, procedures, and actions of the supervisory committee are regulated by the rules and bylaws of the Graduate College as established in the UNO Graduate catalog.

Within three weeks of its appointment, the supervisory committee will meet to designate and subsequently file in the Office of Graduate Studies a complete program of studies conforming to the requirements for the degree. At least half of the total hours for the degree must be completed at the University of Nebraska after the filing of the program of study. Any subsequent change in the program or in the dissertation topic must be approved by the supervisory committee and recommended to the dean for Graduate Studies.

## Academic Requirements

Up to 36 credit hours of the coursework in the preparatory and advanced studies of the doctoral program may be accepted if from an accredited institution. Academic requirements for the doctorate degree include:

- Doctoral research seminars in one or more of the thematic areas of the program.
- Advanced courses (subject to dissertation advisor and graduate committee approvals) related to the student's expected field of study/research area.
- Courses in an associated field of study.

- Courses or colloquia relating to teaching, ethics and research.
- Participation in relevant graduate research seminars each semester.
- Successful passing of qualifying (comprehensive) examination.
- Presentation and defense of a dissertation research proposal on a topic in the approved major field of study/research area.
- Submission of the final dissertation manuscript in appropriate format after a successful dissertation defense.

## Requirements for Admission to Candidacy

Students will follow the general candidacy requirements in the UNO Graduate College. Admission to the graduate program does not necessarily imply admission to candidacy for a higher degree.

To be admitted to candidacy for the doctorate degree, a doctoral student must:

- Pass the written qualifying (comprehensive) examination.
- Successfully complete all coursework with satisfactory grades.
- Receive the approval of his/her dissertation proposal before the supervisory committee (oral examination).

After the student has met these requirements, the supervisory committee will recommend to the Office of Graduate Studies his/her admission to candidacy for the doctorate degree, the recommendation will note the dates of completing the comprehensive exam. Such a recommendation must be filed at least seven months prior to the final oral examination for defending his/her dissertation in the presence of his/her supervisory committee. Following admission to candidacy, the student must register during each academic year semester until he/she receives the doctorate degree. Students not in residence may register for a minimum of one semester hour credit in dissertation. Failure to register during each academic year semester will result in termination of candidacy. The term of candidacy is limited to three years.

## Dissertation and Final Examination

The dissertation should treat a subject in-depth from the candidate's major field of study/research area and as approved by his/her supervisory committee. The student's dissertation should show his/her technical mastery of the field and create novel material by advancing or modifying knowledge, creating new material, finding new results, drawing new conclusions, or interpreting old material in a new light.

If the dissertation proposal is approved, the student may conduct the dissertation research under the guidance of the dissertation advisor. The student is advised to consult with his/her supervisory committee until the committee accepts the dissertation. After the dissertation research is completed, the dissertation document and/or product must be presented to all the members of the supervisory committee in time to permit review and approval. Manuscripts must be turned in at least thirty days in advance of the final oral examination over the dissertation. The dissertation will be defended at an open meeting conducted by the student's supervisory committee.

## Grade Requirements

In addition to maintaining at least a 3.0 GPA for all course work, all doctoral students must obtain a grade of B or better in any of the required courses. Any student failing the grade requirements will be denied from taking the comprehensive examination and/or dismissed from the program.

## Exit Requirements

### Completing Graduation Requirements

After successfully defending his or her dissertation, the student should obtain signatures from all members of their supervisory committee on the Report on Completion of Degree form and submit the form along with a copy of their title and abstract page to the Office of Graduate Studies.

## Teaching Requirements

All doctoral students are required to teach at least one course while studying in the program.

## Residency Requirements

All full-time doctoral students must complete 27 hours within 18 months in order to meet the residency requirement of the University. Part-time students must complete 18 hours during the same period. The residency requirement ensures that progress toward the degree occurs within a reasonably compact time frame, enabling the doctoral student to integrate his or her course work with the dissertation.

## Progress Report

At the end of each semester, every doctoral student (full-time or part-time) must complete the Progress Report form and submit it to the chair of the doctoral program committee.

## Satisfactory Progress

A minimum of three years of full-time graduate study is normally required to complete a doctoral program. The maximum time allowed is eight years from the filing of the student's plan of study in the Office of Graduate Studies. Students not making satisfactory progress will be counseled out of the program.

## Leave of Absence

Under extraordinary circumstances, e.g., medical problems, a student may request a leave of absence from the program for a period of no more than one year. The request must be submitted to and approved by the student's supervisory committee and/or doctoral program committee. The request should include necessary modifications to the plan of study as a result of the leave. The leave of absence stops the clock for the total time required for the program and the time required to meet the residency requirement. If a student withdraws in mid-semester and is approved for a leave of absence, the clock starts at the beginning of the following semester. A student does not have to have met the residency requirement in order to apply for a leave of absence. If a student does not return to the program within the one year approved for the leave of absence, then the student must submit an application to re-apply to the program. Re-admission to the program is not guaranteed at that point. Please refer to the Graduate Catalog for the complete policy on a leave of absence.

# Business Administration

## Degree Programs Offered

- Business Administration, MBA (p. 1018)
- Business Administration, Executive MBA (p. 1027)
- Business Administration, MBA and Economics, MS (MBA/ECON) (p. 1040)
- Business Administration, MBA and Management Information Systems, MS (MBA/MIS) (p. 1036)
- Business Administration, MBA and Public Health, MPH (MBA/MPH) (p. 1045))
- Business Administration, MBA and UNMC PharmD (MBA/PharmD) (p. 1048))
- Business Administration, MBA and UNMC Nursing (MBA/MSN) (p. 1051)

## Certificates Offered

- Business for Bioscientists Certificate (p. 999)
- Business in Health Administration Certificate (p. 1057)
- Human Resources and Training Certificate (p. 1065)
- Supply Chain Management Certificate (p. 1058)

**BSAD 8000 BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY (2 credits)**

This core MBA course will explore the relationship between law and ethics, will examine the generally-accepted theoretical principles associated with doing business ethically, and will examine practical ethical issues associated with various facets of business.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent) or admission to the MAcc program. Students with an undergraduate major or a graduate degree in Law may not include this course in a plan of study for the MBA degree. Not open to non-degree students

**BSAD 8010 LEGAL, SOCIAL AND ETHICAL ENVIRONMENT (3 credits)**

Focus upon law and ethics. Business law, legal processes, and regulation will be the subject matter focus. Business ethics will be a recurring focus of analysis. Analysis of the social environment will include public policy. Both subject matter and analysis will be integrated to build the student's critical thinking skills.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation requirements and BSAD 8060 (BSAD 8060 prior to or concurrent); or admission to the MAcc program. Not open to nondegree students.

**BSAD 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with ECON 8020)

**Prerequisite(s)/Corequisite(s):** Principles of Microeconomics (ECON 2200) and Principles of Macroeconomics (ECON 2220), or Analytical Foundations of Economics (BSAD 8180), or permission of the instructor. Not open to non-degree graduate students.

**BSAD 8026 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper. (Cross-listed with ECON8296.)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

**BSAD 8030 INFORMATION TECHNOLOGY IN BUSINESS (3 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent). Not open to nondegree students.

**BSAD 8040 BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION (2 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management information systems may not include this course in a plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8050 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, and the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of the statistical techniques of analysis to the business situation, within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180. Not open to nondegree students.

**BSAD 8060 PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP (2 credits)**

This course will prepare students with the skills to effectively enact the critical leadership skills of listening, employee feedback and coaching, goal-setting, empowerment/delegation, influencing, interviewing, conflict, negotiation, intercultural awareness, team/group discussions, and business etiquette.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program. Not open to non-degree graduate students.

**BSAD 8066 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with MGMT 4060, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8070 EXECUTIVE COMMUNICATION (1 credit)**

This course emphasizes both strategic and practical approaches to business communication from an executive perspective and provides students with tools to improve their business communication skills. This course will focus on composing effective executive/business documents business reports, and briefings.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8076 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with SCMT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8080 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with ECON 8310).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**BSAD 8090 ESSENTIAL LEADERSHIP SKILLS (3 credits)**

This course will teach students the interpersonal skills necessary to effectively manage others. Second, this course will serve as a vehicle to assess the business content knowledge and computer literacy of incoming MBA students in order to provide customized remediation recommendations for each student. Third, the course will collect information that will be used for assessment and accreditation purposes to evaluate the effectiveness of the MBA program. This course will address the following MBA program themes: communication, change agent, teamwork, information technology, critical thinking and information gathering and analysis.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program and completion of MBA foundation courses (or equivalent) or may be taken concurrently with the final foundation course. Not open to nondegree students.

**BSAD 8096 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with MGMT 4090, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program at UNO or the STRATCOM Leader Fellow Program. Not open to non-degree students.

**BSAD 8100 MANAGERIAL ECONOMICS (3 credits)**

The course will offer students tools of analysis drawn from consumer theory and the theory of the firm in order to improve the understanding of human behavior as it is constrained in the context of business decision-making.

This course is intended for students who are seeking the degree of Master of Science in Economics or the degree of Master of Business Administration. (Cross-listed with ECON 8210).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and 2220 or BSAD 8180 and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8110 ACCOUNTING AND FINANCIAL FUNDAMENTALS (3 credits)**

The course is designed to give incoming graduate students the foundation in accounting that is necessary for subsequent graduate courses. Emphasis is on introducing the students to as many accounting concepts as possible.

**Prerequisite(s)/Corequisite(s):** Graduate admission or permission of the appropriate graduate advisor. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8136 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with MGMT 4030).

**BSAD 8146 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with MGMT 4010).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor

**BSAD 8150 ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS (2 credits)**

This course exposes MBA students to fundamental economic concepts necessary for successful business planning and financial success. Topics include: Comparative advantage and international trade, market dynamics, the role that the competitive landscape plays in company decision-making, macroeconomic growth and development, and monetary and fiscal policy and their impact on business activity.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in economics may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8156 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with MGMT 4120).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8166 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with MGMT 4110).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8176 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with SCMT 4170).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8180 ANALYTICAL FOUNDATIONS OF ECONOMICS (3 credits)**

To familiarize students with the basic economic theory and policy analysis (principles level) required to analyze economic problems and to understand and evaluate recommendations designed to solve those problems. This is a course for students and professionals seeking a degree of Master of Business Administration with little or no formal background in economics.

**Prerequisite(s)/Corequisite(s):** Graduate. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8200 MANAGERIAL ACCOUNTING (3 credits)**

A study of concepts, analysis and procedures of accounting utilizing internal financial and non-financial data which provides management with information for planning and controlling routine operations, for non-routine decisions, policy-making and long-range planning; and for external reporting to stockholders, governments and interested parties.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and 2020 or BSAD 8110, and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8206 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with MKT 4200)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8210 ACCOUNTING: DECISIONS & CONSEQUENCES (2 credits)**

Managers and administrators must be able to understand, analyze, and use accounting information to make operational and strategic business decisions. In this course, we will study practical uses of accounting information to address the problems and decisions managers face in business. Emphasis is placed on the user of accounting information rather than the preparer. Upon completion of this course, a student should be able to use accounting information to make management decisions, understand how accounting rules inform those decisions, and consequently, how those decisions affect a company's financial reports.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or graduate degree in accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8216 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with MKT 4210, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**BSAD 8226 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers.

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**BSAD 8230 CHANGE MANAGEMENT (2 credits)**

This course provides a theoretical as well as pragmatic approach to change management for executive and senior level leaders in all types of organizations. Focus is given to organizational structure, managing culture, and critical components of senior level management effectiveness in leading change.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8240 EXECUTIVE LEADERSHIP DEVELOPMENT (2 credits)**

This course aims to enhance the leadership effectiveness of students by developing executive competencies in problem solving, collaborative behaviors, teamwork, and conflict resolution. Students will gain crucial experience in using effective leadership tools to become leaders who act with a deeper understanding of themselves, their organizations, and their communities, and contribute positively to the growth of each.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8250 ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES (2 credits)**

This course will prepare students with the knowledge necessary to manage and lead organizations effectively. Students will learn management theories, understand important research findings in organizational behavior, and apply both theory and research results to real organizational situations, thus giving them the capacity to use OB theories to enhance organizational effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8260 ACCOUNTING THEORY & PRACTICE (2 credits)**

This course is designed to enhance students' understanding of financial statements and how executive decisions can influence these statements. Financial statements, including footnotes and explanatory material, are the primary instruments utilized by parties external to the enterprise in making judgments about the enterprise. By understanding how management decisions are reflected in the financial statements, managers will understand how they can influence their judgment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8280 STEWARDSHIP OF THE FIRM'S RESOURCES: HUMAN RESOURCE MANAGEMENT (2 credits)**

This course provides a comprehensive review of effective human resource theory and practice with an emphasis on managerial influence on attracting, retaining, developing, and rewarding employees.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8300 ORGANIZATION THEORY & DESIGN (3 credits)**

A study of theories and guidelines for enhancing organizational effectiveness by matching an organization's structure to its environment, strategy, technology and size.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8310 MANAGING PERFORMANCE IN ORGANIZATIONS (3 credits)**

A human behavior course emphasizing the areas of individual behavior, interpersonal behavior, group behavior and the interplay of human and non-human factors.

**Prerequisite(s)/Corequisite(s):** Essential Leadership Skills (BSAD 8060) or admission to the MAcc program. Not open to nondegree students.

**BSAD 8326 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with MKT 4320.)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8330 STRATEGIC COLLABORATION: LEADING HIGH IMPACT TEAMS (1 credit)**

This course is designed to enhance students' understanding of collaboration principles, practices and processes. In this interactive course, students will learn how to utilize collaboration tools and techniques and creative problem solving methods to enhance strategic decision making. Other concepts that will be introduced include building and assessing high-performing teams, managing and leading teams, identifying and resolving team dysfunctions, and team decision making approaches. Ultimately, students will learn how to be more influential and improve interactions so people and organizations can work together more efficiently.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8336 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, SCMT 4330)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program; or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8340 INTERNATIONAL BUSINESS STUDY ABROAD (3 credits)**

This course provides students with an international business and cultural experience through a study tour in a selected international location. Students will develop an understanding of the factors that affect international business decisions by visiting American companies operating abroad and foreign companies that export goods and services to the U.S. Typically, travel is conducted during Spring Break.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BSAD 8345 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with MKT 3320).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor.

**BSAD 8350 SEMINAR IN MANAGEMENT (3 credits)**

A student participation course emphasizing current issues and problems in the areas of management theory and operation.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8356 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with SCMT 4350).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8360 FINANCIAL MANAGEMENT FOR EXECUTIVES (3 credits)**

Students will develop strategic decision making skills by using financial concepts including time value of money, capital budgeting processes, cash flow forecasting and project risk analysis. Topics covered include: capital budgeting, financial statement analysis, capital structure, financial risk analysis and others..

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8366 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with MKT 4360).

**Prerequisite(s)/Corequisite(s):** BSAD 8400 with a grade of 'B' or above. Not open to non-degree graduate students.

**BSAD 8370 BUSINESS LAW AND ETHICS (2 credits)**

Only students who have been admitted to the Executive MBA program may take this course. A comprehensive examination of the existing structure and mechanisms used to resolve disputes in the United States, which allows the student to understand the strengths and weaknesses of this system. It will specifically examine the body of substantive law that affects management, including court decisions, statutes (federal and state), traditional ethical theories as they relate to the law, and international problems that exist in the legal environment.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8376 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with SCMT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8380 STRATEGIC OPERATIONS MANAGEMENT (2 credits)**

Students will learn how effective decision-making skills can be used to create a long-term competitive advantage for an organization through operational excellence. Key concepts in this course will include operations management, quality management, and data analytics. Specific topics will include process improvement, quality assurance, supply chain management, project management, and performance assessment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8386 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, SCMT 4380)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8396 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with MKT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8400 MARKETING POLICIES (3 credits)**

This course provides an introduction to the fundamental concepts of marketing, including a customer orientation, matched with attention to competition and core strengths. The course will illustrate strategies and principles that will help you understand how marketing managers, product managers or service managers must think through their situations, determine their goals and lay a course to achieve those goals.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent); or admission to MAcc program. Not open to nondegree students.

**BSAD 8420 MARKETING: UNDERSTANDING CONSUMERS AND MARKETS (2 credits)**

This course exposes MBA students to the fundamental concepts, practices and issues of marketing. A wide range of marketing practices and structures will be explored including product and service firms, consumer and business markets, profit and not-for-profit organizations, domestic and global companies, and small and large businesses.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in marketing may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8426 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with MKT 4420).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8430 STRATEGIC BRAND MANAGEMENT (3 credits)**

An exploration of the characteristics, meanings, and management of brands in the business world. The course examines brands as a strategic asset, and draws on managerial, consumer, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** BSAD 8420 or permission of instructor. Not open to nondegree students.

**BSAD 8440 DECISION ANALYTICS (2 credits)**

Students will learn to use statistical and decision making tools to interpret data to solve practical management problems and gain desired results. Areas of focus will include market research, decision analysis, data analytics, and business forecasting.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8450 SEMINAR IN MARKETING (3 credits)**

Exploration, study and critical analysis of contemporary marketing problems, trends, methods and approaches for seminar discussion and written report.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8456 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, SCMT 4450).

**BSAD 8466 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with SCMT 4460).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8480 APPLICATIONS IN ECONOMICS (2 credits)**

Students will learn how to apply micro-economic concepts to corporate strategy. Topics covered include demand analysis and consumer behavior, cost efficiencies such as economies of scale and scope, market structure and strategic pricing, applications of game theory to strategy, and others. The course will also cover macroeconomic conditions and concepts that affect business decisions such as the detection, measurement, and determinants of business cycles and the resulting impact of macroeconomic policy.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8510 SECURITY ANALYSIS (3 credits)**

Study of the efficient market, fundamental and technical analysis approaches for the valuation of marketable securities. Methods of analysis are considered for the economy, industry groups and individual corporations.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8520 SEMINAR INVESTMENT MANAGEMENT (3 credits)**

This course focuses upon the modern portfolio theory of investment management and its application in formulation of policies for individuals and institutional investors. Topics addressed will include qualitative and quantitative analysis of the risks and returns of portfolio management using efficient market, fundamental analysis, and technical analysis approaches.

**Prerequisite(s)/Corequisite(s):** BSAD 8510. Not open to nondegree students.

**BSAD 8530 BANK & FINANCIAL MARKETS (3 credits)**

This course focuses on the theory and practice in managing commercial banks. Topics covered include but not limited to: bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. The course emphasizes the link between theory and practice through assigned course related readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to non-degree graduate students.

**BSAD 8540 MULTINATIONAL FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on multinational financial management as viewed and practiced by the multinational firm and on current developments in international financial markets, including global banking. Familiarity with certain areas of the firm's environment, such as the international monetary system, the European Monetary System, and determination of exchange rates under alternative regimes, is essential to the international financial manager.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8550 SEMINAR IN FINANCE (1-3 credits)**

Selected topics from areas of business finance.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8560 MARKETING STRATEGIES (3 credits)**

Marketing is the core of an operating business. Marketing is the art and science of creating customer value and market place exchanges that benefit the organization and its stakeholders. It is an organizational philosophy and a set of guiding principles for interfacing with customers, competitors, collaborators, and the environment. Students will learn how successful businesses match their objectives and resources with opportunities in the marketplace by identifying and measuring consumer needs, determining target markets and deciding which products and services to offer. Strategies for pricing, promoting and distributing the firm's products and services to create competitive advantage in domestic and international markets are covered.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8570 STRATEGIC MANAGEMENT (3 credits)**

This course centers around the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. Students will develop the strategic thinking skills needed to formulate and execute successful strategies for firms/organizations in a variety of industries and dynamic environments. Emphasis is given to the contributions of several business disciplines of study, such as marketing, finance and management, to understanding both the internal operations of the organization and the influences of the external environment. This course is integrative and introduces both the theory and practice that enables that integrative process.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8576 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with FNBK 4570)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BSAD 8590 SEMINAR IN BUSINESS ADMINISTRATION (3 credits)**

This course hosts the international business consulting project. Both a theory and a practical course, it examines opportunities and challenges for a domestic U.S. firm or industry attempting to enter or expand its presence in an international market. Emphasis is placed on developing focused and appropriate research objectives, the collection and analysis of data for decision-making, development and evaluation of strategy alternatives, and on the production and presentation of a professional, prescriptive consulting report.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8596 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control, and risk avoidance, among others. (Cross-listed with FNBK 4590.)

**BSAD 8600 REAL ESTATE FINANCE THEORY AND APPLICATIONS (3 credits)**

This course explores advanced financial analysis tools and methodologies used to quantify complex factors surrounding real estate productivity, value, investment, and project feasibility. Specific course topics will coincide with student interest in one of three focus areas: Investment, Development, or Commercial Finance.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of Real Estate Program Director.

**BSAD 8605 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with RELU 3410).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program, or permission of Real Estate Program Director.

**BSAD 8606 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with FNBK 4600.)

**Prerequisite(s)/Corequisite(s):** BSAD 8500 and 8510 or their equivalent, and graduate standing. Not open to nondegree students.

**BSAD 8610 REAL ESTATE APPRAISAL (3 credits)**

This course addresses the fundamentals of real estate valuation and appraising, including factors affecting value, valuing land, improvements, and special classes of residential property, appraisal practice and rules, depreciation and obsolescence, and the mathematics of appraising.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of instructor.

**BSAD 8620 VALUATION OF INTELLECTUAL PROPERTY (3 credits)**

Intellectual Property (IP) is critical to business success. Accounting, economics, and finance all struggle to quantify "value" of individual IP (e.g., trademark) and bundles of IP (e.g., patent pool). Value depends on the context (e.g., infringement versus depreciation versus sale). This course focuses on application of theory.

**Prerequisite(s)/Corequisite(s):** BSAD 8010 or BSAD 8100 or BSAD 8110 or BSAD 8500, or its equivalents. Not open to non-degree graduate students.

**BSAD 8630 FINANCE: UNDERSTANDING CAPITAL AND CASH (2 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070, 8150 and 8210. Students with an undergraduate major or a graduate degree in finance or accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8640 IT: STRATEGIC DEVELOPMENT AND DEPLOYMENT (1 credit)**

Students will gain a strategic perspective of information technology management, including current trends and best practices, and understand how technology can be used in competitive positioning. Processes for innovation and research and development spending and new business models will be covered.

**BSAD 8650 INTERNATIONAL: COMPETING IN GLOBAL MARKETS (2 credits)**

This course allows students to develop an understanding of the evolution of the global political economy, challenges faced when operating in the global business environment, and how to evaluate the risks and returns of global expansion. Students will also learn how to effectively communicate in international settings, to successfully manage international conflicts, and to conduct effective cross-border business negotiations.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8696 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, MGMT 4690).

**Prerequisite(s)/Corequisite(s):** Admission to a UNO graduate degree program or permission of instructor

**BSAD 8700 BUSINESS ANALYTICS: MAKING SENSE OF DATA (2 credits)**

The purpose of this course is to provide business managers with an understanding of the important role data analytics has assumed in today's organizations. Data analytics has become a key component in accomplishing strategic and operational goals. This course is designed to familiarize students with the concepts and principles of analytics. It is targeted for graduate or MBA students who have little or no background in analytics. Therefore, it focuses on breadth of coverage rather than depth in any specific area.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent); or admission to the MAcc program. Not open to non-degree graduate students.

**BSAD 8710 SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on supply chain management as a key functional area of organizational success. Students will learn about current techniques used by supply chain practitioners to make strategic and tactical decisions that support the overall strategy and day-to-day operations of an organization. Students will develop an understanding of how supply chain decisions and appropriate metrics of performance can be utilized to improve the operational efficiency and effectiveness of an organization.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8720 STRATEGIC FINANCIAL MANAGEMENT (2 credits)**

This course is intended to be advanced financial management. It will stress the theory and application of topics including, but not limited to capital budgeting, cash flow estimation, real options, capital structure, dividends and share repurchases, working capital management, budgeting, planning and forecasting, and lease management. The material covered in Strategic Financial Management will increase the student's knowledge of how to strategically manage financial resources to increase the intrinsic value of the organization.

**Prerequisite(s)/Corequisite(s):** For MBA students, BSAD 8630. For MAcc students, completion of all Master of Accounting (MAcc) foundation courses. Not open to non-degree graduate students.

**BSAD 8726 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with ENTR 4720, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or by instructor permission

**BSAD 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, ECON 8436)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**BSAD 8750 TELECOMMUNICATIONS IN BUSINESS (3 credits)**

This course is designed to introduce students to basic technology of modern telecommunications, including voice, data and video, as well as the contemporary issues of telecommunication policy. In addition, the course will address managerial issues of modern telecommunications in business.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to non-degree graduate students.

**BSAD 8766 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, MKT 4760)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8776 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with ENTR 4770).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must apply and interview to take this course. Preference is given to students in their junior year, and must have three semesters of school left before graduating.

**BSAD 8786 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4780).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8776 with a grade of C or better.

**BSAD 8796 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4790).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8786 with a grade of C or better.

**BSAD 8800 MBA PROJECT-FOCUSED CAPSTONE (2 credits)**

In this Master's of Business Administration (MBA) required project-focused capstone course, students complete a service-learning consulting project for a non-profit or other type of organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program.

**Prerequisite(s)/Corequisite(s):** Students must complete this course in the final semester or within the final 9 credits of their MBA program courses. A minimum B grade required to successfully complete the course and qualify for graduation. Not open to non-degree graduate students.

**BSAD 8810 APPLIED STRATEGIC LEADERSHIP (3 credits)**

Applied and integrative course in the MBA program, with an emphasis on field experiences when possible.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in, or completion of, BSAD 8060. Not open to nondegree students.

**BSAD 8820 SUSTAINABLE BUSINESS PRACTICES (1 credit)**

This course exposes students to motivations for, and implications of business engagement in, sustainable management practices. As such the course addresses why firms have increasingly been investing in energy and natural resource conservation, recycling, green products, green branding, and environmental impact mitigation. This course addresses a firm's market-based incentives to grow profits, gain market share and/or otherwise differentiate themselves from their competition through green initiatives.

**Prerequisite(s)/Corequisite(s):** BSAD 8150 or permission of instructor. Not open to non-degree graduate students.

**BSAD 8830 STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE (2 credits)**

This course centers on the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. The primary objective of this course is to sharpen the ability of students to think strategically, to diagnose situations from a strategic perspective and to develop creative solutions to enable firms to achieve a sustainable competitive advantage.

**Prerequisite(s)/Corequisite(s):** Students must successfully complete BSAD 8150 and BSAD 8210 before enrolling in this course. This course must be taken within the first 20 hours of the MBA program. Not open to non-degree graduate students.

**BSAD 8880 ARTS AND THE EXECUTIVE (3 credits)**

The course will provide the graduate student with an understanding of the organizational and managerial issues involved in an arts organization as the role of the arts in the business community.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8900 INDEPENDENT STUDY (1-6 credits)**

Individual research in an academic area in business administration.

**Prerequisite(s)/Corequisite(s):** Graduate and permission of MBA Advisor. Requires submission of completed Independent Study Contract to MBA Advisor prior to registration. Not open to non-degree graduate students.

**BSAD 8910 SPECIAL TOPICS IN BUSINESS (1-3 credits)**

May be repeated up to (6). A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate in good standing and as indicated for specific workshop or seminar. Not open to non-degree graduate students.

**BSAD 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with ECON 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**BSAD 8990 THESIS (1-6 credits)**

A research project, under the supervision of a faculty thesis adviser in the College of Business Administration, in which the student establishes his capacity to design, conduct and complete an independent, scholarly investigation of a high order of originality. The research topic and the completed project must be approved by the student's faculty thesis adviser and two other faculty members, one of whom must be from outside the program area.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser. Not open to non-degree graduate students.

## Business Administration, MBA

Department of Business Administration, College of Business Administration

### Mission Statement

The mission of the MBA program at the University of Nebraska at Omaha (UNO) is to prepare students to contribute significantly to organizational productivity through learning experiences, emphasizing the application of sound and innovative business techniques. By acquiring the knowledge and abilities necessary to be a problem solver who is influential, innovative, and socially responsible, the graduate of the UNO MBA program will be an effective leader in enhancing organizational capabilities. The graduate will be well prepared for a responsible management position and will have an understanding of the technological and global business environment.

In addition to developing a strong background in the functional areas of business, the UNO MBA program focuses on developing essential leadership capabilities in its graduates.

### Triple Bottom Line (TBL)

The TBL framework that has been incorporated into the curriculum provides a distinctive structure to the program that we can communicate to students, employers and others. TBL will help students see relationships between issues in a turbulent business environment. It compels students to understand the relationship between social, economic and environmental trends. A TBL framework for the MBA program will develop principled leaders who can effectively anticipate unfortunate surprises and uncover new opportunities. These leaders can position their firms to be a step ahead of competitors.

### Program Contact Information

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836

mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-business-administration/mba/about-us/>)

## Other Program Related Information

### FastTrack Program

The College of Business Administration MBA program has developed a FastTrack program for highly qualified and motivated students providing the opportunity to complete a BSBA degree and an MBA degree in an accelerated time frame. With FastTrack, students may count up to nine graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing a BSBA degree and desiring to pursue an MBA
- Students must have completed no less than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.0
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

### Enrollment of Non-Degree Students

Following a review of their transcripts by the MBA advisor, non-degree students may be permitted to enroll in MBA foundation courses only, BSAD 8110 and ECON 1200 (3.0 junior/senior GPA required).

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a

baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Unconditional Admission:** may be granted to an applicant whose record includes the following:
  - 2.85 undergraduate junior/senior GPA, or cumulative graduate GPA
  - Resume (employment and educational history)
  - Applicants qualifying for unconditional admission, based on the standards outlined above, but lacking some foundation courses, will be granted provisional status until all foundation courses are completed with grades of "B" (3.0/4.0) or above.
- **Provisional Admission:** Applicants who do not meet the conditions for unconditional admission may be considered for provisional admission status. These applicants will be notified that the CBA Graduate Program Council (CBA GPC) will evaluate the files of all applicants being considered for provisional admission. Candidates being considered for admission on this basis will receive notification from the UNO Office of Graduate Studies. If granted provisional admission, the student must earn minimum "B" (3.0/4.0) grades in each of the MBA courses completed in the first 12 hours of the program. Students not meeting this standard are subject to dismissal.
- **Foundation courses:** An applicant must have completed basic courses in the following areas, either as an undergraduate student or prior to enrolling in the first MBA course:

Code	Title	Credits
<b>Accounting</b>		
Select one of the following:		3-6
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		
ACCT 2010 & ACCT 2020	PRINCIPLES OF ACCOUNTING I and PRINCIPLES OF ACCOUNTING II	6
<b>Economics</b>		
Select one of the following:		3-6
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro and Macro Economics at the undergraduate level:		
ECON 2200 & ECON 2220	PRINCIPLES OF ECONOMICS (MICRO) and PRINCIPLES OF ECONOMICS (MACRO)	6
<b>Principles of Business Statistics</b>		
Select one of the following:		
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
Or one semester of statistics		
<b>College Algebra</b>		
Select one of the following:		
MATH 1220	COLLEGE ALGEBRA	3
Or one semester of college algebra at the undergraduate level		
<b>English Composition I</b>		
ENGL 1150	ENGLISH COMPOSITION I <sup>1</sup>	3

<sup>1</sup> ENGL 1150 is required as a foundation course for all students admitted to the MBA program who are required to complete the TOEFL/IELTS. The English composition requirement must be satisfied within the first two semesters of a student's program.

- Courses successfully completed with a grade of A, B, or C (2.0 on 4.0 scale) in the applicant's undergraduate program are considered as sufficient preparation. Otherwise, the applicant must complete foundation requirements prior to enrolling in the first MBA course with a minimum B (3.0 on 4.0 scale) grade. Foundation courses, including BSAD 8110 and ECON 1200, may not be used on a plan of study.

## Degree Requirements

### Required Courses (22 hours)

Code	Title	Credits
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP <sup>1</sup>	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>2</sup>	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>3</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>4</sup>	2
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> BSAD 8060 This is the first graduate-level course MBA students have to complete.

<sup>2</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>3</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>4</sup> BSAD 8830 (prereq: completion of BSAD 8150 and BSAD 8210)

### Project Capstone Course (2 hours)

**BSAD 8800 - MBA Project-Focused Capstone.** As the project-focused capstone course for the Master of Business Administration (MBA) degree, this course will focus on students completing a service-learning consulting project for a non-profit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

### Directed Elective Requirement

For students who have earned an undergraduate or graduate degree in accounting, economics, management, management information systems, or marketing, the core course(s) corresponding to the student's previously

earned degree(s) will be waived. To satisfy degree requirements, the student must complete a directed elective in the waived field as indicated. For students who have earned an undergraduate or graduate degree in finance, the core course(s) corresponding to the student's previously earned degree may be waived upon request. Students with more than one core course waiver will be required to take an additional 1-credit hour seminar or 3-credit hour elective to fulfill degree requirements.

### Accounting Directed Electives

Code	Title	Credits
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	3
ACCT 8026	ANALYTICS FOR ACCOUNTING	3
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 8076	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8250	SEMINAR IN ACCOUNTING	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3

### Economics Directed Electives

Code	Title	Credits
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8300	ECONOMETRICS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ECON 8310/BSAD 8080	BUSINESS FORECASTING	3
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3

ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3

### Finance Directed Electives

Code	Title	Credits
BSAD 8510	SECURITY ANALYSIS	3
BSAD 8520	SEMINAR INVESTMENT MANAGEMENT	3
BSAD 8530	BANK & FINANCIAL MARKETS	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
BSAD 8550	SEMINAR IN FINANCE	1-3
BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	3
BSAD 8596	RISK MANAGEMENT FOR BUSINESS MANAGERS	3
BSAD 8600	REAL ESTATE FINANCE THEORY AND APPLICATIONS	3
BSAD 8606	FINANCIAL RISK MANAGEMENT	3
BSAD 8610	REAL ESTATE APPRAISAL	3
HSRA 872	Health Care Finance	3

### Information Systems Directed Electives

Code	Title	Credits
ISQA 8106	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	3
ISQA 8180	ELECTRONIC COMMERCE	3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	3
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	3
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8250	FACILITATION OF COLLABORATIVE PROBLEM SOLVING	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8340	APPLIED REGRESSION ANALYSIS	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	3
ISQA 8530	E-COMMERCE SECURITY	3
ISQA 8546	COMPUTER SECURITY MANAGEMENT	3
ISQA 8560	INFORMATION WARFARE AND SECURITY	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	3
ISQA 8596	IT AUDIT AND CONTROL	3
ISQA 8700	DATA MINING: THEORY AND PRACTICE	3
ISQA 8736	DECISION SUPPORT SYSTEMS	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3

ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	3
-----------	--	---

### Management Directed Electives

Code	Title	Credits
BSAD 8096	PRINCIPLES OF COLLABORATION	3
BSAD 8136	HUMAN RESOURCE MANAGEMENT	3
BSAD 8146	TOTAL REWARDS	3
BSAD 8156	TALENT DEVELOPMENT	3
BSAD 8166	STAFFING THE ORGANIZATION	3
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8336	PROJECT MANAGEMENT	3
BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD	3
BSAD 8350	SEMINAR IN MANAGEMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8376	SUPPLY CHAIN ANALYTICS	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD 8726	INNOVATION VENTURES	3
CACT 8520	POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP	3
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 8806	ADVANCED CONFLICT MEDIATION	3
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 8646	PERSONNEL PSYCHOLOGY	3
PSYC 9620	TRAINING AND DEVELOPMENT	3
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3

### Marketing Directed Electives

Code	Title	Credits
BSAD 8206	CONSULTATIVE SELLING PRINCIPLES	3
BSAD 8216	SELLING FINANCIAL SERVICES	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8426	BUSINESS DEMOGRAPHICS	3
BSAD 8430	STRATEGIC BRAND MANAGEMENT	3
BSAD 8450	SEMINAR IN MARKETING	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD 8726	INNOVATION VENTURES	3
BSAD 8766	SELLING IN AN ENTREPRENEURIAL CONTEXT	3

### MBA Electives (9 hours)

Electives (8000-level) may be chosen from MBA, master's level Accounting and Economics, as well as courses in other departments as listed below.

A directed elective, if required, is part of the nine (9) hours of electives required for degree completion.

A maximum of nine (9) hours of dual-level (graduate/undergraduate) electives may be included in the plan of study for an MBA degree.

MBA policy limits the number of Special Topics/Special Studies (BSAD 8910) electives to a maximum of nine hours, which may be applied to the MBA program as electives.

Not all elective courses are offered each semester.

### Accounting Electives

Code	Title	Credits
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	3
ACCT 8026	ANALYTICS FOR ACCOUNTING	3
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 8076	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8250	SEMINAR IN ACCOUNTING	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3

### Business Administration Electives

Code	Title	Credits
BSAD/ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
BSAD 8026	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
BSAD 8080/ ECON 8310	BUSINESS FORECASTING	3
BSAD 8096	PRINCIPLES OF COLLABORATION	3
BSAD 8136	HUMAN RESOURCE MANAGEMENT	3
BSAD 8146	TOTAL REWARDS	3
BSAD 8156	TALENT DEVELOPMENT	3
BSAD 8166	STAFFING THE ORGANIZATION	3
BSAD 8206	CONSULTATIVE SELLING PRINCIPLES	3
BSAD 8216	SELLING FINANCIAL SERVICES	3
BSAD 8226	GLOBAL STRATEGIC ACCOUNT MANAGEMENT	3
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8336	PROJECT MANAGEMENT	3
BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD	3
BSAD 8350	SEMINAR IN MANAGEMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8376	SUPPLY CHAIN ANALYTICS	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3

BSAD 8426	BUSINESS DEMOGRAPHICS	3
BSAD 8430	STRATEGIC BRAND MANAGEMENT	3
BSAD 8450	SEMINAR IN MARKETING	3
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	3
BSAD 8510	SECURITY ANALYSIS	3
BSAD 8520	SEMINAR INVESTMENT MANAGEMENT	3
BSAD 8530	BANK & FINANCIAL MARKETS	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
BSAD 8550	SEMINAR IN FINANCE	1-3
BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	3
BSAD 8596	RISK MANAGEMENT FOR BUSINESS MANAGERS	3
BSAD 8600	REAL ESTATE FINANCE THEORY AND APPLICATIONS	3
BSAD 8606	FINANCIAL RISK MANAGEMENT	3
BSAD 8610	REAL ESTATE APPRAISAL	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD/ECON 8736	ECONOMICS OF ENTREPRENEURSHIP	3
BSAD 8766	SELLING IN AN ENTREPRENEURIAL CONTEXT	3
BSAD 8900	INDEPENDENT STUDY	1-6
BSAD 8910	SPECIAL TOPICS IN BUSINESS	1-3
BSAD 8820	SUSTAINABLE BUSINESS PRACTICES	1

### Economics Electives

Code	Title	Credits
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8300	ECONOMETRICS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3

ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3
ECON 8910	SPECIAL STUDIES IN ECONOMICS	1-3

### Aviation Electives

Code	Title	Credits
AVN 8360	TRANSPORTATION SAFETY	3
AVN 8605	INTERNATIONAL AVIATION	3

### Biology Electives

Code	Title	Credits
BIOL/PA/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3

### Communication Studies Electives

Code	Title	Credits
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	3
CMST 8166	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	3
CMST 8176	ORGANIZATIONAL COMMUNICATION	3
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	3
CMST 8516	PERSUASION AND SOCIAL INFLUENCE	3
CMST 8536	INTERCULTURAL COMMUNICATION-US	3
CMST 8556	NONVERBAL COMMUNICATION	3
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	3
CMST 8806	ADVANCED CONFLICT MEDIATION	3

### Critical and Creative Thinking Electives

Code	Title	Credits
CACT 8326	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	3

### Engineering Electives

Code	Title	Credits
AE 8090	SUSTAINABLE BUILDING DESIGN	3
CONE 8506	SUSTAINABLE CONSTRUCTION	3

### Environmental Studies Electives

Code	Title	Credits
ENVN 8316	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	3

### Geography Electives

Code	Title	Credits
GEOG 8016	CONSERVATION OF NATURAL RESOURCES	3
GEOG 8130	SEMINAR IN ECONOMIC GEOGRAPHY	3
GEOG 8156	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
GEOG 8166	URBAN SUSTAINABILITY	3
GEOG 8556	GEOGRAPHY OF ECONOMIC GLOBALIZATION	3

GEOG/GEO 8616	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
---------------	---	---

### Gerontology Electives

Code	Title	Credits
GERO/PA 8516	LONG-TERM CARE ADMINISTRATION	3
GERO 8756	MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING	3

### Public Health and Human Behavior Electives

Code	Title	Credits
PHHB 8600	HEALTH BEHAVIOR	3
PHHB 8950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	3

### Information Systems and Quantitative Analysis and IT Innovation Electives

Code	Title	Credits
ISQA 8016	BUSINESS INTELLIGENCE	3
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (Only approved for the Fall 2021 semester.)	1-5
ISQA 8106	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	3
ITIN 8210	FOUNDATIONS OF IT INNOVATION	3
ITIN 8266	USER EXPERIENCE DESIGN	3
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	3
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	3
ISQA 8180	ELECTRONIC COMMERCE	3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	3
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	3
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8250	FACILITATION OF COLLABORATIVE PROBLEM SOLVING	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8340	APPLIED REGRESSION ANALYSIS	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	3
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	3
ISQA 8530	E-COMMERCE SECURITY	3
ISQA 8546	COMPUTER SECURITY MANAGEMENT	3
ISQA 8560	INFORMATION WARFARE AND SECURITY	3
ISQA 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	3
ISQA 8596	IT AUDIT AND CONTROL	3
ISQA 8700	DATA MINING: THEORY AND PRACTICE	3

ISQA 8736	DECISION SUPPORT SYSTEMS	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	3
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	3

### Political Science Electives (select only one)

Code	Title	Credits
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	3
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS	3
PSCI 8296/ CACT 8306	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	3
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS	3
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	3
PSCI 8716	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	3

### Psychology Electives

Code	Title	Credits
PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING	3
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 8646	PERSONNEL PSYCHOLOGY	3
PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS	3
PSYC 9320	SEMINAR IN PROGRAM EVALUATION	3
PSYC 9620	TRAINING AND DEVELOPMENT	3
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3

### Public Administration Electives

Code	Title	Credits
PA 8740	HEALTH CARE POLICY	3

### Statistics Electives

Code	Title	Credits
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	3

### UNMC Electives

Code	Title	Credits
ENV 840	Climate Change, Sustainability & Public Health	3
ENV 892	Public Health, Environment & Society	3
HSRA 810	The U.S. Health Care System: An Overview	3
HSRA 830/CPH 580	Health Care Organization Theory and Behavior	3
CPH 502	Health Services Administration	3
CPH 562	Human Resources Management in Health Organizations	3
HSRA 872	Health Care Finance	3
HSRA 874	Health Policy	3
HSRA	Health Economics	3

## Transfer of Graduate Credit

Students who have completed graduate courses at other approved AACSB (Association to Advance Collegiate Schools of Business) graduate schools may request permission to transfer as many as nine (9) semester hours of credit, provided the courses are pertinent to the student's graduate program. Grades in courses for transfer credit must be equivalent to "B" (3.0/4.0) or higher. All work for transfer of credit must have been taken within the ten-year period allowed for the master's in business administration degree. Petitions for the transfer of credit are submitted by the student to the MBA advisor who forwards the petition with a recommendation to the Dean for Graduate Studies for approval. Visit the AACSB website (<http://www.aacsb.edu>) for the listing of AACSB accredited institutions.

## MBA Exit Requirements

### Comprehensive Examination

All students earning an MBA degree must complete a comprehensive examination or a comprehensive examination equivalent. The comprehensive examination requires the student to demonstrate the knowledge gained from the core courses and the ability to synthesize that knowledge in the analysis of questions involving more than one concept. Completion of the project focused capstone course (BSAD 8800) with a grade of "B" (3.0/4.0 scale) or better is equivalent to completion of the comprehensive examination. If a student transfers in credit for the non-comprehensive examination components of the project focused capstone course, then the student must pass a written comprehensive examination prepared by and graded by the graduate program council.

### Thesis Option

MBA students may elect to complete a 6-hour thesis under the guidance of a supervisory committee. The student is responsible for compliance with all Graduate College and MBA graduate program council rules and procedures with respect to formation of a supervisory committee and completion of a thesis. The student shall submit to the supervisory committee a document including: 1) a proposed plan of study; 2) a description of the student's research topic; and 3) the student's research methodology. The student shall make an oral defense of the document to the supervisory committee. The supervisory committee's approval shall be in writing. A supervisory committee's approval should be obtained at least seven months before the intended graduation date. If a student elects to complete a thesis, then the supervisory committee of the thesis shall decide how the student will satisfy the comprehensive examination requirement and the business case requirement. The supervisory committee's written approval of the plan of study shall require either the student's completion of the project focused capstone course or a comprehensive examination (either written or oral) prepared by and graded by the supervisory committee.

## Other Requirements to Complete the Program

All MBA students must attend MBA Orientation in their first semester in the MBA program as part of their degree requirements. All MBA students must participate in a minimum of two (2) MBA Leadership Seminars prior to graduation.

### Total Credit Hours: 33

## Concentrations

The MBA Program offers concentrations in the areas listed below. A concentration shall include at least nine (9) credit hours.

With the prior, written approval of the College of Business Administration graduate program council and the dean for Graduate Studies, an independent research, special studies, or special topics graduate-level course from Accounting, Business Administration or Economics, when such

course has as its principal focus issues relevant to business administration or the concentration, may be substituted.

## Business Technology

Code	Title	Credits
<b>Select three of the following:</b>		<b>9</b>
BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	
ECON 8346	ECONOMICS OF TECHNOLOGY	
ISQA 8180	ELECTRONIC COMMERCE	
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	
ISQA 8410	DATA MANAGEMENT	
ISQA 8420	MANAGING THE I.S. FUNCTION	
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8530	E-COMMERCE SECURITY	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8596	IT AUDIT AND CONTROL	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	
ISQA 8820	PROJECT RISK MANAGEMENT	
<b>Total Credits:</b>		<b>9</b>

## Collaboration Science

Code	Title	Credits
<b>Required</b>		<b>3</b>
BSAD 8096	PRINCIPLES OF COLLABORATION	
<b>Electives</b>		<b>6</b>
Select two of the following:		
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	
CMST 8806	ADVANCED CONFLICT MEDIATION	
PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS	
<b>Total Credits</b>		<b>9</b>

## Business Analytics

Code	Title	Credits
<b>Required and taken in the following order:</b>		<b>15</b>
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	
ECON 8300 & ECON 8320	ECONOMETRICS and TOOLS FOR DATA ANALYSIS <sup>1</sup>	

ECON 8310 & ECON 8330	BUSINESS FORECASTING and DATA ANALYSIS FROM SCRATCH <sup>2</sup>
<b>Total Credits</b>	<b>15</b>

- <sup>1</sup> ECON 8300 and ECON 8320 to be taken together in the same semester. Note: successful completion of ECON 8300 substitutes BSAD 8700.
- <sup>2</sup> ECON 8310 and ECON 8330 to be taken together in the same semester. Note: successful completion of ECON 8330 substitutes BSAD 8800.

## Health Care Management

Code	Title	Credits
Select three of the following:		<b>9</b>
BSAD 8066	HEALTHCARE ANALYTICS FOR BUSINESS	
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8600	HEALTH ECONOMICS	
GERO/PA 8516	LONG-TERM CARE ADMINISTRATION	
PHHB 8600	HEALTH BEHAVIOR	
PHHB 8950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
PA 8740	HEALTH CARE POLICY (HSRA 874)	
<b>Total Credits</b>		<b>9</b>

## Human Resource Management

Code	Title	Credits
<b>Select three of the following:</b>		<b>9</b>
BSAD 8136	HUMAN RESOURCE MANAGEMENT	
BSAD 8146	TOTAL REWARDS	
BSAD 8156	TALENT DEVELOPMENT	
BSAD 8166	STAFFING THE ORGANIZATION	
BSAD 8300	ORGANIZATION THEORY & DESIGN	
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	
PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	
PSYC 8646	PERSONNEL PSYCHOLOGY	
PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS	
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	
<b>Total Credits</b>		<b>9</b>

## International Business

Code	Title	Credits
Select three of the following with a minimum of one course from BSAD or ECON:		<b>9</b>
BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD	
BSAD 8356	GLOBAL SOURCING AND INNOVATION	
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
CMST 8536	INTERCULTURAL COMMUNICATION-US	
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
ECON 8616	INTERNATIONAL TRADE	

ECON 8626	INTERNATIONAL MONETARY THEORY
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT
GEOG 8556	GEOGRAPHY OF ECONOMIC GLOBALIZATION
No more than one PSCI course may be taken:	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST
<b>Total Credits</b>	<b>9</b>

## Investment Science

Code	Title	Credits
Required		6
BSAD 8510	SECURITY ANALYSIS	
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
Select one of the following:		3
ECON 8210	MANAGERIAL ECONOMICS	
ECON 8230	BUSINESS CONDITIONS ANALYSIS	
ECON 8300	ECONOMETRICS	
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
<b>Total Credits</b>		<b>9</b>

## Logistics & Supply Chain Management

Code	Title	Credits
Required		3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	
Select one of the following (after completing the above course):		3
BSAD 8336	PROJECT MANAGEMENT	
BSAD 8356	GLOBAL SOURCING AND INNOVATION	
BSAD 8376	SUPPLY CHAIN ANALYTICS	
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	
<b>Elective Courses</b>		<b>3</b>
Select one of the following:		
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	
AVN 8360	TRANSPORTATION SAFETY	
AVN 8605	INTERNATIONAL AVIATION	
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	
ECON 8216	INDUSTRIAL ORGANIZATION	
ECON 8230	BUSINESS CONDITIONS ANALYSIS	
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	
ISQA 8016	BUSINESS INTELLIGENCE	

ISQA 8736	DECISION SUPPORT SYSTEMS
<b>Total Credits</b>	<b>9</b>

## Risk Management

Code	Title	Credits
Required		6
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	
Select one of the following:		3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8820	PROJECT RISK MANAGEMENT	
<b>Total Credits</b>		<b>9</b>

## Sustainability

Code	Title	Credits
Required		3
ECON 8326	NATURAL RESOURCE ECONOMICS	
Electives		6
Select two of the following:		
BIOL/PA/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
BSAD/ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	
ENV 840	Climate Change, Sustainability & Public Health	
ENV 892	Public Health, Environment & Society	
ENVN 8316	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	
GEOG 8166	URBAN SUSTAINABILITY	
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 8296/ CACT 8306	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
<b>Total Credits</b>		<b>9</b>

## Academic Performance

Each semester, student files will be reviewed where a student received a grade lower than a "B" (3.0 out of 4.0). Following this review, the College of Business Administration's Graduate Program Council (CBA GPC) may place conditions or restrictions on the student. Following notification to the student, the student may petition the CBA GPC for a review of the conditions or restrictions imposed.

Students earning a third grade of "C+ "or lower (or any single grade below "C" (1.67 on a 4.0 scale)) will be automatically dismissed from the MBA program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for MBA credit. Students who have been dismissed may not enroll in any courses for MBA credit in any subsequent semester or summer session until reinstatement has been granted by the CBA GPC and the graduate dean.

Students who have been dismissed from the MBA program may submit a written petition for reinstatement to the CBA GPC. Students who have petitioned the CBA GPC for reinstatement may not enroll in any courses for MBA credit. Upon receiving a petition for reinstatement, the CBA GPC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the CBA GPC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student. This information may be used by the CBA GPC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period of the CBA GPC's discretion and must satisfy the probationary conditions specified by the CBA GPC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the CBA GPC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher [the exact grade requirements for retaken courses may in fact be higher than "B" (3.0)]. Students not achieving the probationary or reinstatement conditions will be automatically dismissed.

## MBA Probation Policy

If granted Provisional Admission, the student must earn minimum "B" grades (3.0 on 4.0 scale) in each of the MBA courses completed in the first 12 hours of the program. Students not meeting this standard will be immediately placed on probation. A letter will be sent to the student regarding violation of the terms of provisional admission and the probation status. The student must submit a written letter to the CBA GPC acknowledging the basis for probation and requesting continuation in the MBA program within two weeks on receipt of the notification. Students who have petitioned the CBA GPC for continuation in the program may remain in the program and enroll in courses for MBA credit. Students who have NOT petitioned the CBA GPC for continuation within two weeks of notification, will not be allowed to remain in the program or register for courses, and will be administratively withdrawn. Upon receiving a petition for continuation, the CBA GPC will evaluate the student's written petition. As part of the petitioning process, the CBA GPC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student. This information may be used by the CBA GPC in the decision. Information provided by previous instructors will not be shared with the student. If a student's provisional status is restored, then the student will need to earn a B grade or better in the affected course at the earliest opportunity.

## MBA Program Two Strikes Rule

A UNO MBA student may enroll only **twice** in each MBA course. If the class is not successfully completed on the second attempt, then the student will be dismissed from the MBA program. **An enrollment is defined as being enrolled in the course after the last day to withdraw via MavLINK and receive a 100% refund. The last day for withdrawal will be as stated in the current academic calendar for a full semester course (3 credits) <http://registrar.unomaha.edu/calendar/>; for an eight-week graduate course (2 credits) the last day for withdrawal will be the third day (including the start date) of the course as designated in MavLINK.**

In addition to the Quality of Work Standards established by the Graduate College, MBA students may repeat only once a BSAD 8xx0 level course in which they receive any grade, including "W" or "I."

GPC Will Consider Grades Earned in Repeated Courses

When making decisions based on Quality of Work Standards issues, the CBA GPC will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK/Degree Works file,

where the most recent grade replaces the grade received in the previous attempt.

## Student Responsibilities

Each student admitted to graduate studies is responsible for knowing the procedures and regulations of the Graduate College.

Each student should consult with the MBA advisor at least once each semester to assure continued progress toward the degree objective. Students must maintain a 3.0 ("B") average to fulfill the program and graduation requirements. No more than two "C's" or two "C+'s" in graduate courses are permitted.

# Business Administration-Executive MBA

Department of Business Administration, College of Business Administration

## Vision Statement

The mission and overarching themes of the Executive MBA program are to provide experienced managers and professionals with an applied and integrative business management education that develops and furthers their critical thinking, decision-making, and leadership abilities. Graduates of this program will be better prepared to drive and lead change, manage resources, and effectively address strategic issues in a dynamic global economy.

The Executive MBA program is designed for middle- and upper-level managers, experienced professionals, and established business owners who have a vision for themselves and their firms. The alternating-weekend program format takes class members, as a group, through the carefully structured sequence of courses required to complete the degree in an 17-month period.

## Program Contact Information

Melanie Krings, Executive Director  
100G Mammel Hall (MH)  
6708 Pine Street  
402.554.2867  
[mdkrings@unomaha.edu](mailto:mdkrings@unomaha.edu)

Program Website (<http://cba.unomaha.edu/xmba/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Fall 2022)

- Fall: July 15

## Other Requirements

- A minimum of six (6) years of professional-level work experience is required
- Managerial/supervisory experience and accomplishments preferred but not required
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency->

%20International.pdf), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5. PTE: 53, Duolingo: 105
- **Statement of Purpose:** In two pages or less, describe your: a) interest in the Executive MBA Program; b) objectives for the degree and how it will help you further your career goals; c) highest personal/professional accomplishments; and d) most valuable strengths you bring to a workplace team.
- **Resume:** Current resume detailing employment history, nature of duties and responsibilities, accomplishments, leadership roles, and community involvement.
- **Employer Recommendation:** The form must be completed by immediate supervisor as verification of employer support. Entrepreneurs and business owners: form must be completed by someone of your choosing (e.g. board member, business partner, investor, etc.)
- **Entrance Exam:** The GMAT **may** be required for candidates with a 3.0 or better undergraduate GPA if their undergraduate degree is from a program characterized as significantly accelerated or for which academic credit is awarded for education and life experiences attained from other than an accredited university or college.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
BSAD 8070	EXECUTIVE COMMUNICATION	1
BSAD 8440	DECISION ANALYTICS	2
BSAD 8330	STRATEGIC COLLABORATION: LEADING HIGH IMPACT TEAMS	1
BSAD 8640	IT: STRATEGIC DEVELOPMENT AND DEPLOYMENT	1
BSAD 8650	INTERNATIONAL: COMPETING IN GLOBAL MARKETS	2
BSAD 8370	BUSINESS LAW AND ETHICS	2
BSAD 8480	APPLICATIONS IN ECONOMICS	2
BSAD 8240	EXECUTIVE LEADERSHIP DEVELOPMENT	2
BSAD 8380	STRATEGIC OPERATIONS MANAGEMENT	2
BSAD 8570	STRATEGIC MANAGEMENT	3
BSAD 8230	CHANGE MANAGEMENT	2
BSAD 8260	ACCOUNTING THEORY & PRACTICE	2
BSAD 8280	STEWARDSHIP OF THE FIRM'S RESOURCES: HR MANAGEMENT	2
BSAD 8360	FINANCIAL MANAGEMENT FOR EXECUTIVES	3
BSAD 8560	MARKETING STRATEGIES	3
BSAD 8590	SEMINAR IN BUSINESS ADMIN	3
BSAD 8900	INDEPENDENT STUDY	1-6
<b>Total Credits</b>		<b>39</b>

### BSAD 8000 BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY (2 credits)

This core MBA course will explore the relationship between law and ethics, will examine the generally-accepted theoretical principles associated with doing business ethically, and will examine practical ethical issues associated with various facets of business.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent) or admission to the MAcc program. Students with an undergraduate major or a graduate degree in Law may not include this course in a plan of study for the MBA degree. Not open to non-degree students

### BSAD 8010 LEGAL, SOCIAL AND ETHICAL ENVIRONMENT (3 credits)

Focus upon law and ethics. Business law, legal processes, and regulation will be the subject matter focus. Business ethics will be a recurring focus of analysis. Analysis of the social environment will include public policy. Both subject matter and analysis will be integrated to build the student's critical thinking skills.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation requirements and BSAD 8060 (BSAD 8060 prior to or concurrent); or admission to the MAcc program. Not open to nondegree students.

### BSAD 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with ECON 8020)

**Prerequisite(s)/Corequisite(s):** Principles of Microeconomics (ECON 2200) and Principles of Macroeconomics (ECON 2220), or Analytical Foundations of Economics (BSAD 8180), or permission of the instructor. Not open to non-degree graduate students.

### BSAD 8026 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper. (Cross-listed with ECON8296.)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

### BSAD 8030 INFORMATION TECHNOLOGY IN BUSINESS (3 credits)

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent). Not open to nondegree students.

### BSAD 8040 BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION (2 credits)

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management information systems may not include this course in a plan of study for the MBA degree. Not open to non-degree graduate students.

### BSAD 8050 BUSINESS CONDITIONS ANALYSIS (3 credits)

This course is concerned with the statistical measurement and evaluation of general business conditions, and the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of the statistical techniques of analysis to the business situation, within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180. Not open to nondegree students.

**BSAD 8060 PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP (2 credits)**

This course will prepare students with the skills to effectively enact the critical leadership skills of listening, employee feedback and coaching, goal-setting, empowerment/delegation, influencing, interviewing, conflict, negotiation, intercultural awareness, team/group discussions, and business etiquette.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program. Not open to non-degree graduate students.

**BSAD 8066 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with MGMT 4060, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8070 EXECUTIVE COMMUNICATION (1 credit)**

This course emphasizes both strategic and practical approaches to business communication from an executive perspective and provides students with tools to improve their business communication skills. This course will focus on composing effective executive/business documents business reports, and briefings.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8076 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with SCMT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8080 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with ECON 8310).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**BSAD 8090 ESSENTIAL LEADERSHIP SKILLS (3 credits)**

This course will teach students the interpersonal skills necessary to effectively manage others. Second, this course will serve as a vehicle to assess the business content knowledge and computer literacy of incoming MBA students in order to provide customized remediation recommendations for each student. Third, the course will collect information that will be used for assessment and accreditation purposes to evaluate the effectiveness of the MBA program. This course will address the following MBA program themes: communication, change agent, teamwork, information technology, critical thinking and information gathering and analysis.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program and completion of MBA foundation courses (or equivalent) or may be taken concurrently with the final foundation course. Not open to nondegree students.

**BSAD 8096 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with MGMT 4090, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program at UNO or the STRATCOM Leader Fellow Program. Not open to non-degree students.

**BSAD 8100 MANAGERIAL ECONOMICS (3 credits)**

The course will offer students tools of analysis drawn from consumer theory and the theory of the firm in order to improve the understanding of human behavior as it is constrained in the context of business decision-making. This course is intended for students who are seeking the degree of Master of Science in Economics or the degree of Master of Business Administration. (Cross-listed with ECON 8210).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and 2220 or BSAD 8180 and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8110 ACCOUNTING AND FINANCIAL FUNDAMENTALS (3 credits)**

The course is designed to give incoming graduate students the foundation in accounting that is necessary for subsequent graduate courses. Emphasis is on introducing the students to as many accounting concepts as possible.

**Prerequisite(s)/Corequisite(s):** Graduate admission or permission of the appropriate graduate advisor. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8136 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with MGMT 4030).

**BSAD 8146 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with MGMT 4010).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor

**BSAD 8150 ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS (2 credits)**

This course exposes MBA students to fundamental economic concepts necessary for successful business planning and financial success. Topics include: Comparative advantage and international trade, market dynamics, the role that the competitive landscape plays in company decision-making, macroeconomic growth and development, and monetary and fiscal policy and their impact on business activity.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in economics may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8156 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with MGMT 4120).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8166 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with MGMT 4110).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8176 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with SCMT 4170).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8180 ANALYTICAL FOUNDATIONS OF ECONOMICS (3 credits)**

To familiarize students with the basic economic theory and policy analysis (principles level) required to analyze economic problems and to understand and evaluate recommendations designed to solve those problems. This is a course for students and professionals seeking a degree of Master of Business Administration with little or no formal background in economics.

**Prerequisite(s)/Corequisite(s):** Graduate. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8200 MANAGERIAL ACCOUNTING (3 credits)**

A study of concepts, analysis and procedures of accounting utilizing internal financial and non-financial data which provides management with information for planning and controlling routine operations, for non-routine decisions, policy-making and long-range planning; and for external reporting to stockholders, governments and interested parties.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and 2020 or BSAD 8110, and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to non-degree students.

**BSAD 8206 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with MKT 4200)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8210 ACCOUNTING: DECISIONS & CONSEQUENCES (2 credits)**

Managers and administrators must be able to understand, analyze, and use accounting information to make operational and strategic business decisions. In this course, we will study practical uses of accounting information to address the problems and decisions managers face in business. Emphasis is placed on the user of accounting information rather than the preparer. Upon completion of this course, a student should be able to use accounting information to make management decisions, understand how accounting rules inform those decisions, and consequently, how those decisions affect a company's financial reports.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or graduate degree in accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8216 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with MKT 4210, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**BSAD 8226 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers.

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**BSAD 8230 CHANGE MANAGEMENT (2 credits)**

This course provides a theoretical as well as pragmatic approach to change management for executive and senior level leaders in all types of organizations. Focus is given to organizational structure, managing culture, and critical components of senior level management effectiveness in leading change.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8240 EXECUTIVE LEADERSHIP DEVELOPMENT (2 credits)**

This course aims to enhance the leadership effectiveness of students by developing executive competencies in problem solving, collaborative behaviors, teamwork, and conflict resolution. Students will gain crucial experience in using effective leadership tools to become leaders who act with a deeper understanding of themselves, their organizations, and their communities, and contribute positively to the growth of each.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8250 ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES (2 credits)**

This course will prepare students with the knowledge necessary to manage and lead organizations effectively. Students will learn management theories, understand important research findings in organizational behavior, and apply both theory and research results to real organizational situations, thus giving them the capacity to use OB theories to enhance organizational effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8260 ACCOUNTING THEORY & PRACTICE (2 credits)**

This course is designed to enhance students' understanding of financial statements and how executive decisions can influence these statements. Financial statements, including footnotes and explanatory material, are the primary instruments utilized by parties external to the enterprise in making judgments about the enterprise. By understanding how management decisions are reflected in the financial statements, managers will understand how they can influence their judgment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8280 STEWARDSHIP OF THE FIRM'S RESOURCES: HUMAN RESOURCE MANAGEMENT (2 credits)**

This course provides a comprehensive review of effective human resource theory and practice with an emphasis on managerial influence on attracting, retaining, developing, and rewarding employees.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8300 ORGANIZATION THEORY & DESIGN (3 credits)**

A study of theories and guidelines for enhancing organizational effectiveness by matching an organization's structure to its environment, strategy, technology and size.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8310 MANAGING PERFORMANCE IN ORGANIZATIONS (3 credits)**

A human behavior course emphasizing the areas of individual behavior, interpersonal behavior, group behavior and the interplay of human and non-human factors.

**Prerequisite(s)/Corequisite(s):** Essential Leadership Skills (BSAD 8060) or admission to the MAcc program. Not open to nondegree students.

**BSAD 8326 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with MKT 4320.)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8330 STRATEGIC COLLABORATION: LEADING HIGH IMPACT TEAMS (1 credit)**

This course is designed to enhance students' understanding of collaboration principles, practices and processes. In this interactive course, students will learn how to utilize collaboration tools and techniques and creative problem solving methods to enhance strategic decision making. Other concepts that will be introduced include building and assessing high-performing teams, managing and leading teams, identifying and resolving team dysfunctions, and team decision making approaches. Ultimately, students will learn how to be more influential and improve interactions so people and organizations can work together more efficiently.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8336 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, SCMT 4330)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program; or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8340 INTERNATIONAL BUSINESS STUDY ABROAD (3 credits)**

This course provides students with an international business and cultural experience through a study tour in a selected international location. Students will develop an understanding of the factors that affect international business decisions by visiting American companies operating abroad and foreign companies that export goods and services to the U.S. Typically, travel is conducted during Spring Break.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BSAD 8345 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with MKT 3320).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor.

**BSAD 8350 SEMINAR IN MANAGEMENT (3 credits)**

A student participation course emphasizing current issues and problems in the areas of management theory and operation.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8356 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with SCMT 4350).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8360 FINANCIAL MANAGEMENT FOR EXECUTIVES (3 credits)**

Students will develop strategic decision making skills by using financial concepts including time value of money, capital budgeting processes, cash flow forecasting and project risk analysis. Topics covered include: capital budgeting, financial statement analysis, capital structure, financial risk analysis and others..

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8366 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with MKT 4360).

**Prerequisite(s)/Corequisite(s):** BSAD 8400 with a grade of 'B' or above. Not open to non-degree graduate students.

**BSAD 8370 BUSINESS LAW AND ETHICS (2 credits)**

Only students who have been admitted to the Executive MBA program may take this course. A comprehensive examination of the existing structure and mechanisms used to resolve disputes in the United States, which allows the student to understand the strengths and weaknesses of this system. It will specifically examine the body of substantive law that affects management, including court decisions, statutes (federal and state), traditional ethical theories as they relate to the law, and international problems that exist in the legal environment.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8376 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with SCMT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8380 STRATEGIC OPERATIONS MANAGEMENT (2 credits)**

Students will learn how effective decision-making skills can be used to create a long-term competitive advantage for an organization through operational excellence. Key concepts in this course will include operations management, quality management, and data analytics. Specific topics will include process improvement, quality assurance, supply chain management, project management, and performance assessment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8386 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, SCMT 4380)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8396 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with MKT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8400 MARKETING POLICIES (3 credits)**

This course provides an introduction to the fundamental concepts of marketing, including a customer orientation, matched with attention to competition and core strengths. The course will illustrate strategies and principles that will help you understand how marketing managers, product managers or service managers must think through their situations, determine their goals and lay a course to achieve those goals.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent); or admission to MAcc program. Not open to nondegree students.

**BSAD 8420 MARKETING: UNDERSTANDING CONSUMERS AND MARKETS (2 credits)**

This course exposes MBA students to the fundamental concepts, practices and issues of marketing. A wide range of marketing practices and structures will be explored including product and service firms, consumer and business markets, profit and not-for-profit organizations, domestic and global companies, and small and large businesses.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in marketing may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8426 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with MKT 4420).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8430 STRATEGIC BRAND MANAGEMENT (3 credits)**

An exploration of the characteristics, meanings, and management of brands in the business world. The course examines brands as a strategic asset, and draws on managerial, consumer, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** BSAD 8420 or permission of instructor. Not open to nondegree students.

**BSAD 8440 DECISION ANALYTICS (2 credits)**

Students will learn to use statistical and decision making tools to interpret data to solve practical management problems and gain desired results. Areas of focus will include market research, decision analysis, data analytics, and business forecasting.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8450 SEMINAR IN MARKETING (3 credits)**

Exploration, study and critical analysis of contemporary marketing problems, trends, methods and approaches for seminar discussion and written report.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8456 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, SCMT 4450).

**BSAD 8466 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with SCMT 4460).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8480 APPLICATIONS IN ECONOMICS (2 credits)**

Students will learn how to apply micro-economic concepts to corporate strategy. Topics covered include demand analysis and consumer behavior, cost efficiencies such as economies of scale and scope, market structure and strategic pricing, applications of game theory to strategy, and others. The course will also cover macroeconomic conditions and concepts that affect business decisions such as the detection, measurement, and determinants of business cycles and the resulting impact of macroeconomic policy.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8510 SECURITY ANALYSIS (3 credits)**

Study of the efficient market, fundamental and technical analysis approaches for the valuation of marketable securities. Methods of analysis are considered for the economy, industry groups and individual corporations.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8520 SEMINAR INVESTMENT MANAGEMENT (3 credits)**

This course focuses upon the modern portfolio theory of investment management and its application in formulation of policies for individuals and institutional investors. Topics addressed will include qualitative and quantitative analysis of the risks and returns of portfolio management using efficient market, fundamental analysis, and technical analysis approaches.

**Prerequisite(s)/Corequisite(s):** BSAD 8510. Not open to nondegree students.

**BSAD 8530 BANK & FINANCIAL MARKETS (3 credits)**

This course focuses on the theory and practice in managing commercial banks. Topics covered include but not limited to: bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. The course emphasizes the link between theory and practice through assigned course related readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to non-degree graduate students.

**BSAD 8540 MULTINATIONAL FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on multinational financial management as viewed and practiced by the multinational firm and on current developments in international financial markets, including global banking. Familiarity with certain areas of the firm's environment, such as the international monetary system, the European Monetary System, and determination of exchange rates under alternative regimes, is essential to the international financial manager.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8550 SEMINAR IN FINANCE (1-3 credits)**

Selected topics from areas of business finance.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8560 MARKETING STRATEGIES (3 credits)**

Marketing is the core of an operating business. Marketing is the art and science of creating customer value and market place exchanges that benefit the organization and its stakeholders. It is an organizational philosophy and a set of guiding principles for interfacing with customers, competitors, collaborators, and the environment. Students will learn how successful businesses match their objectives and resources with opportunities in the marketplace by identifying and measuring consumer needs, determining target markets and deciding which products and services to offer. Strategies for pricing, promoting and distributing the firm's products and services to create competitive advantage in domestic and international markets are covered.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8570 STRATEGIC MANAGEMENT (3 credits)**

This course centers around the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. Students will develop the strategic thinking skills needed to formulate and execute successful strategies for firms/organizations in a variety of industries and dynamic environments. Emphasis is given to the contributions of several business disciplines of study, such as marketing, finance and management, to understanding both the internal operations of the organization and the influences of the external environment. This course is integrative and introduces both the theory and practice that enables that integrative process.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8576 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with FNBK 4570)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BSAD 8590 SEMINAR IN BUSINESS ADMINISTRATION (3 credits)**

This course hosts the international business consulting project. Both a theory and a practical course, it examines opportunities and challenges for a domestic U.S. firm or industry attempting to enter or expand its presence in an international market. Emphasis is placed on developing focused and appropriate research objectives, the collection and analysis of data for decision-making, development and evaluation of strategy alternatives, and on the production and presentation of a professional, prescriptive consulting report.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8596 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control, and risk avoidance, among others. (Cross-listed with FNBK 4590.)

**BSAD 8600 REAL ESTATE FINANCE THEORY AND APPLICATIONS (3 credits)**

This course explores advanced financial analysis tools and methodologies used to quantify complex factors surrounding real estate productivity, value, investment, and project feasibility. Specific course topics will coincide with student interest in one of three focus areas: Investment, Development, or Commercial Finance.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of Real Estate Program Director.

**BSAD 8605 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with RELU 3410).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program, or permission of Real Estate Program Director.

**BSAD 8606 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with FNBK 4600.)

**Prerequisite(s)/Corequisite(s):** BSAD 8500 and 8510 or their equivalent, and graduate standing. Not open to nondegree students.

**BSAD 8610 REAL ESTATE APPRAISAL (3 credits)**

This course addresses the fundamentals of real estate valuation and appraising, including factors affecting value, valuing land, improvements, and special classes of residential property, appraisal practice and rules, depreciation and obsolescence, and the mathematics of appraising.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of instructor.

**BSAD 8620 VALUATION OF INTELLECTUAL PROPERTY (3 credits)**

Intellectual Property (IP) is critical to business success. Accounting, economics, and finance all struggle to quantify "value" of individual IP (e.g., trademark) and bundles of IP (e.g., patent pool). Value depends on the context (e.g., infringement versus depreciation versus sale). This course focuses on application of theory.

**Prerequisite(s)/Corequisite(s):** BSAD 8010 or BSAD 8100 or BSAD 8110 or BSAD 8500, or its equivalents. Not open to non-degree graduate students.

**BSAD 8630 FINANCE: UNDERSTANDING CAPITAL AND CASH (2 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070, 8150 and 8210. Students with an undergraduate major or a graduate degree in finance or accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8640 IT: STRATEGIC DEVELOPMENT AND DEPLOYMENT (1 credit)**

Students will gain a strategic perspective of information technology management, including current trends and best practices, and understand how technology can be used in competitive positioning. Processes for innovation and research and development spending and new business models will be covered.

**BSAD 8650 INTERNATIONAL: COMPETING IN GLOBAL MARKETS (2 credits)**

This course allows students to develop an understanding of the evolution of the global political economy, challenges faced when operating in the global business environment, and how to evaluate the risks and returns of global expansion. Students will also learn how to effectively communicate in international settings, to successfully manage international conflicts, and to conduct effective cross-border business negotiations.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8696 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, MGMT 4690).

**Prerequisite(s)/Corequisite(s):** Admission to a UNO graduate degree program or permission of instructor

**BSAD 8700 BUSINESS ANALYTICS: MAKING SENSE OF DATA (2 credits)**

The purpose of this course is to provide business managers with an understanding of the important role data analytics has assumed in today's organizations. Data analytics has become a key component in accomplishing strategic and operational goals. This course is designed to familiarize students with the concepts and principles of analytics. It is targeted for graduate or MBA students who have little or no background in analytics. Therefore, it focuses on breadth of coverage rather than depth in any specific area.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent); or admission to the MAcc program. Not open to non-degree graduate students.

**BSAD 8710 SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on supply chain management as a key functional area of organizational success. Students will learn about current techniques used by supply chain practitioners to make strategic and tactical decisions that support the overall strategy and day-to-day operations of an organization. Students will develop an understanding of how supply chain decisions and appropriate metrics of performance can be utilized to improve the operational efficiency and effectiveness of an organization.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8720 STRATEGIC FINANCIAL MANAGEMENT (2 credits)**

This course is intended to be advanced financial management. It will stress the theory and application of topics including, but not limited to capital budgeting, cash flow estimation, real options, capital structure, dividends and share repurchases, working capital management, budgeting, planning and forecasting, and lease management. The material covered in Strategic Financial Management will increase the student's knowledge of how to strategically manage financial resources to increase the intrinsic value of the organization.

**Prerequisite(s)/Corequisite(s):** For MBA students, BSAD 8630. For MAcc students, completion of all Master of Accounting (MAcc) foundation courses. Not open to non-degree graduate students.

**BSAD 8726 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with ENTR 4720, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or by instructor permission

**BSAD 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, ECON 8436)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**BSAD 8750 TELECOMMUNICATIONS IN BUSINESS (3 credits)**

This course is designed to introduce students to basic technology of modern telecommunications, including voice, data and video, as well as the contemporary issues of telecommunication policy. In addition, the course will address managerial issues of modern telecommunications in business.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to non-degree graduate students.

**BSAD 8766 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, MKT 4760)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8776 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with ENTR 4770).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must apply and interview to take this course. Preference is given to students in their junior year, and must have three semesters of school left before graduating.

**BSAD 8786 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4780).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8776 with a grade of C or better.

**BSAD 8796 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4790).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8786 with a grade of C or better.

**BSAD 8800 MBA PROJECT-FOCUSED CAPSTONE (2 credits)**

In this Master's of Business Administration (MBA) required project-focused capstone course, students complete a service-learning consulting project for a non-profit or other type of organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program.

**Prerequisite(s)/Corequisite(s):** Students must complete this course in the final semester or within the final 9 credits of their MBA program courses. A minimum B grade required to successfully complete the course and qualify for graduation. Not open to non-degree graduate students.

**BSAD 8810 APPLIED STRATEGIC LEADERSHIP (3 credits)**

Applied and integrative course in the MBA program, with an emphasis on field experiences when possible.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in, or completion of, BSAD 8060. Not open to nondegree students.

**BSAD 8820 SUSTAINABLE BUSINESS PRACTICES (1 credit)**

This course exposes students to motivations for, and implications of business engagement in, sustainable management practices. As such the course addresses why firms have increasingly been investing in energy and natural resource conservation, recycling, green products, green branding, and environmental impact mitigation. This course addresses a firm's market-based incentives to grow profits, gain market share and/or otherwise differentiate themselves from their competition through green initiatives.

**Prerequisite(s)/Corequisite(s):** BSAD 8150 or permission of instructor. Not open to non-degree graduate students.

**BSAD 8830 STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE (2 credits)**

This course centers on the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. The primary objective of this course is to sharpen the ability of students to think strategically, to diagnose situations from a strategic perspective and to develop creative solutions to enable firms to achieve a sustainable competitive advantage.

**Prerequisite(s)/Corequisite(s):** Students must successfully complete BSAD 8150 and BSAD 8210 before enrolling in this course. This course must be taken within the first 20 hours of the MBA program. Not open to non-degree graduate students.

**BSAD 8880 ARTS AND THE EXECUTIVE (3 credits)**

The course will provide the graduate student with an understanding of the organizational and managerial issues involved in an arts organization as the role of the arts in the business community.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8900 INDEPENDENT STUDY (1-6 credits)**

Individual research in an academic area in business administration.

**Prerequisite(s)/Corequisite(s):** Graduate and permission of MBA Advisor. Requires submission of completed Independent Study Contract to MBA Advisor prior to registration. Not open to non-degree graduate students.

**BSAD 8910 SPECIAL TOPICS IN BUSINESS (1-3 credits)**

May be repeated up to (6). A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate in good standing and as indicated for specific workshop or seminar. Not open to non-degree graduate students.

**BSAD 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with ECON 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**BSAD 8990 THESIS (1-6 credits)**

A research project, under the supervision of a faculty thesis adviser in the College of Business Administration, in which the student establishes his capacity to design, conduct and complete an independent, scholarly investigation of a high order of originality. The research topic and the completed project must be approved by the student's faculty thesis adviser and two other faculty members, one of whom must be from outside the program area.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser. Not open to non-degree graduate students.

## Business Administration, MBA and Management Information Systems, MS (MBA/MIS)

Department of Business Administration, College of Business Administration

Department of Information Systems & Quantitative Analysis,  
College of Information Science & Technology

### Vision Statement

In today's context of globally integrated and interdependent businesses, ubiquitous information technologies, and a mobile workforce, it is critical that graduate education provides students opportunities to develop integrated business and technology skills. The primary purpose of this dual degree program is to provide this integration by enabling students to complete the MBA and MS in MIS degrees simultaneously. This track is designed for dedicated students who are willing to take on the challenges related to graduate education from two perspectives—business administration and management information systems. As such, this program involves intensive preparation in both business administration and information systems and a specialization in an area that combines both backgrounds. The dual degree program requires a minimum of 55 hours of course work beyond foundation requirements. Students who wish to pursue this option must work closely with an adviser to develop an integrated plan of study at an early stage. Students who complete the dual degree program will receive two degrees, two diplomas, and will have both degrees recorded on their transcript.

### Program Contact Information (Business Administration)

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836

mba@unomaha.edu

Ms. Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

**(Management Information Systems)**

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu (mgreinder@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/Dual-Degree-MS-MIS-MBA.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

### Other Requirements

- All applicants must have earned a minimum junior/senior GPA of 3.0 for both the MBA and the MS in MIS programs.
- **Entrance Exam:** Official GMAT score: minimum GMAT score of 500 with a minimum 20th percentile for both the verbal and quantitative portions; **or** 299 on the GRE with a minimum 20th percentile for both the verbal and quantitative portions.
  - MIS GMAT/GRE Waiver policy: GMAT/GRE score is waived for students with a baccalaureate or equivalent degree from an institution of higher education in the United States
  - MBA GMAT/GRE Waiver policy: Beginning in Fall 2021, the GMAT/GRE is no longer required by the MBA department for admission to the MBA/MIS degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Applicants are required to submit a 750 word statement of purpose addressing the following. The statement must be written in the applicant's own words, reflecting their goals and aspirations. Plagiarism in the statement may result in the rejection of the entire application.
  - Why you want to study at UNO
  - Career goals
  - Relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - Motivations for pursuing graduate education
- **Resume:** Include work experience and education

- **Letters of Recommendation:** Three letters of recommendation (names and addresses submitted as part of the online application) from individuals who can evaluate your work and/or academic achievement
- Interview: optional
  - Although not required, applicants are strongly encouraged to arrange for an interview with one or more members of the graduate program committees of the MBA and MIS programs by directly contacting the committee chairperson of the College of IS&T. Telephone interviews are highly recommended for applicants outside the local area.
- Students qualifying for admission based on the standard outlined above, but lacking some foundation courses, will be granted provisional status until all foundation courses are completed with grades of "B" (3.0 on a 4.0 scale) or better.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
Select one of the following:		3-6
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	
ACCT 2010 & ACCT 2020	PRINCIPLES OF ACCOUNTING I and PRINCIPLES OF ACCOUNTING II	
Or one year of Principles of Accounting at the undergraduate level		
<b>Economics</b>		
Select one of the following:		3-6
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	
ECON 2200 & ECON 2220	PRINCIPLES OF ECONOMICS (MICRO) and PRINCIPLES OF ECONOMICS (MACRO)	
Or Micro- and Macro-Economics at the undergraduate level		
<b>College Algebra</b>		
MATH 1220	COLLEGE ALGEBRA	3
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	3

## MS in MIS Foundation Courses

### MBA/MIS Non-Course Requirements

Each student admitted to the dual degree option will, within the first semester of their enrollment, file a plan of study in close consultation with a graduate advisor.

Code	Title	Credits
Six (6) hours of programming coursework or equivalent experience:		
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	3
Or equivalent		
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
Select one of the following:		
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
Or equivalent		
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	
Or equivalent		

## Joint Foundation Course

Code	Title	Credits
Statistics can be satisfied by either one of the following or one semester of undergraduate statistics:		3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	

## MBA/MIS Required Courses (38 hours)

### MBA Program (20 hours)

Code	Title	Credits
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP <sup>1</sup>	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>2</sup>	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>3</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>4</sup>	2
<b>Total Credits</b>		<b>20</b>

<sup>1</sup> BSAD 8060: this is the first graduate-level course MBA students are to complete

<sup>2</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)<sup>3</sup> BSAD 8720 (prereq: completion of BSAD 8630)<sup>4</sup> BSAD 8830 (prereq: BSAD 8150 and BSAD 8210)**MS in MIS Program (18 hours)**

Code	Title	Credits
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
<b>Total Credits</b>		<b>18</b>

**MBA Directed Elective Requirements****Directed Elective Requirement**

For students who have earned an undergraduate or graduate degrees in accounting, economics, management, or marketing, the core course(s) corresponding to the student's previously earned degree(s) will be waived. To satisfy degree requirements, the student must complete a directed elective in the waived field as indicated. For students who have earned an undergraduate or graduate degree in finance, the core course(s) corresponding to the student's previously earned degree may be waived upon request. Students with more than one core course waiver will be required to take an additional 1-credit hour seminar or 3-credit hour elective to fulfill degree requirements.

Code	Title	Credits
<b>Accounting Directed Electives</b>		
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	3
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	3
ACCT 8076	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	3
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
ACCT 8090	INFORMATION SYSTEMS AUDITING	3
ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
ACCT 8250	SEMINAR IN ACCOUNTING	3
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ACCT 8290	ADVANCED FINANCIAL AUDITING	3
<b>Economics Directed Electives</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8216	INDUSTRIAL ORGANIZATION	3

ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8300	ECONOMETRICS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ECON 8310/BSAD 8080	BUSINESS FORECASTING	3
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3

**Finance Directed Electives**

BSAD 8510	SECURITY ANALYSIS	3
BSAD 8520	SEMINAR INVESTMENT MANAGEMENT	3
BSAD 8530	BANK & FINANCIAL MARKETS	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
BSAD 8550	SEMINAR IN FINANCE	1-3
BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	3
BSAD 8596	RISK MANAGEMENT FOR BUSINESS MANAGERS	3
BSAD 8600	REAL ESTATE FINANCE THEORY AND APPLICATIONS	3
BSAD 8606	FINANCIAL RISK MANAGEMENT	3
BSAD 8610	REAL ESTATE APPRAISAL	3
BSAD 8820	SUSTAINABLE BUSINESS PRACTICES	1
HSRA 872	Health Care Finance	3

**Management Directed Electives**

BSAD 8096	PRINCIPLES OF COLLABORATION	3
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8336	PROJECT MANAGEMENT	3
BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD	3
BSAD 8350	SEMINAR IN MANAGEMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8376	SUPPLY CHAIN ANALYTICS	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
CMST 8176	ORGANIZATIONAL COMMUNICATION	3
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3

CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 8806	ADVANCED CONFLICT MEDIATION	3
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 8646	PERSONNEL PSYCHOLOGY	3
PSYC 9620	TRAINING AND DEVELOPMENT	3
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3

#### Marketing Directed Electives

BSAD 8206	CONSULTATIVE SELLING PRINCIPLES	3
BSAD 8216	SELLING FINANCIAL SERVICES	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8426	BUSINESS DEMOGRAPHICS	3
BSAD 8430	STRATEGIC BRAND MANAGEMENT	3
BSAD 8450	SEMINAR IN MARKETING	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD 8766	SELLING IN AN ENTREPRENEURIAL CONTEXT	3

## MBA/MIS Electives

12 hours from one of the areas of focus listed below

Students must take a minimum of three credit hours of the ISQA 8000-level elective courses and a minimum of three credit hours of the BSAD or ECON 8000-level elective courses

Students may enroll in a maximum of six credit hours of dual-level (8–6) elective courses

Students may pursue an alternate area of focus with the approval of the graduate program committee

### Technology Entrepreneurship Focus

Code	Title	Credits
BSAD 8080/ ECON 8310	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ISQA 8180	ELECTRONIC COMMERCE	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3

### Business Process Transformation Focus

Code	Title	Credits
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	3
ISQA 8736	DECISION SUPPORT SYSTEMS	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	3

### Applied Quantitative Techniques Focus

Code	Title	Credits
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	3
ECON 8320	TOOLS FOR DATA ANALYSIS	3
Select two of the following:		6
ECON 8300	ECONOMETRICS	
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	
ECON 8316	BUSINESS INTELLIGENCE AND REPORTING	
ECON 8330	DATA ANALYSIS FROM SCRATCH	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8750	STORYTELLING WITH DATA	

### Health Care Information Systems Focus

Code	Title	Credits
BMI 8100	INTRODUCTION TO BIOMEDICAL INFORMATICS	3
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	3
ECON 8600	HEALTH ECONOMICS	3
Pick one of the following:		3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	
ISQA 8750	STORYTELLING WITH DATA	

## MBA/MIS Exit Requirements

### Capstone Courses (5 hours)

BSAD 8800 **MBA Project-Focused Capstone** (2 credits) (taken within the last 9 hours or the final semester of the program). This course will focus on students completing a service-learning consulting project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in this program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Not open to non-degree graduate students.

ISQA 8950 **MIS Capstone** (3 credits) (taken within the last 6 hours or the final semester of the program, with all core courses completed).

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS	3

### Thesis Option

To take this option, a student will be required to enroll in six (6) hours of thesis credit:

**MBA Program**

Code	Title	Credits
BSAD 8990	THESIS	1-6

**MS-MIS Program**

Code	Title	Credits
ISQA 8990	THESIS	3

The thesis must be in an area that relates to both the business administration and information systems domains. The Supervisory Committee must include at least one CBA faculty member and one ISQA faculty member.

**Other Requirements to Complete the Program**

Attendance at a *minimum* of 2 MBA leadership seminars

**Other Program-Related Information**  
**Transfer Credits**

A student may transfer credits into the MBA/MIS dual-degree program subject to the following conditions:

- No more than 1/3 of the credits for the dual-degree program may be transfer credits
- No more than 1/3 of the business credits for the dual-degree program may be transfer credits
- No more than 1/3 of the MIS credits for the dual-degree program may be transfer credits
- The transfer credits must conform to the transfer policies of the individual programs that make up the dual-degree program

**Total Credit Hours: 55****Academic Performance**

In addition to UNO Graduate College Quality of Work Standards, Dual Degree (DD) students may repeat only once a BSAD 8-0-level course in which they receive any grade, including "W" or "I". Students earning three "C/C+" grades, or a grade of "C-" or below, will be automatically dismissed from the DD program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for DD credit.

Students who have been dismissed may not enroll in any courses for DD credit in any subsequent semester or summer session until reinstatement has been granted by the Dual-Degree Program Academic Standards Committee (DDPASC) comprised of the 2 GPC Chairs and 1 faculty member from each GPC.

Students who have been dismissed from the DD program may submit a written petition for reinstatement to the DDPASC. Students petitioning the DDPASC for reinstatement may not enroll in any course for DD credit until after the DDPASC has ruled on the petition. Upon receiving a petition for reinstatement, the DDPASC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the DDPASC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student; this information may be used by the DDPASC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period at the DDPASC's discretion and must satisfy the probationary conditions specified by the DDPASC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the DDPASC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for

retaken courses may in fact be higher than "B" (3.0)). Students not satisfying the probationary or reinstatement conditions will be automatically dismissed.

**Grades Earned in Repeated Courses**

When making decisions related to the Quality of Work Standards issues outlined in the UNO Graduate Catalog, the Dual-Degree Program Academic Standards Committee (DDPASC) will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK/DegreeWorks file, where the most recent grade replaces the grade received in the previous course attempt.

**Business Administration,  
MBA and Economics, MS  
(MBA/ECON)**

**Departments of Business Administration and Economics, College of Business Administration**

**Vision Statement**

In a world with increasingly more data, the quantitative focus of the graduate Economics degree is increasingly attractive to students and employers. Businesses generate data at an unprecedented rate, and the econometric and modeling skills of an applied economics degree allows graduates to make sense of business data in a systematic and scientific way. This specialization is enhanced with the broad knowledge provided by an MBA degree. Students in the MBA program demonstrate basic proficiency in a number of business-related disciplines, including marketing, management, accounting, and finance. This wide domain of knowledge allows students to apply the analytical skills learned in economics courses to a wider set of business problems, thereby adding value to their organizations. Students who wish to pursue this option must work closely with an advisor to develop an integrated plan of study at an early stage. Students who complete the dual degree program will receive two degrees, two diplomas, and will have both degrees recorded on their transcript.

**Program Contact Information  
(Business Administration)**

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Ms. Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

**(Economics)**

Catherine Yap Co, PhD, Graduate Program Chair and Advisor  
332R Mammel Hall (MH)  
6708 Pine Street  
402.554.2805  
cco@unomaha.edu

**Admissions**

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

## Other Requirements

- Junior/senior GPA of at least 2.85 (on a 4.0 point scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** (employment and educational history)

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
Select one of the following:		3-6
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	
ACCT 2010 & ACCT 2020	PRINCIPLES OF ACCOUNTING I and PRINCIPLES OF ACCOUNTING II	
<b>Economics</b>		
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
<b>Other Foundation Courses</b>		
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
ENGL 1150	ENGLISH COMPOSITION I (A required course for all students entering this program who are required to take the English proficiency exam)	3

### MBA/Economics Required Courses

Code	Title	Credits
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (ECON 8306 is not required for students demonstrating satisfactory mathematical skills. If it is not taken, three additional hours of economics approved elective will be required.)	3
ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8300	ECONOMETRICS	3
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2

BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE	2
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2
<b>Electives</b>		<b>21</b>
Electives must contain 9 from the approved MBA elective list, 9 credits from the Economics approved elective list, and 3 credits from from courses common to both lists.		
<b>Total Credits</b>		<b>58</b>

## Exit Requirements

### MBA Exit Requirement

BSAD 8800 **MBA Project-Focused Capstone** (2 credits) (taken within the last 9 hours or the final semester of the program). This course will focus on students completing a service-learning consulting project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in this program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Not open to non-degree graduate students.

### Economics Exit Requirement

Comprehensive Examination

## Concentrations

### Business Analytics

Code	Title	Credits
<b>Required and taken in the following order:</b>		
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	
ECON 8300 & ECON 8320	ECONOMETRICS and TOOLS FOR DATA ANALYSIS <sup>1</sup>	
ECON 8310 & ECON 8330	BUSINESS FORECASTING and DATA ANALYSIS FROM SCRATCH <sup>2</sup>	
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> ECON 8300 and ECON 8320 to be taken together in the same semester. Note: successful completion of ECON 8300 substitutes BSAD 8700.

<sup>2</sup> ECON 8310 and ECON 8330 to be taken together in the same semester. Note: successful completion of ECON 8330 substitutes BSAD 8800.

## Business Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8940	ECONOMIC INTERNSHIP	3
<b>Total Credits:</b>		<b>9</b>

## Business Technology

Code	Title	Credits
<b>Select three of the following:</b>		
BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	<b>9</b>
ECON 8346	ECONOMICS OF TECHNOLOGY	
ISQA 8180	ELECTRONIC COMMERCE	
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	
ISQA 8410	DATA MANAGEMENT	
ISQA 8420	MANAGING THE I.S. FUNCTION	
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8530	E-COMMERCE SECURITY	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8596	IT AUDIT AND CONTROL	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	
ISQA 8820	PROJECT RISK MANAGEMENT	
<b>Total Credits:</b>		<b>9</b>

## Collaboration Science

Code	Title	Credits
<b>Required</b>		
BSAD 8096	PRINCIPLES OF COLLABORATION	<b>3</b>
<b>Electives</b>		
<b>6</b>		
Select two of the following:		

BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	<b>9</b>
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	
CMST 8806	ADVANCED CONFLICT MEDIATION	
PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS	
<b>Total Credits</b>		<b>9</b>

## Econometrics and Data Analytics

Code	Title	Credits
<b>Required Courses</b>		
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
<b>Total Credits:</b>		<b>9</b>

## Growth and Innovation Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

## Health Care Management

Code	Title	Credits
<b>Select three of the following:</b>		
BSAD 8066	HEALTHCARE ANALYTICS FOR BUSINESS	<b>9</b>
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8600	HEALTH ECONOMICS	
GERO/PA 8516	LONG-TERM CARE ADMINISTRATION	
PHHB 8600	HEALTH BEHAVIOR	
PHHB 8950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
PA 8740	HEALTH CARE POLICY (HSRA 874)	
<b>Total Credits</b>		<b>9</b>

## Human Resource Management

Code	Title	Credits
<b>Select three of the following:</b>		
BSAD 8136	HUMAN RESOURCE MANAGEMENT	<b>9</b>
BSAD 8146	TOTAL REWARDS	
BSAD 8156	TALENT DEVELOPMENT	
BSAD 8166	STAFFING THE ORGANIZATION	
BSAD 8300	ORGANIZATION THEORY & DESIGN	
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	

PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY
PSYC 8646	PERSONNEL PSYCHOLOGY
PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH

**Total Credits** 9

## International Business

**Code** **Title** **Credits**  
Select three of the following with a minimum of one course from BSAD or ECON: 9

BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD
BSAD 8356	GLOBAL SOURCING AND INNOVATION
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT
CMST 8536	INTERCULTURAL COMMUNICATION-US
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE
ECON 8616	INTERNATIONAL TRADE
ECON 8626	INTERNATIONAL MONETARY THEORY
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT
GEOG 8556	GEOGRAPHY OF ECONOMIC GLOBALIZATION

No more than one PSCI course may be taken:

PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST

**Total Credits** 9

## International Economics

**Code** **Title** **Credits**  
**Select three of the following:**

ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3

**Total Credits:** 9

## Investment Science

**Code** **Title** **Credits**  
Required 6

BSAD 8510	SECURITY ANALYSIS
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT

Select one of the following: 3

ECON 8210	MANAGERIAL ECONOMICS
ECON 8230	BUSINESS CONDITIONS ANALYSIS
ECON 8300	ECONOMETRICS
ECON 8310/BSAD 8080	BUSINESS FORECASTING

ECON 8456	DOMESTIC MONETARY THEORY AND POLICY
ISQA 8340	APPLIED REGRESSION ANALYSIS

**Total Credits** 9

## Logistics & Supply Chain Management

**Code** **Title** **Credits**  
**Required** 3

BSAD 8710	SUPPLY CHAIN MANAGEMENT
-----------	-------------------------

Select one of the following (after completing the above course): 3

BSAD 8336	PROJECT MANAGEMENT
BSAD 8356	GLOBAL SOURCING AND INNOVATION
BSAD 8376	SUPPLY CHAIN ANALYTICS
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES

**Elective Courses** 3

Select one of the following:

ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES
AVN 8360	TRANSPORTATION SAFETY
AVN 8605	INTERNATIONAL AVIATION
ECON 8210/BSAD 8100	MANAGERIAL ECONOMICS
ECON 8216	INDUSTRIAL ORGANIZATION
ECON 8230	BUSINESS CONDITIONS ANALYSIS
ECON 8310/BSAD 8080	BUSINESS FORECASTING
ISQA 8016	BUSINESS INTELLIGENCE
ISQA 8736	DECISION SUPPORT SYSTEMS

**Total Credits** 9

## Monetary and Financial Economics

**Code** **Title** **Credits**  
**Select three of the following:**

ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
BSAD 8510	SECURITY ANALYSIS	3

**Total Credits:** 9

## PhD Preparatory

**Code** **Title** **Credits**  
**Select three of the following:**

ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8310/BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3

ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
MATH 8056	LINEAR ALGEBRA	3
MATH 8235	INTRODUCTION TO ANALYSIS	3
MATH 8236	MATHEMATICAL ANALYSIS I	3
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
<b>Total Credits:</b>		<b>9</b>

## Public Policy Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
<b>Total Credits:</b>		<b>9</b>

## Risk Management

Code	Title	Credits
<b>Required</b>		<b>6</b>
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	
<b>Select one of the following:</b>		<b>3</b>
ACCT 8210	FINANCIAL ACCOUNTING THEORY	
ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8820	PROJECT RISK MANAGEMENT	
<b>Total Credits</b>		<b>9</b>

## Sustainability

Code	Title	Credits
<b>Required</b>		<b>3</b>
ECON 8326	NATURAL RESOURCE ECONOMICS	
<b>Electives</b>		<b>6</b>
<b>Select two of the following:</b>		
BIOL/PA/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
BSAD/ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	

ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	
ENV 840	Climate Change, Sustainability & Public Health	
ENV 892	Public Health, Environment & Society	
ENVN 8316	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	
GEOG 8166	URBAN SUSTAINABILITY	
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 8296/ CACT 8306	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
<b>Total Credits</b>		<b>9</b>

## Trade and Global Value Chains

Code	Title	Credits
<b>Required Courses</b>		<b>6</b>
ECON 8616	INTERNATIONAL TRADE	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
<b>Electives</b>		<b>3</b>
To be selected in consultation with the Graduate Program Chair		
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

In addition to UNO Graduate College Quality of Work Standards, Dual Degree (DD) students may repeat only once a BSAD 8-0-level course in which they receive any grade, including "W" or "I". Students earning three "C/C+" grades, or a grade of "C-" or below, will be automatically dismissed from the DD program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for DD credit.

Students who have been dismissed may not enroll in any courses for DD credit in any subsequent semester or summer session until reinstatement has been granted by the Dual-Degree Program Academic Standards Committee (DDPASC) comprised of the 2 GPC Chairs and 1 faculty member from each GPC.

Students who have been dismissed from the DD program may submit a written petition for reinstatement to the DDPASC. Students petitioning the DDPASC for reinstatement may not enroll in any course for DD credit until after the DDPASC has ruled on the petition. Upon receiving a petition for reinstatement, the DDPASC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the DDPASC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student; this information may be used by the DDPASC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period at the DDPASC's discretion and must satisfy the probationary conditions specified by the DDPASC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the DDPASC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" (3.0)). Students not satisfying the probationary or reinstatement conditions will be automatically dismissed.

# Business Administration, MBA and Public Health, MPH (MBA/MPH)

Department of Business Administration, College of Business  
Administration; College of Public Health, UNMC

## Vision Statement

The MBA/MPH dual degree program is designed for students who desire specialized expertise and training in public health management and administration. Graduates will be equipped to work in a variety of public interest arenas, commercial or industrial employment, hospitals or insurance settings, or in universities.

## Program Contact Information

### (Business Administration):

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

### (Public Health):

College of Public Health  
984355 Medical Center  
Omaha, NE 68198-4359  
402.559.4960  
coph@unmc.edu

Program Website ([http://cba.unomaha.edu/ACC\\_PROGRAMS/academicprog\\_G.cfm](http://cba.unomaha.edu/ACC_PROGRAMS/academicprog_G.cfm))

## Admissions

### Application Deadlines (Spring 2022 and Fall 2022)

- Spring: October 1
- Fall: June 1

**Apply Now!** for the MBA program.

**Apply Now!** for the MPH program.

## Program Admission Requirements

- Minimum junior/senior GPA of at least 2.85 in undergraduate courses related to proposed major
- Resume (employment and educational history)
- Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - 80 on the TOEFL
  - 6.5 on the IELTS

## Admission Criteria

- Students who have already graduated with the MBA or MPH degree are not eligible for the MBA/MPH dual degree program.

- The admission requirements for the MBA program can be found on the UNO MBA website (<https://www.unomaha.edu/college-of-business-administration/mba/>).
- Students qualifying for admission based on the standards outlined above but lacking MBA foundation courses will be granted *provisional status* until all foundation courses are completed with grades of "B" (3.0 on a 4.0 scale) or above.
- Students who are already enrolled in the MBA program at the College of Business Administration may apply for admission to the MBA/MPH dual degree program if they are in good academic standing and *have not completed more than 12 semester hours* within the MBA program.
- The admission requirements for the MPH program can be found on the UNMC College of Public Health – Master of Public Health website (<http://www.unmc.edu/publichealth/programs/mphdualdegree/mba-mph.html>).
- Students who are already enrolled in the MPH program at the College of Public Health may apply for admission to the MBA/MPH dual degree program if their *GPA is at least 3.0* and *have not completed more than 18 semester hours* toward the MPH program.

## Dual Admission

Applicants must complete the application process for each of the programs, MBA and MPH, separately, and **MUST** meet the requirements for each program. The student must indicate that he or she is applying for admission to the MBA/MPH dual degree program on the application.

Applications are evaluated by each degree program in separate admissions processes. It is possible that an applicant will be admitted to one program and not the other. In this case the applicant can matriculate into the accepted program, but not participate in the dual degree option.

## Degree Requirements

### Foundation Courses

A student must complete the foundation courses listed below prior to, or concurrent with enrollment in the first MBA course. Courses successfully completed A, B, or C (2.0 on a 4.0 scale) grades in the student's undergraduate program are considered as sufficient preparation. Otherwise, the student must complete the foundation requirements with a grade of B (3.0 on a 4.0 scale) or above.

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		6
ACCT 2010	PRINCIPLES OF ACCOUNTING I (or its equivalent)	
ACCT 2020	PRINCIPLES OF ACCOUNTING II (or its equivalent)	
<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro-economics and Macro-economics at the undergraduate level:		6
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO) (or its equivalent)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO) (or its equivalent)	

### College Algebra

MATH 1220	COLLEGE ALGEBRA	3
-----------	-----------------	---

### English Composition

The following is a required course for all international students who are required to take the TOEFL:

ENGL 1150	ENGLISH COMPOSITION I	3
-----------	-----------------------	---

#### Statistics

Select one of the following:

BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3
-----------	-----------------------------------	---

or

CPH 506 or BIOS 806	Biostatistics I
---------------------	-----------------

Or one semester of undergraduate statistics

The degree requirements for the dual MBA and MPH program include the completion of a minimum of **60 semester hours** of graduate credit beyond MBA foundation courses identified at the time of admission. These hours will be completed as follows. Each student admitted to the dual degree option will, within the first semester of their enrollment, file a plan of study in close consultation with a graduate advisor.

#### Core Courses: 37 credit hours

- MBA: 22 hours required
- MPH: 15 hours required

### MBA Core Courses (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP (Required as the first graduate course for all MBA students)	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE	2
<b>Total Credits</b>		<b>22</b>

### MPH Core Courses (15 hours)

Code	Title	Credits
CPH 500 or HPRO 830	Foundations of Public Health	3
CPH 504 or EPI 820	Epidemiology in Public Health	3
CPH 506 or BIOS 806	Biostatistics I	3
CPH 514	Planning and Evaluation	3
CPH 539	Leadership and Advocacy	3
<b>Total Credits</b>		<b>15</b>

### Capstone Courses & Service Learning (8 credit hours)

**BSAD 8800 MBA Project-Focused Capstone** (2 credits) The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on students completing a service-learning consulting project for a non-profit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

- Students will complete the MPH program service learning course (CPH 528: Applied Practice Experience for MPH Students, 3 credit hours)
- Students will complete the MPH program capstone course (CPH 529: MPH Capstone Experience, 3 credit hours) with a grade of B (3.0) or higher.

Prerequisite:

CPH 505 or HPRO 805: Applied Research in Public Health

Students must complete all core and concentration area courses, be within 12 hours of graduation (including 6 hours of service learning/capstone experience), and be in good academic standing to start the Service Learning/ MPH Capstone Experience.

### Elective and Concentration Courses (15 credit hours)

MBA/MPH students qualifying for an MBA core course waiver based on their undergraduate major(s) or previous degree(s) will be required to complete a **Directed Elective** in the waived field(s). The waived core course will not satisfy degree requirements. For the list of approved directed electives please consult with your advisor.

MBA/MPH students are not eligible to choose a concentration area for the MBA program. Instead, they will have the option to complete a concentration in Biostatistics, Emergency Preparedness, Epidemiology, or Public Health Administration and Policy. If a student is completing one of these concentration, they will also need to complete the corresponding electives for that concentration.

#### Biostatistics Concentration

Code	Title	Credits
CPH 517 - BIOS 835	Design of Medical Studies	3
CPH 651 - BIOS 810	Introduction to SAS Programming	3
CPH 652 - BIOS 818	Biostatistical Methods II	3
CPH 653 - BIOS 823	Categorical Data Analysis	3
<b>Total Credits</b>		<b>12</b>

Students completing the MBA/MPH with a concentration in Biostatistics will transfer a maximum of nine (9) hours of coursework from the MPH courses listed below to fulfill elective requirements for the MBA program. Minimum "B" (3.0 on a 4.0 scale) grade required in each course to be transferred. Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPH degree. These courses are:

Code	Title	Credits
CPH 517	Design of Medical Studies	3
CPH 651	Introduction to SAS Programming	3

CPH 652	Biostatistical Methods II	3
CPH 653	Categorical Data Analysis	3

### Emergency Preparedness Concentration

Code	Title	Credits
CPH 550 - EPI 810	Emergency Preparedness: Prevention	3
CPH 553 - EPI 813	Emergency Preparedness: Response	3
CPH 554 - EPI 814	Emergency Preparedness: Response and Recovery	3
CPH 631 - EPI 811	Emergency Preparedness: Protection	3
<b>Total Credits</b>		<b>12</b>

Students completing the MBA/MPH with a concentration in Emergency Preparedness will transfer a maximum of nine (9) hours of coursework from the MPH courses listed below to fulfill elective requirements for the MBA program. Minimum "B" (3.0 on a 4.0 scale) grade required in each course to be transferred. Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPH degree. These courses are:

Code	Title	Credits
CPH 550 - EPI 810	Emergency Preparedness: Prevention	3
CPH 553 - EPI 813	Emergency Preparedness: Response	3
CPH 631 - EPI 811	Emergency Preparedness: Protection	3

### Epidemiology Concentration

Code	Title	Credits
CPH 621 - EPI 821	Applied Epidemiology	3
CPH 628 - EPI 845	Epidemiologic Methods	3
CPH 650 - BIOS 808	Biostatistics II	3
CPH 651 - BIOS 810	Introduction to SAS Programming	3
Selectives (6 Cr. Hrs. 1 GE and 1 ID)		
General Epidemiology (GE)		3
CPH 620	Chronic Disease Epidemiology	
CPH 753	Cancer Epidemiology	
Infectious Disease Epidemiology (ID)		3
CPH 623	Infectious Disease Epidemiology: Theory and Methods	
CPH 723	Epidemiological Methods in Infectious Disease Outbreak Investigation	
<b>Total Credits</b>		<b>18</b>

Students completing the MBA/MPH with a concentration in Epidemiology will transfer a maximum of nine (9) hours of coursework from the MPH courses listed below to fulfill elective requirements for the MBA program.

Minimum "B" (3.0 on a 4.0 scale) grade required in each course to be transferred. Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPH degree. These courses are:

Code	Title	Credits
CPH 621 - EPI 821	Applied Epidemiology	3
CPH 628 - EPI 845	Epidemiologic Methods	3
CPH 650 - BIOS 808	Biostatistics II	3

### Public Health Administration and Policy Concentration

Code	Title	Credits
CPH 502	Health Services Administration	3
CPH 562	Human Resources Management in Health Organizations	3

CPH 565	Health Care Finance	3
CPH 566	Health Policy	3
CPH 580	Health Care Organizational Theory and Behavior	3

**Total Credits 15**

Students completing the MBA/MPH with a concentration in Public Health Administration and Policy will transfer a maximum of nine (9) hours of coursework from the MPH courses listed below to fulfill elective requirements for the MBA program. Minimum "B" (3.0 on a 4.0 scale) grade required in each course to be transferred. Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPH degree. These courses are:

Code	Title	Credits
CPH 502	Health Services Administration	3
CPH 565	Health Care Finance	3
CPH 566	Health Policy	3

### Other MBA Requirements

All MBA students must attend MBA Orientation in their first semester in the MBA program as part of their degree requirements. All MBA students must participate in a minimum of **two (2)** MBA Leadership Seminars prior to graduation.

## Academic Performance

Foundation courses cannot be used to meet the 60 semester-hour requirement for the MBA/MPH joint degree.

### MBA Program Two Strikes Rule

A UNO MBA student may enroll only **twice** in each MBA course. If the class is not successfully completed on the second attempt then the student will be dismissed from the MBA program. **An enrollment is defined as being enrolled in the course after the last day to withdraw via MavLINK and receive a 100% refund. The last day for withdrawal will be as stated in the current academic calendar for a full semester course (3 credits); for an eight-week course (2 credits) the last day for withdrawal will be the third day (including the start date) of the course as designated in MavLINK.**

### MBA Program Academic Performance

Students earning a third grade of "C+ "or lower (or any single grade below "C" (1.67 on a 4.0 scale)) will be automatically dismissed from the MBA program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for MBA credit. Students who have been dismissed may not enroll in any courses for MBA credit in any subsequent semester or summer session until reinstatement has been granted by the College of Business Administration's Graduate Program Council (CBA GPC) and graduate dean.

Students who have been dismissed from the MBA program may submit a written petition for reinstatement to the CBA GPC. Students who have petitioned the CBA GPC for reinstatement may not enroll in any courses for MBA credit. Upon receiving a petition for reinstatement, the CBA GPC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the CBA GPC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student and this information may be used by the CBA GPC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period of the CBA GPC's discretion and must satisfy the probationary conditions specified by the CBA GPC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions

as specified by the CBA GPC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" 3.0). Students not achieving the probationary or reinstatement conditions will be automatically dismissed.

## GPC Will Consider Grades Earned in Related Courses

When making decisions based on Quality of Work Standards issues, the CBA GPC will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK file, where the most recent grade replaces the grade received in the previous attempt.

## Student Responsibilities

- Each student admitted to graduate studies is responsible for knowing the procedures and regulations of the Graduate College.
- Each student admitted to the dual degree option will, within the first semester of their enrollment, file a plan of study in close consultation with a graduate advisor.
- Once admitted to the MBA/MPH dual degree program, the MBA Director in the College of Business Administration will oversee the student's progress in the MBA curriculum, and faculty in the College of Public Health will oversee the student's progress in the MPH curriculum.
- Each student has to complete both the MBA and MPH orientations.
- Students must maintain academic eligibility as defined by each degree program.

# Business Administration, MBA and UNMC PharmD (MBA/PharmD)

Department of Business Administration, College of Business Administration; UNMC College of Pharmacy

## Vision Statement

The MBA/PharmD dual degree program is designed for pharmacy students who desire to possess both clinical skills and an understanding of business management, leadership, and strategic decision making. Graduates will be prepared to anticipate change and to make decisions that balance patient outcomes and the overall cost of care.

## Program Contact Information

### (Business Administration):

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor

311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

### (College of Pharmacy):

Christopher L. Shaffer, Associate Dean  
UNMC College of Pharmacy  
986000 Nebraska Medical Center  
402.559.4333  
cshaffer@unmc.edu

Lynnette Mullins, Student Services Associate

UNMC

986000 Nebraska Medical Center

402.559.4333

lmullins@unmc.edu

Program Website (<https://www.unomaha.edu/college-of-business-administration/mba/program/other-programs.php>)

## Admissions

### MBA Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

## Program Specific Requirements

### College of Pharmacy Students

To be eligible for enrollment in the UNO MBA program, the UNMC student must:

1. Be in the top 50% of his/her pharmacy school class;
2. Secure approval from the UNMC COP associate dean of Student Affairs;
3. Secure approval from the MBA advisor;
4. Meet UNO MBA admission requirements including the submission of required transcripts, test scores, and resume;
5. Complete UNO's Application for Graduate Admission;
6. Applicants that did not complete a baccalaureate degree prior to enrollment in the PharmD program must have completed a minimum of ninety (90) college level credits to qualify for admission;
7. Junior/Senior GPA calculation will be based on the most recent sixty (60) credits including PharmD credits.

### MBA Program Specific Requirements

Admission may be granted to an applicant whose record includes at least the following:

1. 2.85 junior/senior grade point average;
2. Resume (employment and educational history);
3. Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.

- The minimum TOEFL score required for the MBA is 80 for the internet-based test, or 6.5 for the IELTS, or 53 for the PTE.

## Admission Criteria

- Students who have already graduated with the MBA or PharmD degree are not eligible for the MBA/PharmD dual degree program.
- Students qualifying for admission based on the standards outlined above but lacking MBA foundation courses will be granted *provisional status* until all foundation courses are completed with grades of "B" (3.0 on a 4.0 scale) or above.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		6
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro-economics and Macro-economics at the undergraduate level:		6
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	
<b>Foundation Courses cannot be used to meet the degree requirements for the MBA program.</b>		

### MBA Core Course Requirements (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE	2
<b>Total Credits</b>		<b>22</b>

### Elective Courses (9 hours)

Students completing the MBA/PharmD program will transfer a maximum of nine (9) hours of coursework from the pharmacy courses listed below to fulfill elective requirements for the MBA program. Minimum of "B" (3.0 on a 4.0 scale) grade required in each course to be transferred.

Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the PharmD degree. The courses are:

Code	Title	Credits
PHPR 550	Legal and Ethical Principles I	2
PHPR 552	Pharmaceutical Care I	2
PHPR 556	Pharmaceutical Care II	2
PHPR 560	Pharmacy and Health Care	3
PHPR 660	Legal and Ethical Principles II	2
PHPR 662	Pharmacy Practice Management	3
<b>Total Credits</b>		<b>9</b>

MBA/PharmD students qualifying for an MBA core course waiver based on their undergraduate major(s) or previous degree(s) will be required to complete a Directed Elective in the waived field in addition to the hours transferred from UNMC. The waived core course will not satisfy degree requirements. Please consult with your advisor for a complete list of approved directed electives.

MBA/PharmD students are not eligible to choose a concentration area for the MBA program.

### Exit Requirement

**BSAD 8800-MBA Project-Focused Capstone** (2 credits) (taken within the last nine (9) hours or the final semester of the program). The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on the students completing a service-learning consulting project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2

### Other MBA Requirements

Attendance at a minimum of two (2) MBA Leadership Seminars.

## Academic Performance

#### MBA Program Two Strikes Rule

A UNO MBA student may enroll only **twice** in each MBA course. If the class is not successfully completed on the second attempt then the student will be dismissed from the MBA program. **An enrollment is defined as being enrolled in the course after the last day to withdraw via MavLINK and receive a 100% refund. The last day for withdrawal will be as stated in the current academic calendar for a full semester course (3 credits); for an eight-week course (2 credits) the last day for withdrawal will be the third day (including the start date) of the course as designated in MavLINK.**

### MBA Program Academic Performance

Students earning a third grade of "C+" or lower (or any single grade below "C" 1.67 on a 4.0 scale) will be automatically dismissed from the MBA program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for MBA credit. Students who have been dismissed may not enroll in any courses for MBA credit in any subsequent semester or summer session until reinstatement has been granted by the College of Business Administration's Graduate Program Council (CBA GPC) and graduate dean.

Students who have been dismissed from the MBA program may submit a written petition for reinstatement to the CBA GPC. Students who have petitioned the CBA GPC for reinstatement may not enroll in any courses

for MBA credit. Upon receiving a petition for reinstatement, the CBA GPC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the CBA GPC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student and this information may be used by the CBA GPC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period of the CBA GPC's discretion and must satisfy the probationary conditions specified by the CBA GPC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the CBA GPC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" (3.0)). Students not achieving the probationary or reinstatement conditions will be automatically dismissed.

## CBA GPC Will Consider Grades Earned in Repeat Courses

When making decisions based on Quality of Work Standards issues, the CBA GPC will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK file, where the most recent grade replaces the grade received in the previous attempt.

## Student Responsibilities

- Each student admitted to graduate studies is responsible for knowing the procedures and regulations of the Graduate College.
- Each student admitted to the MBA/PharmD will, within the first semester of their enrollment in the MBA program, file a plan of study in close consultation with a graduate advisor.
- Once admitted to the MBA/PharmD dual degree program, the MBA director in the College of Business Administration will oversee the student's progress in the MBA curriculum, and faculty in the College of Pharmacy will oversee the student's progress in the PharmD curriculum.
- Each student has to complete the MBA orientation.
- Students must maintain academic eligibility as defined by each degree program.

# Business Administration, MBA and UNMC Doctor of Physical Therapy

Department of Business Administration, College of Business Administration; UNMC College of Allied Health Professions (CAHP)

## Vision Statement

The health care industry is an ever-changing landscape, requiring those in leadership positions to navigate complex issues associated with patient care, operations, change management and public policy, to name a few. Allied health professionals comprise approximately 60 percent of the total health care workforce, and together provide the fundamental framework critical to the success of the American health care system. Students jointly pursuing education in an allied health profession and in business are uniquely prepared not only for health care practice, but also for taking on key decision-making roles in health care organizations.

## Program Contact Information

(Business Administration):

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836

mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

CAHP Enrollment Management & Student Affairs  
cahpadmissions@unmc.edu (:cahpadmissions@unmc.edu)  
402.559.6673

Program Website (<https://www.unmc.edu/alliedhealth/education/dual-mba/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

## Other Requirements

- Junior/senior GPA of at least 2.85 (on a 4.0 point scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** (employment and educational history)
- Applicants must be admitted to a graduate degree program in the CAHP and have completed no more than the first year of that program.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		6
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro-economics and Macro-economics at the undergraduate level:		6
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	3

**Foundation Courses cannot be used to meet the degree requirements for the MBA program.**

## MBA Core Course Requirements (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>1</sup>	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>2</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>3</sup>	2
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>2</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>3</sup> BSAD 8830 (prereq: completion of BSAD 8150 and BSAD 8210)

## Exit Requirement

**BSAD 8800-MBA Project-Focused Capstone** (2 credits) The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on the students completing a health care-related project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2

## Elective Courses (9 hours)

Students completing the MBA/DPT program will transfer nine hours of coursework from the courses listed below to fulfill elective requirements for the MBA program. Minimum of "B" (3.0 on a 4.0 scale) grade required in each course to be transferred.

Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the DPT degree. The courses are:

Code	Title	Credits
PHYT 622 & 722	Practice Management Skills for the Physical Therapist I and II	3

PHYT 640	Critical Inquiry I	3
PHYT 740	Critical Inquiry II	3
<b>Total Credits</b>		<b>9</b>

MBA/DPT students who have earned undergraduate or graduate degrees in accounting, economics, finance, management, management information systems, or marketing, the MBA core course(s) corresponding to the student's undergraduate major(s) or degree(s) will be waived and the student will complete a directed elective in the waived field in addition to the hours transferred from UNMC. The waived core course will not satisfy degree requirements. Please consult with your advisor for a complete list of approved directed electives.

MBA/DPT students are not eligible to choose an MBA concentration because UNMC CAHP courses will comprise all electives.

## Other MBA Requirements

Attendance at a minimum of two (2) MBA Leadership Seminars.

# Business Administration, MBA and UNMC Nursing (MBA/MSN)

**Department of Business Administration, College of Business Administration; UNMC College of Nursing**

## Vision Statement

The MBA/MSN dual degree program is designed for nursing students who desire to possess both clinical skills and a clear understanding of business management, leadership, and strategic decision making. Graduates will be prepared to anticipate change and to make decisions that balance patient outcomes and the overall cost of care.

## Program Contact Information

### (Business Administration):

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

### (College of Nursing):

Carol Wahl, DNP, RN, MBA, NEA-BC, FACHE  
Assistant Professor  
College of Nursing - Kearney Division  
2402 University Drive  
Kearney, NE 68849-4510  
308.865.1140  
carol.wahl@unmc.edu (tbarry@unmc.edu)

Program Website (<https://www.unomaha.edu/college-of-business-administration/mba/program/other-programs.php>)

## Admissions

### MBA Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

### Admission Criteria

- Students who have already graduated with the MBA or MSN degree are not eligible for the MBA/MSN dual degree program.
- Students must complete separate applications for the MBA and MSN programs and must meet the requirements for each program.
- The admission requirements for the MSN program can be found on the UNMC MSN (<https://www.unmc.edu/nursing/admissions/admissions-information/admissions-information-msn-pmc.html>) website.
- CON students seeking admission to the MBA portion of the dual degree program must complete the UNO Application for Graduate Admission (<https://www.unomaha.edu/graduate-studies/prospective-students/application-process.php>) and request admission to the MBA/MSN program.
- Students who are already enrolled in the Nurse Leader concentration in the CON MSN program may apply for admission to the MBA/MSN dual degree program if their *GPA is at least 3.0 and they have not yet completed more than 18 semester hours* towards the MSN program.
- Students who are already enrolled in the UNO MBA program may apply for admission to the MBA/MSN dual degree program if they are in good academic standing and have not *completed more than 12 semester hours* towards the MBA program.
- Students qualifying for admission based on the standards outlined above but lacking MBA foundation courses will be granted *provisional status* until all foundation courses are completed with grades of "B" (3.0 on a 4.0 scale) or above.

### MBA Program Specific Requirements

Admission may be granted to an applicant whose record includes at least the following:

1. 2.85 junior/senior grade point average
2. Resume (employment and educational history)
3. Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.

- The minimum TOEFL score required for the MBA is 80 for the internet-based test, or 6.5 for the IELTS, or 53 for the PTE.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3

Or one year of Principles of Accounting at the undergraduate level: 6

ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	

<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3

Or Micro-economics and Macro-economics at the undergraduate level: 6

ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	

### English Composition

A required course for all international students entering the MBA program who are required to take the TOEFL:

ENGL 1150	ENGLISH COMPOSITION I	3
-----------	-----------------------	---

**Foundation Courses cannot be used to meet the degree requirements for the MBA program.**

### MBA Core Course Requirements (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
NRSG 652	Organizational Improvement (UNMC) <sup>1</sup>	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>2</sup>	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>3</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>4</sup>	2
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> NRSG 652 is taken in lieu of BSAD 8250

<sup>2</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>3</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>4</sup> BSAD 8830 (prereq: completion of BSAD 8150 and BSAD 8210)

### Exit Requirement

**BSAD 8800-MBA Project-Focused Capstone** (2 credits) The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on the students completing a health care-related project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2

## Elective Courses (9 hours)

Students completing the MBA/MSN program will transfer nine hours of coursework from the nursing courses listed below to fulfill elective requirements for the MBA program. Minimum of "B" (3.0 on a 4.0 scale) grade required in each course to be transferred.

Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MSN degree. The courses are:

Code	Title	Credits
NRSG 604	Health Systems Innovation and Improvement	3
NRSG 609	Health Promotion for Populations	3
NRSG 656	Developing Systems & Infrastructure in Health Care Organizations	3
<b>Total Credits</b>		<b>9</b>

MBA/MSN students who have earned undergraduate or graduate degrees in accounting, economics, finance, management, management information systems, or marketing, the MBA core course(s) corresponding to the student's undergraduate major(s) or degree(s) will be waived and the student will complete a directed elective in the waived field in addition to the hours transferred from UNMC. The waived core course will not satisfy degree requirements. Please consult with your advisor for a complete list of approved directed electives.

MBA/MSN students are not eligible to choose an MBA concentration because UNMC CON courses will comprise all electives.

## Other MBA Requirements

Attendance at a minimum of two (2) MBA Leadership Seminars.

## Academic Performance

MBA Program Two Strikes Rule

A UNO MBA student may enroll only **twice** in each MBA course. If the class is not successfully completed on the second attempt then the student will be dismissed from the MBA program. **An enrollment is defined as being enrolled in the course after the last day to withdraw via MavLINK and receive a 100% refund. The last day for withdrawal will be as stated in the current academic calendar for a full semester course (3 credits); for an eight-week course (2 credits) the last day for withdrawal will be the third day (including the start date) of the course as designated in MavLINK.**

## MBA Program Academic Performance

Students earning a third grade of "C+" or lower (or any single grade below "C" 1.67 on a 4.0 scale) will be automatically dismissed from the MBA program. Dismissed students will be immediately administratively withdrawn from all courses in which they are enrolled for MBA credit. Students who have been dismissed may not enroll in any courses for MBA credit in any subsequent semester or summer session until reinstatement has been granted by the College of Business Administration's Graduate Program Council (CBA GPC) and graduate dean.

Students who have been dismissed from the MBA program may submit a written petition for reinstatement to the CBA GPC. Students who have petitioned the CBA GPC for reinstatement may not enroll in any courses for MBA credit. Upon receiving a petition for reinstatement, the CBA GPC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the CBA GPC reserves the right to examine the student's academic record and reserves the right to speak to

any previous instructor who has taught the student and this information may be used by the CBA GPC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period of the CBA GPC's discretion and must satisfy the probationary conditions specified by the CBA GPC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the CBA GPC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" (3.0). Students not achieving the probationary or reinstatement conditions will be automatically dismissed.

## CBA GPC Will Consider Grades Earned in Repeat Courses

When making decisions based on Quality of Work Standards issues, the CBA GPC will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK file, where the most recent grade replaces the grade received in the previous attempt.

## Student Responsibilities

- Each student admitted to graduate studies is responsible for knowing the procedures and regulations of the Graduate College.
- Each student admitted to the MBA/MSN will, within the first semester of their enrollment in the MBA program, file a plan of study in close consultation with a graduate advisor.
- Once admitted to the MBA/MSN dual degree program, the MBA Director in the College of Business Administration will oversee the student's progress in the MBA curriculum, and faculty in the College of Nursing will oversee the student's progress in the MSN curriculum.
- Each student has to complete the MBA orientation.
- Students must maintain academic eligibility as defined by each degree program.

## Business Administration, MBA and UNMC Master of Perfusion Science

Department of Business Administration, College of Business Administration; UNMC College of Allied Health Professions (CAHP)

## Vision Statement

The health care industry is an ever-changing landscape, requiring those in leadership positions to navigate complex issues associated with patient care, operations, change management and public policy, to name a few. Allied health professionals comprise approximately 60 percent of the total health care workforce, and together provide the fundamental framework critical to the success of the American health care system. Students jointly pursuing education in an allied health profession and in business are uniquely prepared not only for health care practice, but also for taking on key decision-making roles in health care organizations.

## Program Contact Information

**(Business Administration):**

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)

6708 Pine Street  
402.554.3010  
mba@unomaha.edu

CAHP Enrollment Management & Student Affairs  
cahpadmissions@unmc.edu (:cahpadmissions@unmc.edu)  
402.559.6673

Program Website (<https://www.unmc.edu/alliedhealth/education/dual-mba/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

### Other Requirements

- Junior/senior GPA of at least 2.85 (on a 4.0 point scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** (employment and educational history)
- Applicants must be admitted to a graduate degree program in the CAHP and have completed no more than the first year of that program.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		6
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro-economics and Macro-economics at the undergraduate level:		6
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Foundation Courses cannot be used to meet the degree requirements for the MBA program.</b>		

### MBA Core Course Requirements (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>1</sup>	2
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>2</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>3</sup>	2
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>2</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>3</sup> BSAD 8830 (prereq: completion of BSAD 8150 and BSAD 8210)

### Exit Requirement

**BSAD 8800-MBA Project-Focused Capstone** (2 credits) The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on the students completing a health care-related project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2

### Elective Courses (9 hours)

Students completing the MBA/MPS program will transfer nine hours of coursework from the courses listed below to fulfill elective requirements for the MBA program. Minimum of "B" (3.0 on a 4.0 scale) grade required in each course to be transferred.

Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPS degree. The courses are:

Code	Title	Credits
CAHP 530	Scanning Health Care Environment	3
CAHP 531	Management in Health Care	3
CAHP 626	Health Care Ethics and Critical Thinking	3
<b>Total Credits</b>		<b>9</b>

MBA/MPS students who have earned undergraduate or graduate degrees in accounting, economics, finance, management, management information systems, or marketing, the MBA core course(s) corresponding to the student's undergraduate major(s) or degree(s) will be waived and the student will complete a directed elective in the waived field in addition to the hours transferred from UNMC. The waived core course will not satisfy degree requirements. Please consult with your advisor for a complete list of approved directed electives.

MBA/MPS students are not eligible to choose an MBA concentration because UNMC courses will comprise all electives.

## Other MBA Requirements

Attendance at a minimum of two (2) MBA Leadership Seminars.

# Business Administration, MBA and UNMC Master of Physician Assistant Studies

Department of Business Administration, College of Business Administration; UNMC College of Allied Health Professions (CAHP)

## Vision Statement

The health care industry is an ever-changing landscape, requiring those in leadership positions to navigate complex issues associated with patient care, operations, change management and public policy, to name a few. Allied health professionals comprise approximately 60 percent of the total health care workforce, and together provide the fundamental framework critical to the success of the American health care system. Students jointly pursuing education in an allied health profession and in business are uniquely prepared not only for health care practice, but also for taking on key decision-making roles in health care organizations.

## Program Contact Information

### (Business Administration):

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

Program Website (<https://www.unmc.edu/alliedhealth/education/dual-mba/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

## Other Requirements

- Junior/senior GPA of at least 2.85 (on a 4.0 point scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** (employment and educational history)
- Applicants must be admitted to a graduate degree program in the CAHP and have completed no more than the first year of that program.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
<b>Accounting</b>		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
Or one year of Principles of Accounting at the undergraduate level:		6
ACCT 2010	PRINCIPLES OF ACCOUNTING I	
ACCT 2020	PRINCIPLES OF ACCOUNTING II	
<b>Economics</b>		
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
Or Micro-economics and Macro-economics at the undergraduate level:		6
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	3
<b>Foundation Courses cannot be used to meet the degree requirements for the MBA program.</b>		

## MBA Core Course Requirements (22 hours)

Code	Title	Credits
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	2
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>1</sup>	2

BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>2</sup>	2
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>3</sup>	2
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>2</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>3</sup> BSAD 8830 (prereq: completion of BSAD 8150 and BSAD 8210)

## Exit Requirement

**BSAD 8800-MBA Project-Focused Capstone** (2 credits) The project-focused capstone course for the Master's of Business Administration (MBA) degree will focus on the students completing a health care-related project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Students must also complete this course in the final semester or within the last nine (9) hours of their MBA program. Not open to non-degree graduate students.

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2

## Elective Courses (9 hours)

Students completing the MBA/MPAS program will transfer nine hours of coursework from the courses listed below to fulfill elective requirements for the MBA program. Minimum of "B" (3.0 on a 4.0 scale) grade required in each course to be transferred.

Transfer and application of the "professional" hours from UNMC to the UNO MBA program will take place upon completion of the MPAS degree. The courses are:

Code	Title	Credits
PHAS 620	Physician Assistant Professional Issues	1
PHAS 632	Communication in Medicine I	2
PHAS 637	Communication in Medicine II	1
PHAS 660	Medical Ethics	1
PHAS 665	Systems in Health Care and Management	1
PHAS 670	Research Applications in Medicine	1
PHAS 707	Family Medicine Clerkship (Students must complete an applied organizational/managerial audit assignment after completing the Family Practice Clerkship. The details of this assignment will be provided upon admission to the MBA program.)	2
<b>Total Credits</b>		<b>9</b>

MBA/MPAS students who have earned undergraduate or graduate degrees in accounting, economics, finance, management, management information systems, or marketing, the MBA core course(s) corresponding to the student's undergraduate major(s) or degree(s) will be waived and the student will complete a directed elective in the waived field in addition to the hours transferred from UNMC. The waived core course will not satisfy degree requirements. Please consult with your advisor for a complete list of approved directed electives.

MBA/MPAS students are not eligible to choose an MBA concentration because UNMC courses will comprise all electives.

## Other MBA Requirements

Attendance at a minimum of two (2) MBA Leadership Seminars.

# Business for Bioscientists Certificate

**Department of Business Administration, College of Business Administration; Department of Biology, College of Arts and Sciences**

## Vision Statement

This certificate program provides a basic understanding of business principles to biomedical PhD students. While UNMC PhD students receive extensive training in research methods and the principles of biology and medicine, they receive no formal training in business fundamentals. However, a significant portion of biomedical PhD students obtain employment in pharmaceutical, biotechnology, and other industries. For students with these career goals, formal training in business would markedly enhance their career options and competitiveness for these industry positions.

## Program Contact Information

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-business-administration/mba/program/other-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022 and Fall 2022)

- Spring: November 1
- Fall: July 1 (June 1 for international students)

## Other Requirements

- All applicants must be current UNMC PhD students.
- All applicants must have earned a minimum junior/senior GPA of 2.85.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- **Resume:** Include employment and educational history

## Degree Requirements

The 12 credit hours needed to fulfill certificate requirements does not include the foundation courses listed below.

### Foundation Courses

Code	Title	Credits
These courses are not applicable to the completion of the certificate requirements.		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Total Credits</b>		<b>6</b>

### Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>4</b>
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
<b>Electives</b>		
Select a minimum of 5 hours from the following:		5
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2
<b>Exit Requirements</b>		
BSAD 8910	SPECIAL TOPICS IN BUSINESS (Business for Bioscientists) <sup>1</sup>	3
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> All other courses in the program must have been completed prior to enrolling in BSAD 8910.

## Business in Health Administration Certificate

Department of Business Administration, College of Business Administration; College of Public Health, UNMC

### Vision Statement

The Business in Health Administration (BIHA) certificate program was developed in collaboration with the UNMC College of Public Health to provide students pursuing the Master of Health Administration (MHA) program with the opportunity for additional training in economics, finance, and other topics relevant to health care management.

### Program Contact Information

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836

mba@unomaha.edu

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

College of Public Health  
984355 Medical Center  
Omaha, NE 68198-4359  
402.559.4960  
coph@unmc.edu

Program Website (<https://www.unomaha.edu/college-of-business-administration/mba/program/other-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

### Other Requirements

- All applicants must have earned a minimum junior/senior GPA of 2.85.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- **Resume:** Include employment and educational history
- Enrollment in the UNMC MHA program will also be a requirement for admission.

## Degree Requirements

The 12 credit hours needed to fulfill certificate requirements does not include the foundation courses listed below.

### Foundation Courses

Code	Title	Credits
These courses are not applicable to the completion of the certificate requirements.		
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Total Credits</b>		<b>6</b>

## Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>5</b>
BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP	2
BSAD 8096	PRINCIPLES OF COLLABORATION	3
<b>Electives - select a minimum of 4 hours from the following:</b>		<b>4</b>
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2
CPH 580	Health Care Organization Theory (UNMC)	3
<b>Exit Requirements</b>		<b>3</b>
BSAD 8910	SPECIAL TOPICS IN BUSINESS (Health Administration) <sup>1</sup>	3
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> All other courses in the program must have been completed prior to enrolling in BSAD 8910.

# Supply Chain Management Certificate

Department of Business Administration, College of Business Administration

## Vision Statement

The purpose of the supply chain management graduate certificate is to assist working professionals with career advancement by enhancing their knowledge of supply chain management. The graduate certificate is designed to expand students' knowledge of both theory and practice in the field of supply chain management.

## Program Contact Information

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
[mba@unomaha.edu](mailto:mba@unomaha.edu)

Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
[mba@unomaha.edu](mailto:mba@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-business-administration/mba/about-us/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Spring: November 1
- Summer: April 1
- Fall: July 1

## Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Unconditional Admission:** may be granted to an applicant whose record includes:
  - A minimum 2.85 undergraduate junior/senior GPA
  - Resume (employment and educational history)
  - **Statement of Purpose:** In a minimum 250 words address the following:
    - What are your personal and/or professional reasons for pursuing the Supply Chain Management Graduate Certificate?
- **Provisional Admission:** Applicants who do not meet the conditions for unconditional admission may be considered for provisional admission status. These applicants will be notified that the CBA Graduate Program Council (CBA GPC) will evaluate the files of all applicants being considered for provisional admission. Candidates being considered for admission on this basis will receive notification from the UNO Office of Graduate Studies. If granted provisional admission, the student must earn minimum "B" (3.0/4.0) grades in each of the courses completed in 12 hours of the certificate program. Students not meeting this standard are subject to dismissal.
- **Foundation courses:** These courses are not applicable to the completion of the certificate requirements.

Code	Title	Credits
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	3
<b>Total Credits</b>		<b>6</b>

## Certificate Requirements

Code	Title	Credits
<b>Core Courses</b>		
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD 8376	SUPPLY CHAIN ANALYTICS	3
<b>Electives</b>		<b>6</b>
BSAD 8336	PROJECT MANAGEMENT	
BSAD 8356	GLOBAL SOURCING AND INNOVATION	
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	
ECON 8210	MANAGERIAL ECONOMICS	
<b>Total Credits</b>		<b>12</b>

## Academic Performance

In addition to the Quality of Work Standards established by the Graduate College, students in the Logistics & Supply Chain Management certificate program may repeat a BSAD 8xxx level course in which they receive any grade, including "W" or "I" one time. If the class is not successfully completed on the second attempt, the student will be dismissed from the Logistics & Supply Chain Management certificate program.

Each semester, student files will be reviewed where a student received a grade lower than a "B" (3.0 out of 4.0). Students earning more than one grade of "C+" or lower (or any single grade below "C" (1.67 on a 4.0 scale)) will be automatically dismissed from the Logistics & Supply Chain Management certificate program.

Dismissed students will be immediately administratively withdrawn from all MBA courses in which they are enrolled for credit. Students who have been dismissed may not enroll in any MBA courses for credit in any subsequent semester or summer session until reinstatement has been granted by the CBA GPC and the graduate dean.

## Communication Degree Programs Offered

- Communication, MA (p. 1063)

## Certificates Offered

- Communication Certificate (p. 1064)
- Human Resources and Training Certificate (p. 1065)
- Technical Communication Certificate (p. 1178)

### COMM 8010 COMMUNICATION RESEARCH METHODS SEMINAR: QUANTITATIVE (3 credits)

Philosophy of scientific investigation from a quantitative standpoint, including process and products, in comparison to other ways of knowing. Introduces students to quantitative designs and statistical applications for communication research and to data gathering methods appropriate for such designs. Emphasis is placed on preparing, evaluating and writing quantitatively oriented communication research proposals and reports.

**Prerequisite(s)/Corequisite(s):** Graduate majoring in communication or permission of instructor. Not open to non-degree graduate students.

### COMM 8020 COMMUNICATION RESEARCH METHODS SEMINAR: QUALITATIVE (3 credits)

This course is an introduction to the methodology and practice of qualitative research. Within the course, students will be exposed to research paradigms, approaches to qualitative research, and ways to collect and analyze qualitative data. Students will be required to design and carry out their own qualitative research project.

**Prerequisite(s)/Corequisite(s):** Open to School of Communication Graduate Students only

### COMM 8030 TOPICAL SEMINAR: RESEARCH METHODS (3 credits)

This variable-content course provides students with in-depth knowledge about various communication research methods (e.g., survey or experimental, content analysis, legal, assessment strategies, ethnography, advanced critique, etc.) or other communication methods and assessment in context with particular areas of study.

**Prerequisite(s)/Corequisite(s):** Graduate student status

### COMM 8110 GRADUATE TEACHING ASSISTANT SEMINAR (1 credit)

This course provides weekly training, assessment, and teaching strategies for graduate teaching assistants within the the School of Communication.

**Prerequisite(s)/Corequisite(s):** School of Communication Graduate Teaching Assistants Only. Not open to non-degree graduate students.

### COMM 8180 TOPICAL SEMINAR: COMMUNICATION STUDIES (3 credits)

A variable content course dealing with communication studies. Each offering will treat a single aspect of communications studies in-depth - e.g., interpersonal conflict, gender and communication, organizational culture, health systems communication, relational communication, political communication, marital and family communication, communication education, rhetorical critique, etc. Course may be repeated.

**Prerequisite(s)/Corequisite(s):** Graduate Student Standing

### COMM 8200 SEMINAR IN POPULAR CULTURE, MASS MEDIA AND VISUAL RHETORIC (3 credits)

This course studies how discursive meaning is made through established and emerging visual technologies and the impact visual symbol systems are having upon the field of rhetoric in general. Students will investigate how visual technologies, discourse theory, and semiotic theory has intersected with and expanded contemporary rhetorical theories, and they will apply these theories to visual texts. (Cross-listed with ENGL 8760).

### COMM 8300 TOPICAL SEMINAR: JOURNALISM AND MEDIA COMMUNICATION (3 credits)

Substantive study of specialized areas and modes of journalism and media communication (broadcasting, film, print, public relations, advertising, social media, etc). Content will vary. Course may be repeated.

**Prerequisite(s)/Corequisite(s):** Graduate Student Status

### COMM 8436 GLOBAL MEDIA COMMUNICATION (3 credits)

In-depth study of global media communication systems. This course will examine cultural influence of dominant global media, the changing global media climates, information flow, regulation and censorship of media worldwide. Students will look at the various aspects of mass communication including advertising, public relations, broadcasting, movies and social media. There will be an emphasis on global communication theories and on critical examinations of media systems. (Cross-listed with JMC 4430)

### COMM 8470 FOUNDATIONS SEMINAR: COMMUNICATION STUDIES (3 credits)

This course is part of the Communication graduate degree core coursework. The course exposes students to the structure and historical development of the Communication Studies discipline. It also addresses issues involved in conceptualizing, evaluating, and doing research in Communication Studies from post-positive, interpretive, and critical perspectives. Additionally, the course examines Communication Studies in selected contexts and sub-disciplines. Finally, current and future directions in the development of the Communication Studies discipline are addressed.

**Prerequisite(s)/Corequisite(s):** Communication graduate students admitted to program; others may enroll only with instructor permission

### COMM 8500 TOPICAL SEMINAR: COMMUNICATION THEORY (3 credits)

This course has a twofold purpose: (1) to expose students to different perspectives on building and critiquing theory ( e.g., the classical versus the interpretive naturalistic perspectives.) (2) to apply perspectives to the analysis and critique of a range of influential theoretical approaches employed in the communication discipline (e.g., systems theory, semiotics, message reception/processing theories).

**Prerequisite(s)/Corequisite(s):** Graduate Student status

### COMM 8570 FOUNDATIONS SEMINAR: JOURNALISM AND MEDIA COMMUNICATION (3 credits)

This course is part of the Communication graduate degree core coursework. This course presents a broad-based historical, theoretical, and methodological introduction to Mass Communication research and interconnection with Communication Studies. Course content moves from the initial, early 20th century research through contemporary studies and critique.

**Prerequisite(s)/Corequisite(s):** Communication graduate students admitted to program; others may enroll only with instructor permission. Not open to non-degree graduate students.

**COMM 8970 GRADUATE PROJECT (3 credits)**

Project Option students must complete a three-hour graduate project written under the supervision of an adviser. A two-member graduate committee must approve the project.

**Prerequisite(s)/Corequisite(s):** COMM 8010, 8020, 8470, 8570 and student must be admitted to candidacy.

**COMM 8980 INDEPENDENT STUDY (1-3 credits)**

Students conduct independent research under the supervision of an adviser. May be taken multiple times with approval of graduate adviser.

**COMM 8990 THESIS (1-6 credits)**

Independent research project written under the supervision of an adviser.

**COMM 9400 SEMINAR IN COMMUNICATION & TECHNOLOGY (3 credits)**

A synthesis of speech and mass communication research as it relates to the study of computers and technology. Computer Mediated Communication (CMC) will be emphasized. Students write a research paper appropriate for submission to an academic conference.

**Prerequisite(s)/Corequisite(s):** COMM 8470 or 8570, and COMM 8010 or 8020, or permission of instructor.

**CMST 8116 RHETORICAL THEORY AND CRITICISM (3 credits)**

Rhetorical theory and criticism, emphasizing ways of evaluating oral communication. (Cross-listed with CMST 4110)

**CMST 8126 COMMUNICATION AND SOCIAL PROTEST (3 credits)**

This class will examine the role played by communication in movements for social change in contemporary society. We will examine social movements which rely on speeches (i.e. women's rights movements), social movements which rely on the grassroots political efforts of their members (i.e. the environmental rights movement) and the overall strategies of persuasion utilized in movements which seek social change, including emerging communication technologies. (Cross-listed with CMST 4120)

**Prerequisite(s)/Corequisite(s):** Non-degree or admission to School of Communication M.A. program.

**CMST 8136 FAMILY COMMUNICATION (3 credits)**

This course emphasizes the role of communication in family relationships. Theories, models, and research methods will be used to examine the family in various cultures and contexts (e.g., nuclear families, single-parent families, and blended families). Topics that will be covered in this course include: family conflict, family roles, family stories, family stress, family well-being, genograms, marriage, and divorce. (Cross-listed with CMST 4130)

**Prerequisite(s)/Corequisite(s):** Graduate majoring in the School of Communication or permission of instructor. Not open to non-degree graduate students.

**CMST 8146 COMMUNICATION AND HUMAN RELATIONSHIPS (3 credits)**

This course applies theories of interpersonal processes and communication principles to the study of close, significant and personal human relationships. Discussion focuses on the communication in different types of relationships and relational stages, e.g., strangers, acquaintances, friendships and intimates. (Cross-listed with CMST 4140)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8156 CORPORATE TRAINING AND DEVELOPMENT (3 credits)**

This course introduces students to the process of designing communication training programs and workshops for a variety of professional settings. It provides students, especially those who are prospective trainers and/or consultants, with experiential and cognitive knowledge about needs assessment, adult learning, communication training research, objectives writing, module design, interactive delivery methods and program evaluation. (Cross-listed with CMST 4150)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**CMST 8166 COMMUNICATION FOR INSTRUCTIONAL SETTINGS (3 credits)**

This course is designed to help prospective instructors and/or trainers understand and apply the principles of communication in instructional settings (i.e., classrooms, workshops, training programs). It introduces students to the research area in the speech communication discipline called 'Instructional Communication' by covering these five units:

1) Communication Strategies, Objectives, & Content; 2) Student Communication Needs & Expectations; 3) Feedback, Reinforcement, & Discussion; 4) Context, Climate, & Influence; and 5) Teacher Communicator Style, Characteristics, & Behaviors. (Cross-listed with CMST 4160)

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**CMST 8176 ORGANIZATIONAL COMMUNICATION (3 credits)**

This course will help students understand organizational communication theories, models, and processes; apply these principles in organizational communication speaking exercises; and learn management and leadership skills. (Cross-listed with CMST 4170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8186 COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS (3 credits)**

This course provides theoretical and experiential knowledge about such topics as communication leadership styles and tactics, superior and subordinate interactions, power, ethical responsibilities, and diversity gender issues related to communication leadership. (Cross-listed with CMST 4180)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8196 COMPUTER-MEDIATED COMMUNICATION (3 credits)**

Computer-Mediated Communication addressing emerging issues of virtual communities, identity, civic life and participation, online relationships, collaborative work environments, digital networks, gender race class issues, legal and ethical considerations of technology, and commodification of mediated communication. (Cross-listed with CMST 4190)

**Prerequisite(s)/Corequisite(s):** Admission into the graduate program

**CMST 8226 HEALTH COMMUNICATION (3 credits)**

This course introduces students to the interdisciplinary field of health communication. In this course, students will learn various theories of health communication as well as current research and trends in health communication and its related fields. To speak to the complexity and dynamism of health communication, this course will expose students to the multiple voices and perspectives involved in the delivery of health and healthcare. (Cross-listed with CMST 4220)

**Prerequisite(s)/Corequisite(s):** Junior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 8516 PERSUASION AND SOCIAL INFLUENCE (3 credits)**

The primary goal of this course is to provide students with a solid grounding in theories, principles, and strategies of persuasion social influence as they apply to everyday contexts in which influence attempts take place. Students should gain familiarity with findings from empirical investigations on persuasion, social influence, and compliance gaining, and will learn about strategies and techniques of persuasion relating (Cross-listed with CMST 4510)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**CMST 8526 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with CMST 4520)

**Prerequisite(s)/Corequisite(s):** Admission into graduate program. Not open to non-degree graduate students.

**CMST 8536 INTERCULTURAL COMMUNICATION-US (3 credits)**

This course will provide a foundation that leads to Intercultural Communication competence. Specifically, this course is to introduce the concepts of cross-cultural communication. Theory and research are integrated with application and necessary skills are identified and developed. (Cross-listed with CMST 4530)

**CMST 8546 CONTEMPORARY SYSTEMS OF COMMUNICATION (3 credits)**

An adaptation of General Systems Theory concepts to the study of human communication processes with emphasis on systems analysis of contemporary interpersonal communication perspectives. (Cross-listed with CMST 4540)

**Prerequisite(s)/Corequisite(s):** Graduate standing and major in communication; or permission of instructor.

**CMST 8556 NONVERBAL COMMUNICATION (3 credits)**

This course is designed to familiarize the student with current knowledge and research about nonverbal communication and to provide a wide variety of practical experiences through which the student can analyze and evaluate his or her own nonverbal behavior and that of others. The course, also, reviews the functions, areas and applied contexts of nonverbal communication. (Cross-listed with CMST 4550)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8566 COMMUNICATION, TEAMWORK, & FACILITATION (3 credits)**

This course focuses on the communication practices, process tools, and theory associated with team problem solving, group discussion, facilitation skills, facilitative leadership, meeting management, and training in effective group interaction. (Cross-listed with CMST 4560)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

**CMST 8576 INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE (3 credits)**

This course examines the intercultural perspective of organizational communication in a modern global world by focusing on the management of cultural differences in the global workplace. The trend towards a global economy is bringing people of different ethnic and cultural background together. Thus, the development of greater intercultural understanding has become an essential element of global workplace. After taking this course you will be more aware of cultural diversity in an organizational setting and further develop intercultural sensitivity and intercultural competence that will help you adapt to your future organizational life. (Cross-listed with CMST 4570)

**CMST 8586 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with CMST 4580, BLST 4580, BLST 8586)

**CMST 8606 COMMUNICATION THEORY AND APPLICATION (3 credits)**

This course begins by introducing students to two broad categories of theory development - objective and interpretive. Then concepts and assumptions associated with each of these two perspectives are employed to critically evaluate several specific theories that fall within different of the sub-disciplines of the field of communication: interpersonal, group, organizational, mass, public/rhetorical, cultural, and intercultural/gender. Along with critically evaluating and comparing/contrasting different communication theories, emphasis is placed on how the theories can be effectively applied in concrete settings and circumstances. (Cross-listed with CMST 4600)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CMST 8626 DIRECTING FORENSICS (3 credits)**

To provide students planning to teach speech in high school or college with a philosophy and detailed knowledge of how to direct a forensic program. (Cross-listed with CMST 4620)

**CMST 8706 INTERPERSONAL CONFLICT (3 credits)**

This course provides an overview of interpersonal conflict processes. It examines perspectives on conflict, patterns of constructive and destructive conflict, conflict styles and tactics, interpersonal power, negotiation strategies, conflict assessment, and conflict skill development. (Cross-listed with CMST 4700)

**Prerequisite(s)/Corequisite(s):** Communication major

**CMST 8806 CONFLICT MEDIATION (3 credits)**

This course develops knowledge of mediation theory, research, and practice and communication skills essential to the effective mediation of disputes in various contexts. (Cross-listed with CMST 4800)

**Prerequisite(s)/Corequisite(s):** Graduate major in Communication or Master of Business Administration (MBA) program, or instructor permission.

**JMC 8016 HISTORY OF MASS COMMUNICATION (3 credits)**

This class covers development of the U.S. media from 1690 to present day, including newspapers, magazines, radio, television, the new media of the Internet, advertising and public relations. A special emphasis is placed on freedom of the press. (Cross-listed with JMC 4010).

**JMC 8046 SOCIAL MEDIA MEASUREMENT AND MANAGEMENT (3 credits)**

Social Media Measurement and Management explores the dynamic development of social media platforms within a journalism and media communication context. Students of journalism, broadcasting, public relations, advertising and marketing will examine theories and best practices of social media interaction and engagement. (Cross-listed with JMC 4040).

**Prerequisite(s)/Corequisite(s):** Good standing as a UNO graduate student.

**JMC 8226 LITERARY JOURNALISM (3 credits)**

Survey of the journalistic works of pertinent American writers through readings, lectures, discussions, plus creative writing assignments. (Cross-listed with JMC 4220).

**Prerequisite(s)/Corequisite(s):** JMC 2100 and Junior Standing

**JMC 8235 PRINCIPLES OF PUBLIC RELATIONS (3 credits)**

This course will focus primarily on techniques to garner and sustain public understanding, acceptance and support for an organization. This course will explain the merits of these techniques through theory and application, and will offer constant reminders of the relationship between theory and practice. Understanding theory can result in more efficient and effective use of techniques. (Cross-listed with JMC 3230).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum GPA of 2.25

**JMC 8246 PUBLIC RELATIONS CASE STUDIES (3 credits)**

The course is designed to enable the student: 1) to integrate issue-management and decision-making theoretical models with the communication theory and research techniques presented in JMC 3230/ JMC 8236 and 2) to apply professional judgment to the public relations problem-solving process through the development of structured analysis of historical cases. (Cross-listed with JMC 4240).

**JMC 8266 MEDIA RELATIONS (3 credits)**

This course focuses on the communication tools used in media relations, the nuances of working with reporters from press and various media, news writing, news judgment, strategic planning, and the application of communication theories in understanding the relationship between news organizations and media relations representatives for organizations and corporations. (Cross-listed with JMC 4260).

**JMC 8316 MEDIA & POLITICS (3 credits)**

An in-depth study of the impact of the media on political communication. This course will explore the symbiotic relationship of media and political communication, including the influence of traditional mass media, digital media, and social media on the political communication process. Students will delve into media theories and critically examine the influence of the media on the political communication process. (Cross-listed with JMC 4310).

**JMC 8346 MEDIA REGULATION & FREEDOM (3 credits)**

Media and Internet regulation and free expression as defined and interpreted through First Amendment rights, prior restraint and obscenity case law, advertising and public relations, broadcast and cable TV regulation and deregulation policy, new telecommunication media, and privacy. (Cross-listed with JMC 4340).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**JMC 8376 COMMUNICATION WORKSHOP (3 credits)**

A workshop to explore communication theory and processes and to develop skills in their application. (Cross-listed with JMC 4370).

**Prerequisite(s)/Corequisite(s):** Junior Standing, Permission of instructor

**JMC 8386 FILM THEORY AND CRITICISM (3 credits)**

Study of major trends in film criticism and theory in (primarily) Europe and America, with concentrated analysis of selected films. (Cross-listed with JMC 4380).

**JMC 8396 MEDIA ENTREPRENEURSHIP (3 credits)**

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 4390, ENTR 4390).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

**JMC 8406 MASS MEDIA ETHICS (3 credits)**

The course examines ethical standards and practices of the media - print, electronic and online media, as well as advertising, public relations and entertainment media. It includes development of ethical decision-making skills. (Cross-listed with JMC 4400).

**JMC 8416 COMMUNICATION LAW AND POLICY (3 credits)**

Communication practitioners need to understand legal protections and constraints. This course explores legal concepts, frameworks and principles to understand constitutional, statutory, regulatory and case law and policies. The student must have a basic understanding of government, social studies and human rights principles. The First Amendment and international law provide a framework for exploring current cases and issues. (Cross-listed with JMC 4410).

**JMC 8426 SPORTS WRITING (3 credits)**

Students will learn all aspects of the specialized aspect of sports media communication. Areas covered will include writing, interviewing, storytelling, using multiple media platforms and the ethics of sports reporting. Various writing experiences across the media spectrum, from traditional media to the new forms of online journalism, will be addressed. (Cross-listed with JMC 4420)

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; JMC 2200; JMC 2300; JMC 2370; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 8506 MASS COMMUNICATION AND PUBLIC OPINION (3 credits)**

This class represents a study of the philosophy, process and effects of mass communication; the relationship between the mass media and public opinion and propaganda; and the nature, function and measurement of public opinion. (Cross-listed with JMC 4500).

**JMC 8816 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, ENGL 8816, JMC 4810).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8826 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with PSCI 4820, JMC 4820, PSCI 8826).

**JMC 8836 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, ENGL 8836, JMC 4830).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8856 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, ENGL 8856, JMC 4850).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8876 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, ENGL 8876, JMC 4870).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**JMC 8896 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, ENGL 8896, JMC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8906 SEMINAR MASS COMMUNICATION (3 credits)**

A senior seminar applying historical and theoretical perspective to current issues and developments in mass communications. (Cross-listed with JMC 4900)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**JMC 8926 MEDIA LITERACY (3 credits)**

An advanced seminar on the study of media and information literacy through deconstruction of mass communication content, meaning construction, framing analyses and critical/cultural approaches. (Cross-listed with JMC 4920).

# Communication, MA

School of Communication, College of Communication, Fine Arts & Media

## Vision Statement

The School of Communication offers a Master of Arts degree emphasizing a blend of broad theoretical instruction and application of the communication discipline in all its iterations. Graduate students achieve in-depth knowledge of communication processes and effects and acquire the skills needed to discover new knowledge through research and other forms of scholarly activity and professional growth. Once coursework is complete, graduate students conduct original research for a thesis or project.

School of Communication graduate faculty offer an impressive blend of academic and professional experience. Faculty are actively involved in the discovery of new knowledge through publication in top scholarly journals. The faculty seek to cultivate students' breadth and depth of knowledge about communication, as well as foster a spirit of free investigation.

## Program Contact Information

Adam Tyma, PhD, Graduate Program Chair (GPC)  
107W Arts & Science Hall (ASH)  
402.554.4877  
atyma@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/communication/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: March 1
- Spring: October 1
- Summer: April 15

Note: Applications will still be received and reviewed until term begins

If you are applying for a **graduate assistantship**, both admissions and assistantship application materials must be completed by **February 15** (for Fall Semester) and **October 1** (for Spring Semester).

## Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- **Statement of Purpose:** The statement should be 500 words in length and should answer the following questions:
  - Why have you chosen the UNO School of Communication master's degree program?
  - What are your areas of scholarly interest and research?
  - What are your personal or professional plans after you complete the master's degree?
- **Writing Sample:** An academic or otherwise-demonstrative writing sample (e.g., term paper, senior thesis, or research paper) that demonstrates the applicant's strengths as a writer and researcher.
- **Resume or CV:** Identify major and minor field(s) of study, overall GPA, and GPA within major, as well as all relevant experience.
- **Letters of Recommendation** - Three letters are required. A minimum of one letter from a faculty member of the applicant's undergraduate program should be included if at all possible. Other letters should address an applicant's ability to do advanced-level academic work.
- **Optional:** the GRE exam are not required, but will be reviewed as part of the overall application if provided.

## Admission Status

- **Unconditional Admission** may be granted to a student whose record includes at least the following:
  - Certification of a bachelor's degree from a regionally accredited institution
  - Documentation through official transcripts using a 4.0 grade point scale of having earned at least:
    - A 3.25 in communication or undergraduate major work.
    - Either a 3.0 overall undergraduate average GPA or a 3.25 average GPA in the last half of undergraduate credit hours, and
    - Inclusion of nine (9) to 15 undergraduate (junior or senior level) theory and/or research courses in communication (e.g., communication studies, speech communication, broadcasting, journalism, mass communication, media communication or studies, rhetoric) or a related field as approved by the graduate program chair (GPC) and/or the graduate admissions committee.
- **Provisional Admission** may be granted for reasons of experience, maturity or other circumstances to a student who does not meet the unconditional admission standards. A student will not be admitted who does not meet UNO Graduate College provisional admission standards (a 2.75 GPA for both undergraduate major and minor).
  - The school's graduate admission committee may require any one or any combination of the following in deciding whether or not to recommend provisional admission:
    - Completion of prescribed course(s) (not for graduate credit) with a grade of "B" (3.0/4.0) or better, with course(s) approved in advance by the GPC and/or the graduate admission committee.
    - Completion of the first 12 graduate hours of coursework with a grade of "B" (3.0/4.0) or better as a non-declared student.

## Degree Requirements

### Required Courses

The core courses provide basic, intensive and broad coverage of communication as a field of advanced study. The core integrates mass and speech communication theories and research methodologies from all aspects of the discipline. If a student fails to achieve an average grade of "B" (3.0/4.0) in the overall core, the student may retake each core course with a grade below "B" once, and must obtain an average grade of "B" or higher to remain in the program. The core courses must be completed within the first 18-21 credit hours of a student's program (This requirement may be waived for students entering the communication graduate program with approved graduate credits to be used in the plan of study).

## Thesis Option

Code	Title	Credits
<b>Required Core Courses</b>		
The 12 hours of required courses listed below must be completed with an average grade of "B" or better:		
COMM 8010	COMMUNICATION RESEARCH METHODS SEMINAR: QUANTITATIVE	3
COMM 8020	COMMUNICATION RESEARCH METHODS SEMINAR: QUALITATIVE	3
COMM 8470	FOUNDATIONS SEMINAR: COMMUNICATION STUDIES	3
COMM 8570	FOUNDATIONS SEMINAR: JOURNALISM AND MEDIA COMMUNICATION	3
<b>Graduate Only Seminar</b>		<b>3</b>
Students are required to take one graduate only (8xx0/9xx0 level with no undergraduate dual-listing) three credit seminar during their program. This course may either come from the School of Communication or another graduate program in consultation and advisement with the GPC.		
<b>Electives</b>		
Select 12 elective hours in consultation with the graduate program chair. These will be denoted as either; COMM, CMST, or JMC. No more than 9 hours from outside the school may be counted toward degree requirements. Electives must be completed with an average grade of "B" or better to maintain GPA requirements for program and university.		12
COMM 8990	THESIS	6
<b>Total Credits</b>		<b>33</b>

All candidates should carefully review the Graduate College requirements for forming the supervisory committee, submitting the Supervisory Committee and Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of the thesis.

## Project Option

Code	Title	Credits
<b>Required Core Courses</b>		
The 12 hours of required courses listed below must be completed with an average grade of "B" or better:		
COMM 8010	COMMUNICATION RESEARCH METHODS SEMINAR: QUANTITATIVE	3
COMM 8020	COMMUNICATION RESEARCH METHODS SEMINAR: QUALITATIVE	3
COMM 8470	FOUNDATIONS SEMINAR: COMMUNICATION STUDIES	3
COMM 8570	FOUNDATIONS SEMINAR: JOURNALISM AND MEDIA COMMUNICATION	3
<b>Graduate Only Seminar</b>		<b>3</b>
Students are required to take one graduate only (8xx0 or 9xx0 level with no undergraduate dual-listing) three credit seminar during their program. This course may either come from the School of Communication or another graduate program in consultation with and advisement with the GPC.		
<b>Electives</b>		
Select 15 elective hours in consultation with the graduate program chair. These will be denoted as either; COMM, CMST, or JMC. No more than 12 hours from outside the school may be counted toward degree requirements. Electives must be completed with an average grade of "B" or better to maintain GPA requirements for program and University.		15

COMM 8970	GRADUATE PROJECT	3.00
<b>Total Credits</b>		<b>33</b>

The project, in lieu of a thesis, is based on a proposal approved by the student's committee. The student must complete a project which is defended orally before his or her project committee.

## Exit Requirements

Students will take either six (6) thesis credit hours or three (3) project hours during the final semester(s) of their program. These credit hours must be 1) taken either concurrently or after the student's final semester of coursework and 2) must be taken and completed in order to successfully complete the program. The thesis or project is considered the final part of the program. With this in mind, coursework will be completed before or concurrently with the thesis or project (it is strongly encouraged that coursework is completed prior to the thesis or project). Students will meet with the GPC to discuss which option consider.

## Thesis Option

All candidates should carefully review the Graduate College requirements for forming a supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis. These are defended orally before the student's committee once completed.

## Project Option

The project, in lieu of a thesis, is based on a proposal approved by the student's committee. The student must complete a project that is defended orally before the student's project committee.

## Certificates Offered

- Communication Certificate (p. 1064)
- Human Resources and Training Certificate (p. 1065)
- Technical Communication Certificate (p. 1178)

## Communication Certificate

**School of Communication, College of Communication, Fine Arts & Media**

## Vision Statement

The communication graduate certificate program provides potential students who are not interested in a complete MA program the opportunity to expand their knowledge of the discipline or customize their learning toward a specific area of study. This can be helpful for career promotion, professional opportunities, teaching in-discipline at the community college/ dual-enrollment level, personal exploration, etc.

## Program Contact Information

Adam Tyma, PhD, Graduate Program Chair (GPC)  
107W Arts & Science Hall (ASH)  
402.554.4877  
atyma@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/communication/>)

## Admissions

General Application Requirements and Admissions Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022 and Fall 2022)

- Fall: March 1
- Spring: October 1
- Summer: June 15

Note: Applications will still be received and reviewed until term begins

## Other Requirements

- Admission to the graduate certificate program requires a bachelor's degree with a minimum 3.0 GPA, a major or a minor (or at least 15 undergraduate credits) in communication (studies), journalism, media, or a related area such as education, plus one 3 credit course in research methods or statistics.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** 1000-word essay discussing why you wish to complete the certificate
- **Resume/Curriculum Vitae**
- **Letters of recommendation:** Two letters from professor(s) or supervisor(s).

## Degree Requirements

Code	Title	Credits
Complete 18 credits as approved by the Graduate Program Committee chair.		18
CMST 8116	RHETORICAL THEORY AND CRITICISM	
CMST 8126	COMMUNICATION AND SOCIAL PROTEST	
CMST 8136	FAMILY COMMUNICATION	
CMST 8146	COMMUNICATION AND HUMAN RELATIONSHIPS	
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	
CMST 8166	COMMUNICATION FOR INSTRUCTIONAL SETTINGS	
CMST 8176	ORGANIZATIONAL COMMUNICATION	
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	
CMST 8226	HEALTH COMMUNICATION	
CMST 8536	INTERCULTURAL COMMUNICATION-US	
CMST 8516	PERSUASION AND SOCIAL INFLUENCE	
CMST 8556	NONVERBAL COMMUNICATION	
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE	
CMST 8586	COMMUNICATING RACE, ETHNICITY & IDENTITY	
CMST 8606	COMMUNICATION THEORY AND APPLICATION	

CMST 8626	DIRECTING FORENSICS
CMST 8706	INTERPERSONAL CONFLICT
CMST 8806	ADVANCED CONFLICT MEDIATION
COMM 8110	GRADUATE TEACHING ASSISTANT SEMINAR
COMM 8180	TOPICAL SEMINAR: COMMUNICATION STUDIES
COMM 8200	SEMINAR IN POPULAR CULTURE, MASS MEDIA AND VISUAL RHETORIC
COMM 8300	TOPICAL SEMINAR: JOURNALISM AND MEDIA COMMUNICATION
COMM 8436	GLOBAL MEDIA COMMUNICATION
COMM 8980	INDEPENDENT STUDY
COMM 9400	SEMINAR IN COMMUNICATION & TECHNOLOGY
JMC 8016	HISTORY OF MASS COMMUNICATION
JMC 8046	SOCIAL MEDIA MEASUREMENT AND MANAGEMENT
JMC 8226	LITERARY JOURNALISM
JMC 8235	PRINCIPLES OF PUBLIC RELATIONS
JMC 8246	PUBLIC RELATIONS CASE STUDIES
JMC 8266	MEDIA RELATIONS
JMC 8316	MEDIA & POLITICS
JMC 8346	MEDIA REGULATION & FREEDOM
JMC 8376	COMMUNICATION WORKSHOP
JMC 8386	FILM THEORY AND CRITICISM
JMC 8396	MEDIA ENTREPRENEURSHIP
JMC 8406	MASS MEDIA ETHICS
JMC 8416	COMMUNICATION LAW AND POLICY
JMC 8426	SPORTS WRITING
JMC 8506	MASS COMMUNICATION AND PUBLIC OPINION
JMC 8816	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS
JMC 8826	POLITICS AND FILM
JMC 8836	TECHNICAL COMMUNICATION
JMC 8856	INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS
JMC 8876	TECHNICAL EDITING
JMC 8906	SEMINAR MASS COMMUNICATION
JMC 8926	MEDIA LITERACY

## Human Resources and Training Certificate

**Department of Business Administration, College of Business Administration, School of Communication, College of Communication, Fine Arts & Media, Department of Psychology, College of Arts & Sciences**

### Vision Statement

The purpose of the graduate certificate in human resources and training (HRST) is to help post-baccalaureate students and working professionals expand their educational background and enhance their knowledge and skills in either human resources or training and development. The first concentration, human resources, focuses on enhancing organizational effectiveness through employee recruitment, selection, placement, performance evaluation, motivation, and retention. The second concentration, training and development, focuses on enhancing training skills and program design including developing, implementing,

assessing, and delivering training programs. The HRST certificate is useful for individuals currently employed in the human resources or training fields and for individuals who desire to enter those fields. The graduate courses required for this certificate address both theory and application from the fields of communication, psychology, and business.

## Program Contact Information

Lynn Harland, PhD, Graduate Program Chair (GPC)  
300D Mammel Hall (MH)  
402.554.2808  
lharland@unomaha.edu

Sharon Storch, PhD, Graduate Program Chair (GPC)  
107V Arts & Sciences Hall (ASH)  
402.554.6079  
sstorch@unomaha.edu

Roni Reiter-Palmon, PhD, Graduate Program Chair (GPC)  
347K Arts & Science Hall (ASH)  
402.554.4810  
rreiter-palmon@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/communication/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

Applications are accepted and reviewed on a rolling basis throughout the year.

## Other Requirements

- Admission to the HRST graduate certificate program requires a baccalaureate degree with at least a 3.0 GPA, a major or a minor (or at least a 15 credit concentration) in communication studies, psychology, business, or related area, plus at least one three credit course in research methods or statistics.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Statement of Purpose:** A 1000 word maximum statement of purpose essay describing which concentration you wish to pursue and why.
- Resume:** A resume that includes your work history
- Letter of Recommendation:** One letter of recommendation from a current or former supervisor or professor. During your online application process, you will be asked to provide the name and email address of the person writing your recommendation letter. The online application system will send an email to your recommender containing a link for online submission of the recommendation letter.

## Certificate Courses

Students must identify which area of concentration they are choosing: Human Resources or Training and Development

Courses must be completed in at least two of the three units (i.e., business administration, communication, or psychology) associated with this certificate program.

See human resources and training certificate concentrations

## Exit Requirements

### Portfolio

Students admitted to the HRST graduate certificate program must create a portfolio (notebook) containing at least one sample project from each course. A portfolio review will be conducted by the student's advisor before the certificate is awarded. Contact your advisor during the last semester of your program.

**Total Credit Hours: 15**

## Other Program-Related Information

Many courses are offered online-check each semester schedule for details and availability. Students may need to obtain approval and/or a permit number to enroll in some courses. For psychology (PSYC) courses, please contact the instructor for approval; for business administration (BSAD) courses, please contact the MBA advisor at 402.554.3010, and for communication studies (CMST) courses, please contact the certificate advisor at 402.554.6079.

## Human Resources and Training Certificate Concentrations

### Human Resources Concentration

This concentration focuses on enhancing organizational performance through improving employee recruitment, selection, placement, performance evaluation, motivation, and retention. You will need to complete all 15 credit hours with grades of "B" or better. All classes are 3 credit hours except for BSAD 8250 which is 2 credit hours (students who complete BSAD 8250 will need to complete an additional 1 credit hour independent study in order to earn the graduate certificate).

Code	Title	Credits
<b>Area 1 Requirement</b>		<b>3</b>
BSAD 8136	HUMAN RESOURCE MANAGEMENT	
<b>Area 2 Requirement (Select one course from the following)</b>		<b>3</b>
BSAD 8166	STAFFING THE ORGANIZATION	
CACT 8530	PERSONNEL PSYCHOLOGY AND LEADERSHIP	
PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 8646	PERSONNEL PSYCHOLOGY	
<b>Area 3 Requirement (Select one course from the following)</b>		<b>3</b>
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	
CMST 8176	ORGANIZATIONAL COMMUNICATION	
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	
PSYC 9421/ CACT 8520	POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP	
<b>Area 4 Requirement (Select one course from the following)</b>		<b>3</b>
BSAD 8156	TALENT DEVELOPMENT	
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	
PSYC 9620	TRAINING AND DEVELOPMENT	

**Area 5 Requirement (Select one course from the following)****3**

BSAD 8096	PRINCIPLES OF COLLABORATION
BSAD 8146	TOTAL REWARDS
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS
CMST 8536	INTERCULTURAL COMMUNICATION-US
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE
CMST 8706	INTERPERSONAL CONFLICT
CMST 8806	ADVANCED CONFLICT MEDIATION
PSYC 8656/ CACT 8506	CREATIVITY AND INNOVATION IN ORGANIZATIONS
PSYC 9610	MOTIVATION & MORALE
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL

**Total Credits****15****Training and Development Concentration**

This concentration focuses on enhancing training program design, implementation, assessment skills, and the developmental process through which organizations enhance work performance, communication, job satisfaction, and future career preparation. You will need to complete all 15 credit hours with grades of "B" or better. All classes are 3 credit hours except for BSAD 8250 which is 2 credit hours (students who complete BSAD 8250 will need to complete a 1 credit hour independent study in order to earn the certificate).

<b>Code</b>	<b>Title</b>	<b>Credits</b>
<b>Area 1 Requirement (Select one course from the following)</b>		

**3**

BSAD 8156	TALENT DEVELOPMENT
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT
PSYC 9620	TRAINING AND DEVELOPMENT

<b>Area 2 Requirement (Select one course from the following)</b>	<b>3</b>
--	----------

BSAD 8136	HUMAN RESOURCE MANAGEMENT
CACT 8530	PERSONNEL PSYCHOLOGY AND LEADERSHIP
PSYC 8646	PERSONNEL PSYCHOLOGY

<b>Area 3 Requirement (Select one course from the following)</b>	<b>3</b>
--	----------

BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES
CMST 8176	ORGANIZATIONAL COMMUNICATION
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY

<b>Area 4 Requirement (Select one course from the following)</b>	<b>3</b>
--	----------

BSAD 8096	PRINCIPLES OF COLLABORATION
CMST 8536	INTERCULTURAL COMMUNICATION-US
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION
CMST 8576	INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE
CMST 8706	INTERPERSONAL CONFLICT
CMST 8806	ADVANCED CONFLICT MEDIATION

<b>Area 5 Requirement (Select one course from the following)</b>	<b>3</b>
--	----------

COMM 8010	COMMUNICATION RESEARCH METHODS SEMINAR: QUANTITATIVE
CMST 8166	COMMUNICATION FOR INSTRUCTIONAL SETTINGS
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS
PSYC 8656/ CACT 8506	CREATIVITY AND INNOVATION IN ORGANIZATIONS
PSYC 9610	MOTIVATION & MORALE

**Total Credits****15**

## Computer Science

### Degree Programs Offered

- Computer Science, MS (p. 1073)

The graduate certificate programs provide focused, short-term programs of study beyond the baccalaureate degree for individuals seeking to improve their experience, advance in position and salary, expand their education background, and complete work that may potentially be applied to a master's degree. Students who are admitted to the MS in Computer Science program may transfer credits from certificate courses to a relevant concentration in the MS program. Students currently in the MS in Computer Science may also complete certificate programs as part of their studies.

## Certificates Offered

- Artificial Intelligence Certificate (p. 1077)
- Communication Networks Certificate (p. 1078)
- Software Engineering Certificate (p. 1078)
- Systems and Architecture Certificate (p. 1079)

Applicants with an undergraduate degree in Computer Science or Computer Engineering from an accredited institution are expected to have a GPA of at least 3.0. Applicants who have degrees in other fields will also be considered for admission. Students may make up their deficiencies in Computer Science by completing transition courses.

Each certificate requires completion of four graduate courses and usually involve a combination of core and elective courses. Provisional admission courses (such as undergraduate prerequisites) for the certificate must be completed with a grad of "B-" or better. Provisional courses must be completed before continuing any certificate program. Each graduate level course might have prerequisites that must be satisfied before the associated graduate course can be taken. The exit requirements are the same as the MS in Computer Science program. This includes that students must maintain at least a 3.0 GPA and can have no grade lower than a "B-". The undergraduate transition courses assigned at the time of admission must be passed following the same policy.

### CSCI 8000 ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES (3 credits)

Logic/Declarative programming is an important programming paradigm in which problems are described in terms of the properties they possess. As a result, in this style of programming many algorithmic elements, which explicitly must be articulated when writing programs in other programming languages, can be omitted. Core elements of logic programming play important roles in AI.

**Prerequisite(s)/Corequisite(s):** CSCI 3320; CSCI 3660; CSCI 4220. Not open to non-degree graduate students.

**CSCI 8010 FOUNDATIONS OF COMPUTER SCIENCE (3 credits)**

This is a foundational course for students enrolled in the graduate program in computer science. The objectives are to introduce students to a large body of concepts so that they are better prepared for undertaking the core courses in the graduate program. It is assumed that student would have programmed in a high-level language and have exposure to basic college level mathematical concepts such as logarithms, exponents, sequences, and counting principles.

**Prerequisite(s)/Corequisite(s):** Students are expected to have written programs using a high-level programming language and should understand basic mathematical concepts including exponents, logarithms, sequences, and counting principles. Not open to non-degree graduate students.

**CSCI 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 8040 LARGE SCALE NETWORK ANALYSIS ALGORITHMS (3 credits)**

The course will provide a review of the properties of large complex network systems, such as those occurring in social networks, epidemiology and biological systems. We will discuss algorithms to analyze these properties, their implementations, their stability under information fluctuation and how information spreads through networks.

**Prerequisite(s)/Corequisite(s):** Students should be comfortable w/ programming, have knowledge of data structures, preliminary graph algorithms, & linear algebra. Suggest Prep Courses: CSCI 4150 or CSCI 8156; CSCI 3320; MATH 4050 or Permission. Not open to non-degree graduate students.

**CSCI 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with MATH 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**CSCI 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with MATH 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**CSCI 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with MATH 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**CSCI 8100 EXPERT SYSTEMS (3 credits)**

A study of the theoretical basis and practical design of expert systems. Knowledge engineering. Foundations in logic programming, the architecture of expert systems, languages (Prolog, LISP) for expert systems, expert system shells, knowledge acquisition, current issues.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent. Not open to non-degree graduate students.

**CSCI 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Poly's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, MATH 3100, CSCI 3100).

**CSCI 8110 ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE (3 credits)**

An in-depth study of one or more topics selected from: search techniques, knowledge representation, knowledge programming, parallel processing in Artificial Intelligence, natural language processing, image processing, current and future directions, etc. May be repeated with different topics, with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent.

**CSCI 8150 ADVANCED COMPUTER ARCHITECTURE (3 credits)**

Various parallel architectures, models of parallel computation, processor arrays, multiprocessor systems, pipelined and vector processors, dataflow computers and systolic array structures.

**Prerequisite(s)/Corequisite(s):** CSCI 4350, CSCI 4500 and graduate. Not open to non-degree graduate students.

**CSCI 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**CSCI 8160 INTRODUCTION TO VLSI DESIGN (3 credits)**

Introduction to the principle concepts of integrated circuit layout. Presentation of the hardware foundations, algorithmic mathematical and graph theoretical foundations of circuit layout. Partitioning problems in integrated circuits. Placement and floor planning phase in layout. Routing algorithms and compaction techniques. Applications of graph theory in several steps of the design process of VLSI circuits.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4350 or CSCI 8356. Not open to non-degree graduate students.

**CSCI 8170 VLSI TESTING (3 credits)**

This course covers topics in VLSI testing. In particular, topics covered include fault modeling, fault simulation, test generation, testability profiles, built-in tests, and binary decision diagrams.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee; CSCI 4350. Not open to non-degree graduate students.

**CSCI 8200 INTERCONNECTION NETWORKS (3 credits)**

This course is to introduce the technology of interconnection networks from topology of networks, through routing and flow control, to a discussion of hardware/software fault tolerance, and to understand parameters affecting performance.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8210 ADVANCED COMMUNICATIONS NETWORKS (3 credits)**

Advanced study of communication networks, analysis of communication needs, special problems encountered in different types of networks, efficiency and traffic analysis and emerging hardware software technologies. Detailed "hands-on" study of the TCP/IP networking protocols.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or 8555 or equivalent. Not open to non-degree graduate students.

**CSCI 8256 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 4250).

**CSCI 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, ITIN 4260, ITIN 8266).

**CSCI 8300 IMAGE PROCESSING AND COMPUTER VISION (3 credits)**

This course introduces the computer system structures and programming methodologies for digital image processing and computer vision. The course will cover the mathematical models of digital image formation, image representation, image enhancement and image understanding. Techniques for edge detection, region growing, segmentation, two-dimensional and three-dimensional description of object shapes will be discussed. The course will concentrate on the study of knowledge-based approaches for computer interpretation and classification of natural and man-made scenes and objects.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 3220. Not open to non-degree graduate students.

**CSCI 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 8325 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 3320)

**CSCI 8340 DATABASE MANAGEMENT SYSTEMS II (3 credits)**

A continuation of the study of Data Base Management Systems. Extended discussion of logical data base design, normalization theory, query optimization, concurrent issues. Advanced topics including distributed data bases, deductive data bases, data base machine, and others.

**Prerequisite(s)/Corequisite(s):** CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8350 DATA WAREHOUSING AND DATA MINING (3 credits)**

Covers topics related to decision support queries. In particular, topics covered include building data warehouses, On-Line Analysis Processing (OLAP), maintenance of materialized views, indexing, various data mining techniques, and integration of OLAP and data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8856; bachelors degree and permission from Graduate Committee. Not open to non-degree graduate students.

**CSCI 8360 MACHINE LEARNING FOR TEXT (3 credits)**

This course focuses on the fundamental techniques for extraction of various insights from text data which is ubiquitous on the Web, social media sites, emails, news articles, digital libraries, and other sources. The course topics will include concepts and techniques used by search engines to crawl, index, and rank web pages on the Web, machine learning techniques for categorization of news articles into different categories, sentiment and opinion analysis of social media chats, text summarization, and information extraction.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CSCI 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CYBR 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CSCI 8390 ADVANCED TOPICS IN DATA BASE MANAGEMENT (3 credits)**

An in-depth study of one or more topics in the field of Data Base Management Systems, such as logical and/or physical data base design, query optimization, distributed data bases, intelligent knowledge-based systems, emerging technologies and applications. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8400 ADVANCED COMPUTER GRAPHICS (3 credits)**

Computer graphics continues to play an important role in computer science. This course covers the mathematical foundations of three-dimensional representation and animation; ray tracing and path tracing rendering methods; using the graphical processing unit (GPU) for real time applications; and concludes with simulation of natural phenomenon.

**Prerequisite(s)/Corequisite(s):** Bachelors degree or permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CYBR 8410)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalent(s). Not open to non-degree graduate students.

**CSCI 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CYBR 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8430 TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT (3 credits)**

This course examines in detail: the principles of a security architecture, access control, policy and the threat of malicious code; the considerations of trusted system implementation to include hardware security mechanisms, security models, security kernels, and architectural alternatives; the related assurance measures associated with trusted systems to include documentation, formal specification and verification, and testing, and approaches that extend the trusted system, into applications and databases and into networks and distributed systems.

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalents, or instructor permission. Not open to non-degree graduate students.

**CSCI 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CYBR 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366

**CSCI 8446 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchronizing constructs; and operating systems for parallel computers. (Cross-listed with CSCI 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 or CSCI 8506 (May be taken concurrently). Not open to non-degree graduate students.

**CSCI 8450 ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING (3 credits)**

The course will provide in depth study of the topics in natural language processing and understanding, such as syntax, lexical and computational semantics, natural language ambiguities and their disambiguation, logical form construction and inference. The course will survey state-of-the-art natural language processing toolkits and knowledge bases that boost the development of modern language processing and understanding applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 OR CSCI 3660 OR CSCI 4450. Not open to non-degree graduate students.

**CSCI 8456 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 4450).

**CSCI 8476 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 4470)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with MATH 8480)

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**CSCI 8486 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 4480).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with MATH 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8506 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 4500).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with MATH 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with MATH 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**CSCI 8530 ADVANCED OPERATING SYSTEMS (3 credits)**

State of the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation, and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500/8506. Not open to nondegree students.

**CSCI 8555 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 3550)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 8590 FUNDAMENTALS OF DEEP LEARNING (3 credits)**

This course is an introduction to deep learning, a branch of machine learning concerned with the development and application of neural networks. Deep learning trains the machine to learn patterns that it is presented with rather than requiring the human operator to define the patterns that the machine should look for. Deep learning is behind many recent advances in artificial intelligence, such as face recognition, speech recognition and autonomous driving. This course will cover the foundations of deep learning, learning theory, basic/advanced neural networks and problem domains of many selected applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or instructor permission

**CSCI 8610 FAULT TOLERANT DISTRIBUTED SYSTEMS (3 credits)**

This course is to study the theory and practice of designing computer systems in the presence of faulty components. Emphasizes the basics of how faults can affect systems and what is required to mask or compensate for their efforts.

**Prerequisite(s)/Corequisite(s):** CSCI 4500 and CSCI 4350. Not open to non-degree graduate students.

**CSCI 8620 MOBILE COMPUTING AND WIRELESS NETWORKS (3 credits)**

Contemporary issues in mobile computing and wireless networks, including the differences between mobile computing and the traditional distributed computing paradigm, impediments of the mobile and wireless environments, problems and limitations due to such impediments, using the spectrum, wireless data networks, various network layers solutions, location management techniques, mobile IP, wireless LANs, wireless TCP, ad hoc networks, performance issues, security issues.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or CSCI 8555. Not open to non-degree graduate students.

**CSCI 8626 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 4620).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320.

**CSCI 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 8700 SOFTWARE SPECIFICATIONS AND DESIGN (3 credits)**

A continuation of the study of software engineering with an emphasis on early phases of software development, namely requirements engineering/ specification and architectural design. Includes an in-depth study of practices for effective software requirements specification and architectural design, as well as formal specifications of software systems. Related topics such as metrics and support tools are also covered.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8706 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 4700).

**CSCI 8710 MODERN SOFTWARE DEVELOPMENT METHODOLOGIES (3 credits)**

Designed to introduce students to advanced object technology and other modern methodologies for developing software systems. Intended for graduate students who have mastered the basic concepts and issues of software engineering. Course covers advanced object-oriented software development. The course also covers several offshoots of object technology, including: component-based software engineering, aspect-oriented software development, software product line engineering, service-oriented computing, etc.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836.

**CSCI 8760 FORMAL METHODS IN SOFTWARE ENGINEERING (3 credits)**

In the high consequence system domain, a primary objective of any construction technique employed is to provide sufficiently convincing evidence that the system, if put into operation, will not experience a high consequence failure or that the likelihood of such a failure falls within acceptable probabilistically defined limits. Systems for which such evidence can be provided are called high assurance systems. The objective of this course is to examine software-engineering techniques across the development life cycle that are appropriate for high assurance systems. The course will analyze the nature of the evidence provided by various techniques (e.g., does a given technique provide sufficiently strong evidence in a given setting).

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and CSCI 8836 or CSCI 4830

**CSCI 8766 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 4760).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 8790 ADVANCED TOPICS IN SOFTWARE ENGINEERING (3 credits)**

An in-depth study of one or more topics in the field of software engineering such as human factors in software engineering, software specifications and modeling, reuse and design recovery, software valuations, software management, emerging technology and applications.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8836 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 4830).

**CSCI 8856 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 4850).

**CSCI 8876 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "-omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with BIOI 4870)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOI 3500, or permission of instructor; BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required. Not open to non-degree graduate students.

**CSCI 8910 MASTER OF SCIENCE CAPSTONE (3 credits)**

The capstone course is to integrate coursework, knowledge, skills and experimental learning to enable the student to demonstrate a broad mastery of knowledge, skills, and techniques across the Master degree curriculum of Computer Science for a promise of initial employability and further career advancement. The course is designed to be in a student-centered and student-directed manner which requires the command, analysis and synthesis of knowledge and skills. Students may apply their knowledge and skill to a project which serves as an instrument of evaluation. Students are encouraged to foster an interdisciplinary research and cultivate industry alliances and cooperation in this course. This capstone course should be taken only after students have completed at least 3/4 of course requirements for the major.

**Prerequisite(s)/Corequisite(s):** Master's degree of Computer Science with course-only option (program III). Not open to nondegree students.

**CSCI 8920 ADVANCED TOPICS COMPUTER SCIENCE (3 credits)**

An in-depth study, at the graduate level, of one or more topics that are not treated in other courses. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** Permission of instructor; will vary with offering. Not open to non-degree graduate students.

**CSCI 8950 GRADUATE INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in environments such as those found in business, industry, and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate program chairperson and a minimum grade point average of 3.0 (B), with at most one grade below B, but not lower than C+ for all CS graduate classes. Not open to non-degree graduate students.

**CSCI 8960 THESIS EQUIVALENT PROJECT IN COMPUTER SCIENCE (1-6 credits)**

This course allows a graduate student to conduct a research project in computer science or a related area. The project is expected to place an emphasis on applied, implementations-based, or experimental research. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, and final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 8970 INDEPENDENT STUDY (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available in a formal course. The topics to be studied will be in a graduate area of computer science to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8980 GRADUATE SEMINAR (1-3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques and methodologies, and/or the current research results in the fundamental areas of computer science. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** Permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8986 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior/graduate level. Topics not normally covered in the computer science degree program, but suitable for senior/graduate-level students. (Cross-listed with CSCI 4980).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 8990 THESIS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 9210 TYPE SYSTEMS BEHIND PROGRAMMING LANGUAGES (3 credits)**

Empirical evidence suggests that a large number of errors made when writing software can be detected by analyzing the behavior of the program from the perspective of type. This course provides an in-depth exploration of various type systems for programming languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9220 REWRITING AND PROGRAM TRANSFORMATION (3 credits)**

This course begins by exploring the foundations of term rewriting. Topics such as unification, confluence, completion and termination are covered. Then a strategic framework is considered in which the application of rewrite rules can be controlled.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9350 MATHEMATICAL AND LOGICAL FOUNDATIONS OF DATA MINING (3 credits)**

With the maturity of data mining techniques, it is extremely important to examine the foundations of data mining. Instead of providing coverage of basic data mining methods, the course will focus on methodology employed in data mining, logical and mathematical foundations of data mining, as well as other issues related to the intrinsic nature of data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8456, CSCI 8856, and CSCI 8390. Not open to non-degree graduate students.

**CSCI 9410 ADVANCED TOPICS IN LOGIC PROGRAMMING (3 credits)**

This course will examine some advanced topics in logic programming, in particular logic programming under stable model (or answer set) semantics. Answer set programming is a common name of the field. Formal syntax, semantics, and proofs of correctness for logic programs will be considered. Elements of inductive and Prolog programming will also be introduced. Each advanced topic will be followed by how it has been applied in practice. Advanced applications of logic programming will be covered in detail.

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and doctoral student standing in Information Technology or the permission of the instructor.

**CSCI 9420 INTELLIGENT AGENT SYSTEMS (3 credits)**

This course covers the principles of interaction between agents in multi-agent systems using game theory. Relevant topics studied in this course include competitive games, statistical Bayesian games, cooperative games, and mechanism design. Students will have to implement projects related to the material studied in the course.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4450 or CSCI 8456. Not open to non-degree graduate students.

**CSCI 9710 METHODS IN SOFTWARE ENGINEERING RESEARCH (3 credits)**

This course provides guidelines on how to conduct research in the field of software engineering by presenting the research methods, classic readings, and development of theories and their application to real life problems. The main emphasis of the course is to provide opportunity for in-depth study of topics such as contemporary methods for software development.

**Prerequisite(s)/Corequisite(s):** CSCI 8836 or equivalent course and doctoral student standing in Information Technology or permission of the instructor. Not open to non-degree graduate students.

**CSCI 9810 RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING (3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques, and methodologies, and/or the current research results in the fundamental areas of theoretic computing. The course will examine advanced research topics in computer science and engineering, including foundations of automata theory, computability, complexity analysis, computational logics and algorithmic analysis, hybrid dynamic systems theory, number theory, adaptation and learning theory, concepts and principles in computational geometry, stochastic processes, and random optimization. Each topic will be discussed with a perspective of research issues and directions. Active student participation in investigation of the research topics, survey of the current state-of-art, and identifying the future research insights is required. Students will take turn presenting their research results on specific topics. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** The prerequisites of this course vary depending on the areas to be covered in the semester the course is offered. Good standing in Ph.D. program is required. Permission of the instructor may be required. Not open to non-degree graduate students.

## Computer Science, MS

Department of Computer Science, College of Information Science & Technology

### Vision Statement

The vision of the department is to create and support dynamic research and teaching environments that promote a computationally empowered

society ready to tackle complex problems in rapidly changing technological landscapes.

### Program Contact Information

Jon Youn, PhD, Graduate Program Chair (GPC)  
282E Peter Kiewit Institute (PKI)  
402.554.2187  
jyoun@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

### Other Program Related Information

#### Fast Track

The College of Information Science & Technology (CIST) has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 (nine) graduate credit hours towards the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

#### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree (computer science, management information systems, bioinformatics, cybersecurity, IT innovation) desiring to pursue an MS in either the same or a related CIST program.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of computer science, which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted to undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS in selected CIST program. The application fee will be waived, and the applicant must contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, you may be recommended for admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

### Graduate Assistantships

Applications will be solicited before the fall semester begins with the limited number of available assistantships. These positions are highly competitive and evaluated based on qualifications and computer science faculty research needs. Students in the integrated program who have

not yet completed their bachelor's degree are not eligible for graduate assistantships.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applicants are strongly encouraged to apply as early as possible, especially if applying for assistantships or scholarships. Some scholarships may have earlier deadlines or run out of funding.

- **Fall Admission:**
  - May 1 for international applicants who are required to secure a new student visa
  - July 1 for all other applicants
- **Spring Admission:**
  - October 1 for international applicants who are required to secure a new student visa
  - November 1 for all other applicants
- **Summer Admission:**
  - March 1 for international applicants who are required to secure a new student visa
  - March 15 for all other applicants

### Other Requirements

- The minimum undergraduate grade point average (GPA) requirement for the MS in computer science program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **Entrance Exam:** The Graduate Record Exam (GRE) is required. Submit GRE results not older than five years. Successful applicants have typically had GRE scores of 150 verbal and 160 quantitative or better.
  - GRE is waived for applicants with a bachelor of science in computer science or computer engineering from a regionally accredited institution in the United States.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Letters of Recommendation:** Two letters from references who can evaluate your work and/or academic achievements are required.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or

concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.

- **\*Note:** If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **OPTIONAL:** Application for Graduate Assistant Position
  - If interested in applying for Graduate Assistant (GA) positions, please submit a letter stating your research area interests and why you feel you would make a good GA. Please note that GA positions will be considered after admission and program admission is not a guarantee of receiving a GA position.

## Degree Requirements

### Undergraduate Deficiencies

The curriculum for the MS in computer science requires a basic knowledge of computer fundamentals including mathematics, programming, data structures, computer architecture and operating systems. Successful completion of these courses with a "B-" or better in each course is required to become an unconditionally admitted student.

Code	Title	Credits
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	3
CSCI 1620	INTRODUCTION TO COMPUTER SCIENCE II	3
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 3320	DATA STRUCTURES	3
CSCI 3660	THEORY OF COMPUTATION	3
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3

### Core Courses

The five courses listed below provide an overall breadth in the areas of languages, algorithms, architecture, operating systems, and software engineering. Refer to the UNO Graduate College Quality of Work Standards for additional grade requirements.

Students selecting the thesis/project option or declaring a concentration area as part of their program are required to take three core courses; students selecting coursework option with no area of concentration must take all five core courses (note that some core courses are needed as prerequisites for certain areas of concentration).

### Coursework Option

Code	Title	Credits
<b>Core Courses</b>		
CSCI 8000	ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES	3
CSCI/MATH 8080	DESIGN AND ANALYSIS OF ALGORITHMS	3
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	3
CSCI 8530	ADVANCED OPERATING SYSTEMS	3
CSCI 8700	SOFTWARE SPECIFICATIONS AND DESIGN	3

### Electives

Select either three or five elective courses depending on whether a computer science area of concentration is declared.

### Concentrations

All areas of concentration require four classes selected according to the requirements of each concentration. See Computer Science Concentrations.

CSCI 8910	MASTER OF SCIENCE CAPSTONE <sup>1</sup>	3
<b>TOTAL</b>		<b>33</b>

<sup>1</sup> The Capstone course should be taken only after students have completed **at least 75%** of course requirements for the major, this includes all core classes. Students with insufficient progress toward degree completion are prohibited from enrolling. Students must have an overall GPA of at least a 3.0 to register for the Capstone Course.

## Thesis Option

Code	Title	Credits
<b>Core Courses</b>		
Select three of the following:		9
CSCI 8000	ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES	
CSCI/MATH 8080	DESIGN AND ANALYSIS OF ALGORITHMS	
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	
CSCI 8530	ADVANCED OPERATING SYSTEMS	
CSCI 8700	SOFTWARE SPECIFICATIONS AND DESIGN	
<b>Electives</b>		
Select any five additional graduate-level computer science courses.		
<b>Concentrations</b>		
All areas of concentration require four classes selected according to the requirements of each concentration. See Computer Science Concentrations.		
CSCI 8990	THESIS	6
<b>Total</b>		<b>30</b>

## Project Option

Code	Title	Credits
<b>Core Courses</b>		
Select three of the following:		9
CSCI 8000	ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES	
CSCI/MATH 8080	DESIGN AND ANALYSIS OF ALGORITHMS	
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	
CSCI 8530	ADVANCED OPERATING SYSTEMS	
CSCI 8700	SOFTWARE SPECIFICATIONS AND DESIGN	
<b>Electives</b>		
Select any five additional graduate-level computer science courses.		
<b>Concentrations</b>		
All areas of concentration require four classes selected according to the requirements of each concentration. See Computer Science Concentrations.		
CSCI 8960	THESIS EQUIVALENT PROJECT IN COMPUTER SCIENCE	6
<b>Total</b>		<b>30</b>

## Total Credit Hours

Thesis Option: 30 hours

Project Option: 30 hours

Coursework Option: 33 hours

## Artificial Intelligence

The concentration in artificial intelligence provides students with an in-depth understanding of the principles and technologies used to embody machines with human-like intelligent capabilities. Students taking this concentration will have an opportunity to learn, as well as perform hands-on experiments in different areas of artificial intelligence such as software agents, multi-agent and multi-robot systems, machine vision and image processing technologies, neural network based adaptive software systems, heuristics and stochastic optimization techniques for critical decision making, machine learning and knowledge engineering techniques for embedding intelligence in computers and information systems.

Students must take any three (3) of the five (5) core courses listed under the Requirements tab (9 hours).

Code	Title	Credits
<b>Required Courses</b>		
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	3
<b>Elective Courses</b>		
Select three of the following:		9
CSCI 8110	ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE	
CSCI 8300	IMAGE PROCESSING AND COMPUTER VISION	
CSCI 8450	ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING	
CSCI 8476	PATTERN RECOGNITION	
CSCI/MATH 8480	MULTI-AGENT SYSTEMS AND GAME THEORY	
CSCI 8486	ALGORITHMS FOR ROBOTICS	
<b>Total Credits</b>		<b>12</b>

## Database and Knowledge Engineering

The database and knowledge engineering concentration is designed to introduce students to preliminary as well as advanced concepts in data and knowledge management.

Students must take any three (3) of the five (5) core courses listed under the Requirements tab (9 hours).

Code	Title	Credits
<b>Required Courses</b>		
CSCI 8856	DATABASE MANAGEMENT SYSTEMS	3
CSCI 8340	DATABASE MANAGEMENT SYSTEMS II	3
CSCI 8360	MACHINE LEARNING FOR TEXT	3
<b>Elective Courses</b>		
Select one of the following:		3
CSCI 8040	LARGE SCALE NETWORK ANALYSIS ALGORITHMS	
CSCI 8350	DATA WAREHOUSING AND DATA MINING	
CSCI 8390	ADVANCED TOPICS IN DATA BASE MANAGEMENT	
CSCI 8876	DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS	
<b>Total Credits</b>		<b>12</b>

## Dependable Computing Systems

The objective of the Dependable Computing Systems (DCS) concentration is to provide the students with a broad introduction to the design and evaluation of secure and dependable distributed computing systems. The concentration focuses on the theory, development, performance evaluation,

and testing of systems to cope with the today's complex challenges such as failures, malicious adversaries, integrity, safety, and availability. The general domains include network security, software assurance, and fault tolerance. Students will be exposed to both software and hardware aspects for building such systems.

Students must take any three (3) of the five (5) core courses listed under the Requirement tab (9 hours).

Code	Title	Credits
<b>Required Courses</b>		
CSCI/CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	3
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	3
<b>Elective Courses</b>		
Select two of the following:		6
CSCI 8420	SOFTWARE ASSURANCE	
CYBR 8436	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CSCI/CYBR 8440	SECURE SYSTEMS ENGINEERING	
CSCI 8450	ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8760	FORMAL METHODS IN SOFTWARE ENGINEERING	
<b>Total Credits</b>		<b>12</b>

## Network Technologies

The concentration in network technologies will equip students to design, build, manage and leverage today's complex communication networks. This program covers not only a blend of theoretical topics and practical examples, but also state of the art network technologies such as mobile computing, distributed systems, wireless technologies, and network security.

Students must take any three (3) of the five (5) core courses listed under the Requirements tab (9 hours).

Code	Title	Credits
<b>Required Course</b>		
CSCI 8210	ADVANCED COMMUNICATIONS NETWORKS	3
<b>Elective Courses</b>		
Select three of the following:		9
CSCI 8040	LARGE SCALE NETWORK ANALYSIS ALGORITHMS	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
CSCI/CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8620	MOBILE COMPUTING AND WIRELESS NETWORKS	
<b>Total Credits</b>		<b>12</b>

## Software Engineering

The concentration in software engineering is designed to address the growing market demand for software engineers. The concentration covers fundamental and advanced principles in all aspects of software development, equipping students with the necessary technical background to quickly adapt to rapidly changing software engineering practices and technologies.

Students must take CSCI 8700 as one of the three (3) core courses chosen from the Requirements tab (9 hours).

Code	Title	Credits
<b>Elective Courses</b>		
Select 4 of the following:		12
CSCI 8256	HUMAN COMPUTER INTERACTION	
CSCI 8266	USER EXPERIENCE DESIGN	
CSCI/CYBR 8420	SOFTWARE ASSURANCE	
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	
CSCI 8710	MODERN SOFTWARE DEVELOPMENT METHODOLOGIES	
CSCI 8760	FORMAL METHODS IN SOFTWARE ENGINEERING	
CSCI 8790	ADVANCED TOPICS IN SOFTWARE ENGINEERING	
<b>Total Credits</b>		<b>12</b>

## Systems

The systems concentration pertains to the advances in ubiquitous and emerging technologies that span over the complex cores of computing systems such as network communication, distributed computing, operating systems, and computer architecture. Recent advances in computing systems include cloud computing, social computing, Internet of Things, and cyber-physical-systems. The concentration provides the students with the fundamentals of computing systems that can be pursued in hardware, software or a combination of both.

Students must take CSCI 8150 and CSCI 8530 as two of the three (3) core courses chosen from the Requirements tab (9 hours).

Code	Title	Credits
<b>Required Courses</b>		
CSCI 8170	VLSI TESTING	9
CSCI 8160	INTRODUCTION TO VLSI DESIGN	
CSCI 8446	INTRODUCTION TO PARALLEL COMPUTING	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8706	COMPILER CONSTRUCTION	
<b>Elective Courses</b>		
CSCI 8626	COMPUTER GRAPHICS	3
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	
CSCI 8040	LARGE SCALE NETWORK ANALYSIS ALGORITHMS	
CSCI 8620	MOBILE COMPUTING AND WIRELESS NETWORKS	
CSCI 8156	GRAPH THEORY & APPLICATIONS	
CSCI 8450	ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING	
CSCI 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CSCI 8440	SECURE SYSTEMS ENGINEERING	
Any course not taken listed under required courses		
Depending on student's interest, a graduate course approved by GPC		
<b>Total Credits</b>		<b>12</b>

## Quality of Work Standards

The Graduate College Quality of Work Standards shall be applied to foundation courses (deficiency courses) as well as courses taken as part of the degree program. In particular, the GPC will recommend to the Graduate College that any

1. Student receiving a grade of "C-" or below in any graduate course or undergraduate foundation course will be dismissed from the program or, in the case of unclassified or non-degree students, be automatically denied admission.
2. Student receiving a grade of "C+" or "C" in any undergraduate foundation course or graduate course will be placed on probation or dismissed from the program. Graduate courses may be repeated once with GPC approval. Undergraduate foundation courses will follow the repeat policy for IS&T undergraduate courses.
3. At most two graduate courses ending in 6 (8xx6) will be counted toward the degree requirements. Graduate courses with an undergraduate component (listed under Undergraduate Deficiencies) are not eligible as elective courses.
4. Student must have a minimum grade point average (GPA) of 3.0 ("B"), with no grades lower than a "B-".

## Artificial Intelligence Certificate

**Department of Computer Science, College of Information Science & Technology**

### Vision Statement

The objective of the certificate in artificial intelligence is to expose students to the principles and technologies used to embody machines with human-like intelligent capabilities and to enable the machines to assist humans in performing complex and hazardous tasks. Students completing this certificate program have an opportunity to learn as well as perform hands-on experiments in different areas of artificial intelligence, including automated software systems such as software agents, multi-agent and multi-robot systems, machine vision and image processing technologies, neural network-based adaptive software systems, heuristics and stochastic optimization techniques for critical decision making, and machine learning and knowledge engineering techniques that embed intelligence in computers and information systems.

### Program Contact Information

Jon Youn, PhD, Graduate Program Chair (GPC)  
282E Peter Kiewit Institute (PKI)  
402.554.4911  
jyoun@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/computer-science/prospective-students/graduate-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: November 1
- Summer: March 1

## Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a resume detailing your work experience and background (if applicable)
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation, or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### Provisional Admission

Students who have not taken an undergraduate data structures course with a grade of "B-" or better must do so before they will be allowed to continue in the program.

Code	Title	Credits
CSCI 2030	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	3
CSCI 3320/8325	DATA STRUCTURES (or equivalent)	3
CSCI 3660	THEORY OF COMPUTATION	3
Code	Title	Credits
Required Course		
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	3
Electives		
Select three of the following:		9
CSCI 8110	ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE	
CSCI 8300	IMAGE PROCESSING AND COMPUTER VISION	
CSCI 8450	ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING	
CSCI 8476	PATTERN RECOGNITION	
CSCI 8480	MULTI-AGENT SYSTEMS AND GAME THEORY	
CSCI 8486	ALGORITHMS FOR ROBOTICS	
<b>Total Credits</b>		<b>12</b>

# Communication Networks Certificate

Department of Computer Science, College of Information Science & Technology

## Vision Statement

The communication network certificate program is a career program designed to meet the growing industry demand for qualified, highly trained individuals in the field of computer network systems. The certificate is designed to give the working professional both a conceptual view and an in-depth understanding of the latest technologies. The program includes courses ranging from basic concepts such as local area networks to advanced networking concepts such as mobile wireless communication systems and networks.

## Program Contact Information

Jon Youn, PhD, Graduate Program Chair (GPC)  
280D Peter Kiewit Institute (PKI)  
402.554.4911  
jyoun@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: November 1
- Summer: March 1

## Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a resume detailing your work experience and background (if applicable).
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant

will be notified by the individual program if an external course-by-course evaluation is required.

- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### Provisional Admission

Students who have not taken an undergraduate data structures course or an introductory communication networks course with a grade of "B-" or better in each course must do so before they will be allowed to continue in the program.

Code	Title	Credits
CSCI 3320/8325	DATA STRUCTURES (or equivalent)	3
CSCI 3550/8555	COMMUNICATION NETWORKS (or equivalent)	3

Code	Title	Credits
Required Courses		

If a required course is waived, it must be replaced with another course from the electives listed below.

CSCI 8210	ADVANCED COMMUNICATIONS NETWORKS	3
CSCI 8620	MOBILE COMPUTING AND WIRELESS NETWORKS	3

Electives		
Select two of the following:		6
CSCI 8040	LARGE SCALE NETWORK ANALYSIS ALGORITHMS	
CSCI 8156	GRAPH THEORY & APPLICATIONS	
CSCI 8200	INTERCONNECTION NETWORKS	
CSCI/CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	

**Total Credits** **12**

## Software Engineering Certificate

Department of Computer Science, College of Information Science & Technology

## Vision Statement

Software engineering is the systematic application of engineering and computer science principles to the development, maintenance and analysis of complex software systems. The demand for software engineers is very high, and is expected to continue for many years to come. The certificate in software engineering will provide students with technical knowledge and skills to apply modern software engineering processes, methods, and tools to tackle real-world requirements, equipping them for career advancement as software professionals.

## Program Contact Information

Jon Youn, PhD, Graduate Program Chair (GPC)  
280D Peter Kiewit Institute (PKI)  
402.554.4911  
jyoun@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: November 1
- Summer: March 1

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume highlighting your work experience and background (if applicable)
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Prerequisite Courses</b>		
CSCI 4830/8836	INTRODUCTION SOFTWARE ENGINEERING	3
CSCI 3320/8325	DATA STRUCTURES	3
<b>Required Courses</b>		
If a required course is waived, it must be replaced with another course from the electives list below.		
CSCI 8700	SOFTWARE SPECIFICATIONS AND DESIGN	3
CSCI 8710	MODERN SOFTWARE DEVELOPMENT METHODOLOGIES	3
<b>Elective Courses</b>		

Select two of the following:		6
CSCI 8256	HUMAN COMPUTER INTERACTION	
CSCI 8266	USER EXPERIENCE DESIGN	
CSCI 8420	SOFTWARE ASSURANCE	
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	
CSCI 8760	FORMAL METHODS IN SOFTWARE ENGINEERING	
CSCI 8790	ADVANCED TOPICS IN SOFTWARE ENGINEERING	
<b>Total Credits</b>		<b>12</b>

## Systems and Architecture Certificate

Department of Computer Science, College of Information Science & Technology

### Vision Statement

This certificate provides students with knowledge in the underlying architecture of computers. Students may choose either the hardware track or the software track. In the hardware track, students gain more in-depth knowledge of the field. Students in this track will develop skills to perform system and component design, quality assurance, and testing. In the software track, knowledge in the underlying architecture helps in generating and understanding optimized software. Students in this track will develop skills that will help them perform systems programming, language processing, and system administration.

### Program Contact Information

Jon Youn, PhD, Graduate Program Chair (GPC)  
 280D Peter Kiewit Institute (PKI)  
 402.554.4911  
[jyoun@unomaha.edu](mailto:jyoun@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/degrees-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: November 1
- Summer: March 1

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume highlighting your work experience and background (if applicable).

- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### Hardware Track

Code	Title	Credits
<b>Prerequisite Courses</b>		
CSCI 3320/8325	DATA STRUCTURES	3
CSCI 3710	INTRODUCTION TO DIGITAL DESIGN AND COMPUTER ORGANIZATION	3
CSCI 4350	COMPUTER ARCHITECTURE	3

Code	Title	Credits
<b>Required Courses</b>		
If a required course is waived, it must be replaced with another course from the electives below.		
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	3
CSCI 8530	ADVANCED OPERATING SYSTEMS	3

<b>Elective Courses</b>		
Select two of the following:		6
CSCI 8160	INTRODUCTION TO VLSI DESIGN	
CSCI 8170	VLSI TESTING	
CSCI 8446	INTRODUCTION TO PARALLEL COMPUTING	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8626	COMPUTER GRAPHICS	

**Total Credits** **12**

### Software Track

Code	Title	Credits
<b>Prerequisite Courses</b>		
CSCI 3320/8325	DATA STRUCTURES	3
CSCI 4220	PRINCIPLES OF PROGRAMMING LANGUAGES	3
CSCI 8506/4500	OPERATING SYSTEMS	3

Code	Title	Credits
<b>Required Courses</b>		
If a required course is waived, it must be replaced with another course from the electives below.		
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	3
CSCI 8530	ADVANCED OPERATING SYSTEMS	3

### Elective Courses

Select two of the following:		6
CSCI 8446	INTRODUCTION TO PARALLEL COMPUTING	
CSCI 8706	COMPILER CONSTRUCTION	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8626	COMPUTER GRAPHICS	
<b>Total Credits</b>		<b>12</b>

## Computer Science Education Degree Programs Offered

- Computer Science Education, MS (p. 1081)
- Computer Science Education Certificate (p. 1082)

### CSTE 8020 EXPLORING COMPUTER SCIENCE FOR TEACHERS (3 credits)

This course provides a breadth first introduction to computer science for pre-service and in-service teachers. The Exploring Computer Science curriculum (<http://www.exploringcs.org>) serves as a guiding framework for this course, which introduces domain knowledge and appropriate teaching techniques related to teaching human computer interaction, computational problem solving, web design, programming, data analysis, and artificial intelligence in school environments. The course also covers ethical and social issues in computing along with an overview of computing careers.

### CSTE 8030 COMPUTER SCIENCE PRINCIPLES FOR TEACHERS (3 credits)

This course introduces pre-service and in-service teachers to the foundational principles of computer science. It aims to help them learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. It prepares them to teach the AP CS Principles course (<https://apcentral.collegeboard.org/courses/ap-computer-science-principles>) as defined by the College Board. Students explore several different curricula available through College Board endorsed providers.

**Prerequisite(s)/Corequisite(s):** MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better.

### CSTE 8040 OBJECT ORIENTED PROGRAMMING FOR TEACHERS (3 credits)

This course provides an in-depth treatment of the fundamentals of object-oriented programming (OOP) in Java programming language environment. Topics include data types and information representation, control structures, classes and objects, methods, encapsulation, and use of introductory data structures to solve real-world problems. Additionally, this course interleaves coverage of OOP content with discussion of common learner misconceptions and teaching strategies/tools that can be employed to aid learners' mastery of this material. This course prepares students to implement the Advanced Placement Computer Science A curriculum in a secondary school setting.

**Prerequisite(s)/Corequisite(s):** CSTE 8020 or CSTE 8030.

### CSTE 8910 CAPSTONE IN CS EDUCATION (3 credits)

This course will allow graduate students, as an individual or as part of a group, to study and analyze specific problems related to teaching computing in schools. Projects will be concerned with the curriculum and/or instruction of computing and should address a broad scope of application rather than a specific level. (Cross-listed with STEM 8910).

**Prerequisite(s)/Corequisite(s):** The student must have completed at least 21 credit hours in the Masters of CS Education program.

**CSTE 8920 SEMINAR IN CS EDUCATION: SPECIAL TOPICS (1-3 credits)**

This course will cover variable content focusing on CS education topics relevant to PK-12 teachers and based on current research trends. New curricula, tools, assessments, programming languages, or related standards may be covered.

**Prerequisite(s)/Corequisite(s):** Advisor and/or instructor approval.

**CSTE 8960 THESIS EQUIVALENT PROJECT IN CS EDUCATION (1-6 credits)**

This course allows a graduate student to conduct a research project in computing education. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, & final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines. Project credits must be completed over two or more academic terms.

**Prerequisite(s)/Corequisite(s):** Completion of required Core courses and approval of advisor.

**CSTE 8970 CS ED INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of the department and graduate faculty member.

**CSTE 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option. Thesis credits must be completed over two or more academic terms.

**Prerequisite(s)/Corequisite(s):** Completion of Required Core Courses and approval of advisor. Not open to non-degree graduate students.

## Computer Science Education, MS

**Department of Computer Science, College of Information Science & Technology; Department of Teacher Education, College of Education, Health, and Human Sciences**

### Vision Statement

This degree program is intended for those with a passion for the teaching and learning of computational thinking, computer science, and information technology skills. By developing both content knowledge and pedagogical skills related to the computing disciplines, this program is ideal for educators looking to empower young people to become the creators of next generation technologies.

In completing program coursework, certified Nebraska teachers will also meet requirements for the IT supplemental endorsement. Teachers from other states should consult with their corresponding state officials to consider local credentialing applicability.

### Program Contact Information

Brian Dorn, PhD, Graduate Program Chair  
174E Peter Kiewit Institute (PKI)  
402.554.4905  
bdorn@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-information-science-and-technology/computer-science-education/graduate/ms-csed.php>)

### Other Program Related Information

Students who hold current Nebraska teaching certification are eligible for the IT Supplemental Endorsement upon successfully completing the 15 hour core courses.

Grades of 'C' or lower cannot be used when applying for the State of Nebraska IT Supplemental Endorsement.

### Student Learning Outcomes

Upon completion of the MS in Computer Science Education, students will be able to:

- Demonstrate the ability to create basic computational artifacts.
- Demonstrate practical knowledge and skills with computing systems.
- Explain how computing permeates today's society, including security, privacy, and ethical considerations.
- Apply appropriate pedagogical content knowledge in the teaching of computing topics.
- Describe relevant and recent research findings in computer science education including how they might be applied in the classroom.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet minimum language proficiency score requirement in order to be considered for graduate admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose** addressing the following:
  - Describe your academic and professional journey. Discuss your background personal and professional experiences, and your current educational context. Be sure to explain your motivation for pursuing this program at this point in your career.
  - In order to advise you on initial coursework, please describe any prior formal or informal training you have completed in computing, computer science, and information technology. This includes, but is not limited to programming/coding, web design, systems administration, computing networking, databases, and computer applications.
  - Discuss your post-master's degree plans. How will the MS in computer science education contribute to your future endeavors related to P-12 students, educators, administrators or other community stakeholders.
- **Resume:** Professional resume or curriculum vitae

- UNO College of Education's Personal and Professional Fitness Form
- Copy of your current teacher certification (if applicable)
- International students who do not intend to teach in the United States may be eligible for admission.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Core Courses</b>		<b>15</b>
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
CSTE 8020	EXPLORING COMPUTER SCIENCE FOR TEACHERS	3
or CSTE 8030	COMPUTER SCIENCE PRINCIPLES FOR TEACHERS	
CSTE 8040	OBJECT ORIENTED PROGRAMMING FOR TEACHERS	3
CSCI 8366	FOUNDATIONS OF CYBERSECURITY	3
or CYBR 8366	FOUNDATIONS OF CYBERSECURITY	
CSCI 8836	INTRODUCTION SOFTWARE ENGINEERING	3
or CSCI 8256	HUMAN COMPUTER INTERACTION	
or CSCI 8266	USER EXPERIENCE DESIGN	
<b>Required Extension Courses</b>		<b>6</b>
CSCI 8010	FOUNDATIONS OF COMPUTER SCIENCE	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
or TED 8860	INVENTION & INNOVATION IN ENGINEERING EDUCATION	
<b>Electives</b>		<b>3-6</b>

The following courses are considered standing electives that have already been approved for all students. Students may request a course not listed here be counted as an elective in writing to the GPC. Such requests should be made prior to enrolling in the course.

All graduate courses offered by the College of IS&T not counted elsewhere in the plan of study, including BIOI, CIST, CSCI, CSTE, CYBR, ISQA, and ITIN 8xxx

CSTE 8920	SEMINAR IN CS EDUCATION: SPECIAL TOPICS
MTCH 8040	TOPICS IN MATHEMATICAL COMPUTING
STEM/TED 8420	TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION
STEM/TED 8430	SCHOOL CURRICULUM PLANNING

STEM/BIOI 8450	BIOLOGY EDUCATION RESEARCH METHODS	
STEM/TED 8840	ENGINEERING EDUCATION EXTERNSHIP	
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8050 or TED 8860 can also be used as electives if not used as extension coursework.		
<b>Exit Requirement</b>		<b>3-6</b>
<b>Thesis Option <sup>1</sup></b>		<b>6</b>
CSTE 8990	THESIS	
<b>Project Option <sup>2</sup></b>		<b>6</b>
CSTE 8960	THESIS EQUIVALENT PROJECT IN CS EDUCATION	
<b>Capstone <sup>3</sup></b>		<b>3</b>
CSTE 8910	CAPSTONE IN CS EDUCATION	
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Thesis credits must be completed over two or more academic terms.

<sup>2</sup> Project credits must be completed over two or more academic terms.

<sup>3</sup> The Capstone course may only be taken upon completion of at least 21 credit hours in the program.

## Computer Science Education Certificate

**Department of Computer Science, College of Information Science & Technology; Department of Teacher Education, College of Education, Health, and Human Sciences**

### Vision Statement

This graduate certificate is intended for educators seeking to extend their knowledge and skills in the teaching computational thinking, computer science, and information technology. In completing program coursework, certified Nebraska teachers will also meet requirements for the IT supplemental endorsement. Teachers from other states should consult with their corresponding state officials to consider local credentialing applicability. Prior background in computer science is not required.

### Program Contact Information

Brian Dorn, PhD, Graduate Program Chair (GPC)  
174E Peter Kiewit Institute (PKI)  
402.554.4905  
bdorn@unomaha.edu

**Program Website (<http://www.unomaha.edu/college-of-information-science-and-technology/computer-science-education/graduate/csed-grad-cert.php>)**

### Other Program Related Information

Students who hold current Nebraska teaching certificates are eligible for the IT supplemental endorsement upon completing all required courses except CSCI 8010. Those who seek to earn only the IT supplemental endorsement should apply for this graduate certificate program.

Grades of 'C' or lower cannot be used when applying for the State of Nebraska IT supplemental endorsement.

All students must apply for completion of the graduate certificate through MavLINK. Please see the Academic Calendar for deadlines on applying.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements:

- International students who do not intend to teach in the U.S. may be eligible for admission.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose** addressing the following:
  - Describe your academic and professional journey. Discuss your background personal and professional experiences, and your current educational context. Be sure to explain your motivation for pursuing this program at this point in your career.
  - In order to advise you on initial coursework, please describe any prior formal or informal training you have completed in computing, computer science, and information technology. This includes, but is not limited to, programming/coding, web design, systems administration, computing networking, databases, and computer applications.
  - Finally discuss your post-certificate degree plans. How will the certificate in computer science education contribute to your future endeavors related to P-12 students, educators, administrators or other community stakeholders?
- **Resume:** Professional Resume or Curriculum Vitae
- UNO College of Education, Health, and Human Science's Personal and Professional Fitness form
- A copy of your current teacher certification (if applicable)
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
CSTE 8020	EXPLORING COMPUTER SCIENCE FOR TEACHERS	3
or CSTE 8030	COMPUTER SCIENCE PRINCIPLES FOR TEACHERS	
CSTE 8040	OBJECT ORIENTED PROGRAMMING FOR TEACHERS	3
CSCI/CYBR 8366	FOUNDATIONS OF CYBERSECURITY	3
CSCI 8836	INTRODUCTION SOFTWARE ENGINEERING	3
or CSCI 8256	HUMAN COMPUTER INTERACTION	
or CSCI 8266	USER EXPERIENCE DESIGN	
CSCI 8010	FOUNDATIONS OF COMPUTER SCIENCE	3
<b>Total Credits</b>		<b>18</b>

## Counseling, MS

**Department of Counseling, College of Education, Health, and Human Sciences**

### Vision Statement

The purpose of the Department of Counseling is to prepare a diverse student population at the master's degree level for professional service as school counselors, clinical mental health counselors, student affairs professionals, and/or for advanced study. Graduates of the program are prepared to function professionally within their area(s) of concentration.

As dedicated practitioners, reflective scholars, and responsible citizens, our graduates are prepared to fill the need for highly trained professionals. Graduates are trained to support the broad range of counseling needs of the metropolitan community including: individual, couples, family and group counseling.

### Program Contact Information

Christine (Tina) Chasek, PhD, Graduate Program Chair (GPC)  
107 Roskens Hall (RH)  
402.554.3559  
[christinechasek@unomaha.edu](mailto:christinechasek@unomaha.edu)

**Program Website** (<http://www.unomaha.edu/college-of-education/counseling/>)

### Other Program Related Information

- Earning a graduate degree in clinical mental health counseling or school counseling satisfies only the academic requirements for licensure and/or certification in the state of Nebraska. Students should consult the appropriate state agency/department for guidance on gaining state licensure and/or certification.
- Students should be aware that licensure and/or certification requirements often vary by state. Students interested in gaining professional licensure and/or certification outside of Nebraska should consult their intended state's licensing/certification office/department for appropriate guidelines and timelines.
- An alternative counseling endorsement is available for students in the school counseling concentration who do not hold degrees in education. This endorsement eliminates the two-year teaching requirement and includes an additional 12 credit hours. Students choosing the alternative endorsement route will complete a 60 credit school counseling curriculum instead of the 48 credit school counseling curriculum.

- Successful completion of all courses and a comprehensive exam in the student's respective concentration are requirements for graduation.
- Graduates are recommended only for positions consistent with the concentration they completed.
- Professional background checks are required for all students following admission to the program and again prior to beginning their practicum experience.
- Candidates are admitted and permitted to continue programs in counseling on the basis of their potential for successful training and professional practice. Candidates are evaluated on an ongoing basis while enrolled with respect to their suitability for continuation in the program prior to taking the Counseling Practicum or Internship courses. Specific course and grade requirements to take Practicum courses are available in the Department of Counseling.
- The P-12 School Counseling and Clinical Mental Health Counseling concentrations are accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP; 2009), the national accrediting agency for Counselor Education programs.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: March 1
- Spring: October 1
- Summer: March 1
  - Student Affairs in Higher Education (SAHE) admits fall semester only
  - Clinical Mental Health Counseling and School Counseling concentrations admits during fall, spring, and summer semesters.

### Other Requirements

- Bachelor's degree
- Nine credit hours of courses in behavioral sciences or closely related field for both areas of concentration in Clinical Mental Health Counseling and Student Affairs Practice in Higher Education applicants.
- Abnormal psychology is a requirement for licensure as a mental health practitioner in Nebraska, but is not a required course within any Department of Counseling curriculum. However, abnormal psychology must be taken prior to COUN 8920. Abnormal psychology may be taken at the undergraduate or graduate level but graduate level is recommended.
- **Entrance Exam:** Graduate Record Exam (GRE) or Miller Analogies Test (MAT)
  - This requirement may be waived if an advanced degree has been completed
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** 2-3 pages in length addressing the following information:
  - Reason(s) for pursuing the counseling profession,
  - Relevant experience,

- Personal career goals,
- Reason(s) for choosing UNO's Counseling program.

#### • Resume or curriculum vitae

- **Letters of Recommendation:** Three letters of recommendation are required and should be from persons who can speak to the applicant's professional competence and/or academic ability.
- A minimum of nine hours of behavioral sciences or human services related course is required. Applicants without these courses may be provisionally admitted with the expectation that these nine hours will be completed within the first year of their program of study. Questions regarding the appropriateness of courses for this requirement should be submitted to the department chair via email ([dkissinger@unomaha.edu](mailto:dkissinger@unomaha.edu)). A response will be provided following a faculty review of the selected course(s).
- Group admissions interview (required for admission).

## Degree Requirements

Code	Title	Credits
<b>Concentrations</b>		
Select an area of concentration: (Enrollment in over 12 credits per semester requires department consent)		
Clinical Mental Health Counseling		60-66
P-12 School Counseling <sup>1</sup>		48-54
Student Affairs Practice in Higher Education		38-44

<sup>1</sup> Alternative endorsement for school counseling students without education degrees (60 hours). Contact your advisor for more information.

### Exit Requirements:

- Comprehensive Examination for concentration area.
- Completion of the MS with Thesis option requires six additional hours of COUN 8990. All candidates should carefully review the Graduate College requirements for forming a supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.
- Students in the Clinical Mental Health Counseling and P-12 School Counseling concentrations must complete a 10-hour "Group Experience" as a graduation requirement
- Students in the Clinical Mental Health Counseling concentration must have completed an abnormal psychology course (3 hours), either at the graduate or the undergraduate level prior to graduation. Licensure laws may vary between states. Please note that this course does NOT count as part of the 60-66 hour degree program requirement.

### Clinical Mental Health Counseling Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8010 or EDL 8010	INTRODUCTION TO RESEARCH INTRODUCTORY RESEARCH METHODS	3
COUN 8010	INTRODUCTION TO COUNSELING	3
COUN 8110	HUMAN DEVELOPMENT AND PSYCHOSOCIAL INTERVENTION STRATEGIES	3
COUN 8030	COUNSELING PRACTICES	3
COUN 8040	ETHICAL ISSUES FOR PROFESSIONAL COUNSELORS	3
COUN 8200	COUNSELING THEORIES	3
COUN 8226	CAREER DEVELOPMENT AND LIFESTYLE	3
COUN 8230	APPRAISAL TECHNIQUES IN COUNSELING	3

COUN 8360	GROUP THEORY & TECHNIQUES	3
COUN 8400	ADVANCED THEORY AND TECHNIQUES IN COUNSELING	3
COUN 8520	COUNSELING MULTICULTURAL AND DIVERSE POPULATIONS	3
COUN 8610	INTRODUCTION TO MARITAL AND FAMILY THERAPY	3
COUN 8700	CHILD AND ADOLESCENT COUNSELING	3
COUN 8800	CLINICAL MENTAL HEALTH COUNSELING	3
COUN 8920	TREATMENT PLANNING AND THE DSM	3
COUN 8280	CRISIS INTERVENTION STRATEGIES AND TECHNIQUES	3
COUN/SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	3
COUN 8220	COUNSELING PRACTICUM	3
COUN 8250	INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING	3
COUN 8260	ADVANCED INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING	3
<b>Total Hours (66 hours if completing thesis)</b>		<b>60-66</b>

## P-12 School Counseling Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8010 or EDL 8010	INTRODUCTION TO RESEARCH INTRODUCTORY RESEARCH METHODS	3
COUN 8030	COUNSELING PRACTICES	3
COUN 8040	ETHICAL ISSUES FOR PROFESSIONAL COUNSELORS	3
COUN 8110	HUMAN DEVELOPMENT AND PSYCHO- SOCIAL INTERVENTION STRATEGIES	3
COUN 8200	COUNSELING THEORIES	3
COUN 8210	ORGANIZATION & ADMINISTRATION OF SCHOOL COUNSELING PROGRAMS	3
COUN 8280	CRISIS INTERVENTION STRATEGIES AND TECHNIQUES	3
COUN 8330	PRACTICUM FOR SCHOOL COUNSELORS	3
COUN 8430	INTERNSHIP IN SCHOOL COUNSELING	3
COUN 8460	ADVANCED INTERNSHIP IN SCHOOL COUNSELING	3
COUN 8520	COUNSELING MULTICULTURAL AND DIVERSE POPULATIONS	3
COUN 8630	FOUNDATIONS AND ISSUES IN SECONDARY COUNSELING	3
COUN 8650	ISSUES IN ELEMENTARY AND MIDDLE SCHOOL COUNSELING	3
COUN 8670	CAREER DEVELOPMENT POST- SECONDARY TRANSITIONS	3
COUN 8700	CHILD AND ADOLESCENT COUNSELING	3
COUN 8740	SCHOOL COUNSELING GROUPS	3
<b>Total (54 hours if completing thesis)</b>		<b>48-54</b>

## Student Affairs Practice in Higher Education Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8010 or EDL 8010	INTRODUCTION TO RESEARCH INTRODUCTORY RESEARCH METHODS	3

COUN 8006	STUDENT DEVELOPMENT THEORIES	3
COUN 8030	COUNSELING PRACTICES	3
COUN 8850	THE COLLEGE STUDENT EXPERIENCE	3
COUN 8930	HISTORY OF HIGHER EDUCATION AND STUDENT AFFAIRS	3
COUN 8150	STUDENT AND STUDENT PERSONNEL WORK IN HIGHER EDUCATION	3
COUN 8940	DIVERSITY AND WELLNESS ISSUES IN HIGHER EDUCATION	3
COUN 8950	ORGANIZATION, ADMINISTRATION, AND LEADERSHIP IN HIGHER EDUCATION	3
COUN 8980	DIGITAL LEARNING: POLICY, PROGRAMMING, & SYSTEMS	3
COUN 8810	LAW AND ETHICS IN HIGHER EDUCATION AND STUDENT AFFAIRS	3
COUN 8820	CRISIS AND EMERGENCY MANAGEMENT IN HIGHER EDUCATION	3
COUN 8830	CURRENT ISSUES IN HIGHER EDUCATION AND STUDENT AFFAIRS	1
COUN 8450	COLLEGE STUDENT PERSONNEL INTERNSHIP	4
<b>Total (44 hours if completing thesis)</b>		<b>38-44</b>

**Ethical Conduct:** It should be understood that academic performance is not the only criterion for continuation in the program or for graduation. Candidates are expected to maintain the highest standards of ethical conduct pertaining to academic course work, professional practice and research activity. Any breach in ethical conduct shall be subject to disciplinary action, regardless of the candidate's prior or current academic performance. See the "American Counseling Association Code of Ethics" for specific guidelines.

### COUN 8006 SPECIAL STUDIES IN COUNSELING (1-6 credits)

This course is designed to allow candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities are mutually agreed upon by the candidate and instructor. This course will prepare graduate (or undergraduate) candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with COUN 4000).

**Prerequisite(s)/Corequisite(s):** Permission by the Department. Must be admitted to the Counseling Program. Not open to non-degree graduate students.

### COUN 8010 INTRODUCTION TO COUNSELING (3 credits)

This is an exploratory course for students entering, or considering entering, the field of professional counseling. The focus is on: 1) the development of the profession of counseling, 2) your own professional and personal development as well as your understanding of what contributes to your development as an effective counselor, and 3) a general overview of specific requirements for successful completion of a master's degree in Counseling at UNO.

**Prerequisite(s)/Corequisite(s):** Undergraduate Degree. Department permit required for non-degree seeking students (based on availability)

**COUN 8016 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health. The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, SPED 4010, SPED 8016).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8030 COUNSELING PRACTICES (3 credits)**

The major purpose of Counseling 8030 is to assist students in skill development as noted in Ivey's Intentional Interviewing and Counseling Model. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism. Candidates will continue to develop counseling skills through additional coursework leading to practicum and internship experiences.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8040 ETHICAL ISSUES FOR PROFESSIONAL COUNSELORS (3 credits)**

This course examines the ethical, professional, and legal aspects of individual, couple and family counseling including liabilities incurred by the professional. The course addresses the appropriate ethical guidelines as stated by the American Counseling Association (ACA) code of ethics in a participatory format.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8050 INTRODUCTION TO PROFESSIONAL SCHOOL COUNSELING (1 credit)**

This is an exploratory course for candidates considering entering the field of professional school counseling. This introductory course is required for candidates majoring in counseling, with a concentration in school counseling. Selected issues underlying the school counseling profession are studied.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College and/or the Counseling Department.

**COUN 8100 RESEARCH PROJECT IN COUNSELING (1-3 credits)**

Individual or group study and analysis of specific problems/issues in the field.

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program and permission of instructor. Not open to non-degree students.

**COUN 8110 HUMAN DEVELOPMENT AND PSYCHO-SOCIAL INTERVENTION STRATEGIES (3 credits)**

This course is designed to examine theories of human development covering the lifespan of the individual and the psychosocial interventions appropriate to various phases of the lifespan. The course will emphasize human development as an interactive process involving individuals in a number of contexts; hence human diversity factors (racial ethnic groups, gender, sexual orientation) also will be considered.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8150 STUDENT AND STUDENT PERSONNEL WORK IN HIGHER EDUCATION (3 credits)**

An overview of the characteristics of college students and their interaction with campus environmental influences. The impact of student personnel work is considered as it affects personality growth, social development and career planning by college students.

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree graduate students.

**COUN 8200 COUNSELING THEORIES (3 credits)**

This course is designed to examine counseling theories and the historical and geographic influence on counseling theory development.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program. Not open to non-degree graduate students.

**COUN 8210 ORGANIZATION & ADMINISTRATION OF SCHOOL COUNSELING PROGRAMS (3 credits)**

The course introduces graduate candidates to an administrative systems approach to organizing comprehensive and developmental school counseling programs for all k-12 students. The American School Counselor Association's (ASCA) National Model for School Counseling Programs provides the foundation for content. Topics include, but are not limited to, school counseling programs: Foundation, Delivery System, Management System, and Accountability domains. Special focus is also placed on developing educational leadership skills, advocacy for k-12 students, and bringing about positive systemic change. Teaching counselor candidates to effectively manage school counseling programs is an important part of our effort to prepare educational leaders.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8220 COUNSELING PRACTICUM (3 credits)**

This course is the first of the clinical application courses of counseling knowledge, techniques, and specialty areas in clinical mental health settings. Candidates practice, develop and improve counseling skills in an environment of professional constructive criticism.

**Prerequisite(s)/Corequisite(s):** Pre-Reqs: COUN 8010, COUN 8030, COUN 8040, COUN 8200, COUN 8280, COUN 8400, COUN 8516, COUN 8520, COUN 8920 Co-Reqs: COUN 8360, COUN 8610, COUN 8800 Registration Reqs: Attend Practicum Orientation; Dept Consent. Not open to non-degree graduate students.

**COUN 8226 CAREER DEVELOPMENT AND LIFESTYLE (3 credits)**

This course will serve as an introduction to the topics of career counseling and career development.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling as degree seeking student; Department permit for non-degree seeking student (based on availability)

**COUN 8230 APPRAISAL TECHNIQUES IN COUNSELING (3 credits)**

Appraisal Techniques in Counseling includes the history of individual appraisal, the major technical considerations governing assessments, and a survey of measurement devices in the cognitive and affective domains. The course will include uses and implications of standardized and non-standardized assessment devices. Additionally, this course will cover the responsible use and interpretation of ability, aptitude, interest, personality, and career development assessment tools. Whenever it is applicable, a strengths-based, positive psychology approach will be integrated and utilized throughout this course.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Department as degree seeking student; Department permission for non-counseling/degree seeking student in UNO allied mental health discipline only (based on availability)

**COUN 8250 INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

This course is the first of the clinical applications of knowledge, techniques, and specialty areas in community settings. Students practice, develop and improve counseling skills in an environment of professional constructive criticism. This course is required for all graduate students in counseling who meet the prerequisites.

**Prerequisite(s)/Corequisite(s):** COUN 8220 with grade of B or better; Department Permission. Not open to non-degree graduate students.

**COUN 8260 ADVANCED INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

Field experience in an approved agency program under the supervision of a licensed counselor and university instructor.

**Prerequisite(s)/Corequisite(s):** Completion of COUN 8250 with grade of B or higher. Not open to non-degree graduate students.

**COUN 8270 GROUP TECHNIQUES (1 credit)**

This course is intended to prepare students to effectively incorporate group principles appropriate to various counseling settings including schools, treatment centers, and agencies. This class includes a group experience.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Counseling or permission of instructor. Not open to non-degree graduate students.

**COUN 8280 CRISIS INTERVENTION STRATEGIES AND TECHNIQUES (3 credits)**

This course will present approaches to crisis intervention which include definitions and characteristics of a crisis, a brief history of crisis intervention and associated theories/models and a practice of skills for intervention and crisis case management. Topics will include applied therapeutic counseling strategies in general casework and in crisis intervention cases, in particular, which describe actual techniques to alleviate the crisis.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling as degree seeking student; COUN 8030, COUN 8200, COUN 8040; Dept permission/graduate status as degree seeking student in allied mental/behavioral health (based on availability). Not open to non-degree graduate students.

**COUN 8306 COUNSELING TECHNIQUES I (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Adlerian counseling (specified in this syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 4300).

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree students; must take prior to practicum.

**COUN 8316 COUNSELING TECHNIQUES II (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Rational Emotive Behavior Therapy (REBT) (specified in the syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed.. (Cross-listed with COUN 4310)

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program; must take prior to practicum. Not open to non-degree students.

**COUN 8330 PRACTICUM FOR SCHOOL COUNSELORS (3 credits)**

This course is the first of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting. Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** Instructor Consent; COUN 8030; COUN 8040; COUN 8200; COUN 8210; COUN 8280; COUN 8630; COUN 8650; COUN 8670; COUN 8700; COUN 8740; Grade of B or better in COUN 8030 and COUN 8040. Not open to non-degree graduate students.

**COUN 8360 GROUP THEORY & TECHNIQUES (3 credits)**

This course is intended to prepare students to effectively incorporate group principles appropriate to various counseling settings including schools, clinical mental health treatment facilities, and agencies. This class includes a group experience.

**Prerequisite(s)/Corequisite(s):** Admission as degree seeking student in UNO Counseling Dept; Pre-Reqs: COUN 8030, COUN 8040; Completion of Group Experience and Department permission. Not open to non-degree graduate students.

**COUN 8400 ADVANCED THEORY AND TECHNIQUES IN COUNSELING (3 credits)**

This course introduces students to the basic knowledge and skills necessary to understand and apply counseling techniques related to differential approaches to treatment. Topics may include Solution-Focused, Adlerian, Cognitive-Behavioral (CBT), Dialectical Behavioral (DBT), Motivational Interviewing, and other techniques as deemed to be relevant/appropriate.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling program; Pre-Reqs: COUN 8030; COUN 8200

**COUN 8406 COUNSELING TECHNIQUES III (1 credit)**

This course will assist candidates in developing more systematic integration of previously learned information and skills and the application to specific counseling situations related to various approaches. Topics may include Solution Focused Counseling - SFC (specified in the syllabus), Dialectical Behavioral Therapy, anger management, art therapy, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 4400)

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree students.

**COUN 8430 INTERNSHIP IN SCHOOL COUNSELING (3 credits)**

This course is the second of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting. Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** Pre-req: COUN 8330. Not open to non-degree graduate students.

**COUN 8450 COLLEGE STUDENT PERSONNEL INTERNSHIP (1-6 credits)**

This course is designed to provide practical work experience under supervision in various areas within student personnel services.

**Prerequisite(s)/Corequisite(s):** COUN 8030, COUN 8040, COUN 8006, COUN 8150, COUN 8360, COUN 8520

**COUN 8460 ADVANCED INTERNSHIP IN SCHOOL COUNSELING (3-6 credits)**

This course is the third of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting. Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** COUN 8330. Not open to non-degree graduate students.

**COUN 8500 CONSULTATION IN PROFESSIONAL COUNSELING (2 credits)**

Instruction in this course is founded upon commitment to the beliefs that individuals are valuable, responsible and capable, and that all human service professionals should work to create the conditions in which people value themselves as human beings and behave accordingly. As reflective decision-makers, such professionals value human potential and purposefully design policies, processes and programs that facilitate the realization of that potential. The counselor learns that consultation and collaboration are first and foremost helping relationships that have as their foundation the dignity and respect of individuals/groups involved. Consultation and collaboration are characterized as problem-solving processes that involve a variety of key decision points. A generic model is provided for students as a "cognitive map" upon which they can reflect when attempting to determine effective practice.

**Prerequisite(s)/Corequisite(s):** Admission to the Counseling Program. Not open to non-degree graduate students

**COUN 8516 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, SOWK 4510, SOWK 8516).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. Not open to non-degree graduate students.

**COUN 8520 COUNSELING MULTICULTURAL AND DIVERSE POPULATIONS (3 credits)**

This course will make candidates more aware of the societal context in which counseling takes place and to help prepare candidates for work with persons who are members of populations which require special knowledge and skills of the counselor. Certain special populations will be considered in comparative detail as well as a general information which will emphasize acquiring broader understandings transferable to counseling with any special population.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8610 INTRODUCTION TO MARITAL AND FAMILY THERAPY (3 credits)**

This course is the first of the clinical mental health applications to provide the prospective mental health counselor with instruction in marital and family therapy. Students will continue to develop counseling skills and will become immersed in the work of a professional counselor. Students practice, develop and improve marital and family counseling skills in an environment of professional and constructive peer feedback.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling program; COUN 8030, COUN 8200, COUN 8040. Not open to non-degree graduate students.

**COUN 8620 SURVEY OF ISSUES IN SCHOOL COUNSELING (2 credits)**

This course is designed to provide school counselors with information on topics that are current and relevant to secondary school settings. It will allow candidates and practicing counselors the opportunity to study and evaluate what activities school counselors are currently engaged in and consideration of strategies to deal with students and families.

**Prerequisite(s)/Corequisite(s):** Admission to counseling program. Not open to non-degree graduate students.

**COUN 8630 FOUNDATIONS AND ISSUES IN SECONDARY COUNSELING (3 credits)**

This course is designed to introduce the history, current ASCA (American School Counselor Association) model, and the role of a professional school counselor; and to provide information on and practice with topics that are current and relevant to secondary school settings.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8650 ISSUES IN ELEMENTARY AND MIDDLE SCHOOL COUNSELING (3 credits)**

This course is intended to prepare students to effectively implement an elementary and/or middle school counseling program. Candidates will develop awareness and skill sets through an overview of the unique issues, approaches, systems and practice of elementary and middle school counseling..

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8656 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or SPED 1500. Not open to non-degree graduate students.

**COUN 8670 CAREER DEVELOPMENT POST-SECONDARY TRANSITIONS (3 credits)**

This course is an introduction to career counseling and career development and post-secondary planning in P-12 schools. This course is required for all graduate students seeking a masters degree in counseling with a concentration in school counseling.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept

**COUN 8686 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/ DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 4680, SOWK 8686, COUN 4680).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**COUN 8696 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, SOWK 4690, SOWK 8696).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**COUN 8700 CHILD AND ADOLESCENT COUNSELING (3 credits)**

This course is an introduction to counseling children and adolescents and will examine the theories, techniques, professional settings, cultural, and ethical/legal issues associated with counseling children and adolescents in a diverse society. Although diagnosis of mental disorders will be discussed, the course is designed to build competencies in counseling children and adolescents, with specific attention to social, developmental, and behavioral issues across professional settings.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Department; COUN 8030 or Department Permission. Not open to non-degree graduate students.

**COUN 8740 SCHOOL COUNSELING GROUPS (3 credits)**

This course is designed to provide the school counselor candidate with a focused study of small group counseling and enrichment programs in schools.

**Prerequisite(s)/Corequisite(s):** Instructor Consent; Documented completion of group experience. Not open to non-degree graduate students.

**COUN 8750 SCHOOL COUNSELING GROUPS & ENRICHMENT PROGRAMS (2 credits)**

This course is intended to prepare students to effectively incorporate small group design, implementation, and assessment as part of a school counseling program. Candidates will develop small group counseling skills and strategies for enrichment program development and delivery.

**Prerequisite(s)/Corequisite(s):** Counseling Major. COUN 8030 and COUN 8270 and COUN 8406 or permission. Not open to non-degree graduate students.

**COUN 8756 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with GERO 4750 and GERO 8756)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8800 CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

This course is an introduction to the specialization of clinical mental health counseling. The course content examines the historical, philosophical, educational, ethical, and psychological concepts and foundations of clinical mental health counseling. Additionally, the course will explore key public and private professional settings and programs within the clinical mental health paradigm, professional advocacy and leadership, and the personal and professional skills and traits expected of professional counselors.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8810 LAW AND ETHICS IN HIGHER EDUCATION AND STUDENT AFFAIRS (3 credits)**

This introductory course is designed to ground future student affairs practitioners in the guiding ethical and legal standards and principles of higher education administrators and student affairs professionals. The course will examine ethical and legal principles through evidence-based readings, discussion/lecture, case studies, exams, and projects. The course will also challenge students to examine their personal values and beliefs and their potential influence on future decision making responses as a student affairs professional.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Counseling Department or department permission.

**COUN 8820 CRISIS AND EMERGENCY MANAGEMENT IN HIGHER EDUCATION (3 credits)**

This course is designed to provide future student affairs professionals with an understanding of the role of higher education institutions respond and adapt to crises that affect institutional well-being and the well-being of faculty, staff, and students. The course will feature content on crisis and emergency management theory and policy-as well as their implications on the well-being of the institution and key stakeholders (i.e., administrators, faculty, staff, students, community, alumni). Specific focus will be given to examining the specific role of the student affairs professional in the design, implementation, and assessment of crisis and emergency management policy and procedures.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Department of Counseling and/or department permission

**COUN 8830 CURRENT ISSUES IN HIGHER EDUCATION AND STUDENT AFFAIRS (1 credit)**

This course involves a detailed exploration of current events and issues related to Student Affairs and Higher Education. The higher education ecological environment will be explored and issues pertaining to students will be investigated within the context of the current higher educational landscape. Finally, the college campus's social, political, and physical landscapes will be discussed and current events facing student affairs and higher education professionals will be examined in order to provide students with information on conflicting perspectives related to relevant issues across academia and higher education as a whole.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Counseling Department and/or department permission

**COUN 8850 THE COLLEGE STUDENT EXPERIENCE (3 credits)**

This course will examine the personal, academic, and psychosocial, and institutional variables common to the experience of students in public and private institutions of higher education in the United States.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair.

**COUN 8920 TREATMENT PLANNING AND THE DSM (3 credits)**

This course is designed to orient students to the stages of treatment planning and use of the DSM-5 as a part of the treatment process in mental health settings. The course will examine the stages of treatment planning and offer opportunities to integrate counseling theories into practice. Factors such as psychopathology/pharmacology, ethics, and human diversity will be considered.

**Prerequisite(s)/Corequisite(s):** Department Consent. Not open to non-degree graduate students.

**COUN 8930 HISTORY OF HIGHER EDUCATION AND STUDENT AFFAIRS (3 credits)**

This course will examine a range of topics relevant to understanding and working in higher education institutions. Specific topics will include the purpose of higher education, accessibility and student diversity issues, financial and legal factors, extracurricular activities, and issues related to faculty and staff experiences.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO graduate program in Student Affairs in Higher Education or permission from Counseling Department Chair

**COUN 8940 DIVERSITY AND WELLNESS ISSUES IN HIGHER EDUCATION (3 credits)**

This course is an exploration of holistic wellness and of power, privilege, social identities, social justice theories and multicultural issues and practices within the context of higher education. We begin by offering foundational definitions of terminology used throughout the course and delve into understanding systems of oppression, privilege, power, and activism through a holistic wellness lens. We then explore and discuss specific social identities, returning again to think about identity through a social justice lens.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair. Not open to non-degree graduate students.

**COUN 8950 ORGANIZATION, ADMINISTRATION, AND LEADERSHIP IN HIGHER EDUCATION (3 credits)**

This course will provide an analysis of leadership, management, and organizational theory and practice in US higher education with particular emphasis on student affairs/student development. An examination of current practices of management will include human, fiscal, and physical resource management. This course is required for all students who are seeking a master's degree (M.S.) in Student Affairs in Higher Education.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair.

**COUN 8980 DIGITAL LEARNING: POLICY, PROGRAMMING, & SYSTEMS (3 credits)**

This course is an exploration of digital learning organizational structures within the context of higher education. We begin by offering foundational definitions of terminology used throughout the course and delve into understanding how digital learning fits within the broader context of college and university operations. We then explore and discuss strategies for understanding relevant policies, technology systems and wrap-around support services to ultimately engage and retain digital learners in pursuit of post-secondary education.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Department of Counseling and/or department permission.

**COUN 8986 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with GERO 4980, GERO 8986).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8990 THESIS (1-6 credits)**

To develop the candidate's ability to carry out accepted procedures associated with the research process.

**Prerequisite(s)/Corequisite(s):** Approval of the Thesis Review Committee and permission of student's thesis chairperson. Not open to non-degree graduate students.

# Criminology and Criminal Justice

## Degree Programs Offered

- Criminology and Criminal Justice, MA (p. 1093)
- Criminology and Criminal Justice, MS (p. 1094)
- Criminology and Criminal Justice, PhD (p. 1097)
- Master of Social Work, MSW-Criminology and Criminal Justice, MS (MSW/CRCJ) (p. 1099)

## Certificates Offered

- Managing Juvenile and Adult Populations Certificate (p. 1101)

**CRCJ 8010 NATURE OF CRIME (3 credits)**

This course provides an overview of the major dimensions of crime in the U.S. Content areas included are the epidemiology of crime, the costs of crime and typologies of crime and criminals.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8020 SEMINAR IN ADMINISTRATION OF JUSTICE (3 credits)**

This course is designed to provide students with a critical understanding of responses to crime. Particular emphasis is placed on theory and research bearing upon the effectiveness of the policies and strategies of the principal institutions of the criminal justice system - the police, courts and corrections. Additionally, philosophical and practical matters pertaining to "justice" and "fairness" in the administration of the criminal law are explored.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8030 CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY (3 credits)**

Research theory and methodology in the social sciences as applicable to criminal justice; preparation of research designs, conceptual models; sampling procedures; and development of individual research papers.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8040 SEMINAR IN POLICE AND SOCIETY (3 credits)**

This course is designed to explore the role of the police in American society. Attention is given to the origins of policing, the nature of police organizations and police work, and patterns of relations between the police and the public. The values of a democratic society as they affect the law enforcement role are discussed.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice; or admission to the UNO graduate program and permission of instructor.

**CRCJ 8050 SEMINAR IN CORRECTIONS (3 credits)**

This course is designed to give an analytical perspective to the history, development, implementation and future of critical issues in the field of corrections. Primary focus will be directed toward an exploration of the various theoretical approaches to corrections and the research intended to support or refute these perspectives.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8060 SEMINAR IN THE CRIMINAL COURT SYSTEM (3 credits)**

This course is designed to provide a social science perspective on the role of the courts in the criminal justice system. The ideals of the system will be compared with actual functioning, and court reform programs and proposals will be critically examined.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8070 SEMINAR IN CRIMINAL LAW AND PROCEDURE (3 credits)**

This course is designed to examine substantive criminal law as the basis of social control in our country. Contemporary issues such as the insanity defense, decriminalization of so-called victimless crimes, sexual assault and abortion, and current proposals to assist victims of crimes will be among the topics explored. In addition, current criminal procedure problems relating to right to counsel, search and seizure and interrogation will be examined.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8080 SEMINAR IN JUVENILE JUSTICE (3 credits)**

An inquiry in the social ramifications of the entire juvenile delinquency process including labeling, detention, incarceration and tolerance. Pre- and post-adjudicatory issues are dealt with as well as a realistic perspective given to delinquency prevention strategies.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 8090 SEMINAR IN THEORETICAL CRIMINOLOGY (3 credits)**

A study of the etiology of crime as a social phenomenon and an objective analysis of the historical influences and thought which molded its development into an accepted contemporary science.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice; or admission to UNO graduate program and instructor permission.

**CRCJ 8100 CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT (3 credits)**

This course will deal with issues in the organization and administration of modern justice agencies. The students will be exposed to theories, concepts, and issues relating to the administration and organization of justice agencies.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8110 VICTIMOLOGY (3 credits)**

The Victimology seminar provides an overview of key research areas on prevalence, predictors, and consequences of various forms of victimization. By the end of the course, students will develop a critical understanding and appreciation of the development and current state of theories of victimology, measurement of different types of victimization, and quantitative and qualitative results that have been used to inform research in the field. Furthermore, students will learn how to critically analyze and interpret primary research regarding victimization.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 8130 SEMINAR IN WOMEN AND CRIMINAL JUSTICE (3 credits)**

This course focuses on the experiences of women in the criminal justice system. It will cover the history of criminological theory on women, application of mainstream criminological theory to women, and women as offenders, victims, and professionals in the criminal justice system.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8136 SOCIOLOGY OF DEVIANT BEHAVIOR (3 credits)**

This course is designed to investigate the etiology of many forms of norm-violating conduct. Emphasis will be placed on rule-breaking behavior as defined in the criminal statutes. (Cross-listed with CRCJ 4130).

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8180 CRIMINAL JUSTICE INTERNSHIP (3 credits)**

This course is designed to provide supervised individualized learning experiences in a selected criminal justice agency. The principal objective of the internship is to provide students with the opportunity to apply theoretical and methodological principles acquired in graduate courses to the analysis of problems in local criminal justice agencies.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice, successful completion of 15 hours of graduate work, and permission of instructor. Not open to non-degree graduate students.

**CRCJ 8190 INDEPENDENT STUDY (1-3 credits)**

Individual projects in research, literature review or creative production which may or may not be an extension of course work. The work will be supervised and evaluated by departmental graduate faculty members.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program at UNO, and permission of instructor.

**CRCJ 8210 PROGRAM EVALUATION AND POLICY ANALYSIS (3 credits)**

This course is a survey of program evaluation and policy analysis techniques. The focus is on theoretical foundations of the Criminal Justice policy process, program development and implementation, research designs specific to program evaluation and policy research, and methodological techniques commonly used to evaluate criminal justice programs and policies

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program in Criminology and Criminal Justice; or admission to graduate program at UNO and CRCJ 8030; or instructor permission.

**CRCJ 8230 TERRORISM (3 credits)**

A course devoted to an exploration and analysis of contemporary special problems in the broad spectrum of law enforcement and corrections.

**CRCJ 8356 COMMUNITY-BASED CORRECTIONS (3 credits)**

This course is intended for advanced students with a special interest in the correctional process as applied in a community setting. It is designed to focus on innovative community-based strategies for dealing with the offender as well as the traditional processes of probation and parole.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8516 VIOLENCE (3 credits)**

This course is a survey of the nature and extent of violence. The focus is on patterns of violence across social groups, the causes and correlates of violence and violent behavior, and programs/policies geared toward violence prevention and reduction. Also of interest is the relationship between theory and violence research.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major; CRCJ minor; or CRCJ 1010 and jr/sr standing.

**CRCJ 8800 SPECIAL PROBLEMS IN CRIMINAL JUSTICE (3 credits)**

A course devoted to an exploration and analysis of contemporary special problems in the broad spectrum of criminal justice philosophy. This course looks at philosophical issues related to social control. The purpose of this course is to foster a deeper understanding of the reasons, justifications, and problems related to societal approaches to the control of its citizens.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or UNO graduate student and permission of instructor.

**CRCJ 8850 RISK/NEEDS ASSESSMENT INSTRUMENTS (3 credits)**

This course is designed to provide students with advanced knowledge and understanding in the area of risk/needs assessment tools used in the juvenile and adult justice system.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice; or, instructor permission.

**CRCJ 8950 STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN (3 credits)**

This is a required course which provides a foundation for the use of statistical methods in criminal justice and public affairs research. It will review fundamentals of research, showing the interplay between the theory, the research, the statistical method, and the interpretation.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate college.

**CRCJ 8970 CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE (3 credits)**

The Capstone Project offers each student the opportunity to demonstrate mastery of the theory and practice of Criminology and Criminal Justice by applying the knowledge and skills gained in the Master of Science program to a project of the student's choice. This involves completing a project report reflecting the cumulative knowledge gained from these experiences. This class is intended only for students who are completing their Master of Science degree in Criminology and Criminal Justice.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice MS program, and completion of a minimum of 24 credit hours; or permission of Masters Program Coordinator. Not open to non-degree graduate students.

**CRCJ 8990 MASTERS THESIS (1-6 credits)**

The thesis is required for all students in the MA program. It provides students with an opportunity to integrate theories, concepts, and aspects of the criminology and criminal justice literature with methods and techniques for conducting research, through the completion of an original research project. The thesis project should constitute original research and is conducted under the supervision of a Masters Thesis Committee.

**Prerequisite(s)/Corequisite(s):** Admission to the MA program in Criminology and Criminal Justice; and, CRCJ 8010, CRCJ 8020, CRCJ 8030, CRCJ 8950 and 6 other 8000+ CRCJ courses. Not open to non-degree graduate students.

**CRCJ 9010 SEMINAR ON LAW & SOCIAL CONTROL (3 credits)**

This is a required course which will examine the relationships between the state, the law, and the citizen in a democratic society. It will also examine the relationship between social control, law and social change.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or UNO graduate student and permission of instructor.

**CRCJ 9020 SEMINAR ON THEORIES OF CRIME (3 credits)**

This is a required course which emphasizes conceptual and theoretical issues in contemporary criminological theory. It also provides students with a working knowledge of theory construction.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice MA or PhD graduate programs; or admission to UNO graduate program and instructor permission.

**CRCJ 9030 SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE (3 credits)**

This is a required course which introduces students to current empirical research and theory on racial minorities and the criminal justice system. It focuses on racial minorities as victims of crime, as offenders, and as criminal justice professionals.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 9040 COMPARATIVE CRIMINOLOGY AND CRIMINAL JUSTICE SYSTEMS (3 credits)**

This course provides a cross-national examination of the dynamics of criminality and the social response to crime. It also describes the extent and nature of crime in different countries.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and instructor permission.

**CRCJ 9050 ACADEMIC WRITING (3 credits)**

This course is designed to familiarize students with academic and professional writing with the goal of promoting the development of formal writing and organizational skills. Students will learn how to construct and organize scholarly papers to better prepare them for the comprehensive examination, the doctoral dissertation, the development of scholarly journal articles and monographs, and the development of funded project proposals.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and permission of instructor.

**CRCJ 9080 ADVANCED STATISTICAL APPLICATIONS (3 credits)**

This is a required course which will provide the student with fundamentals of modern statistical techniques used in criminal justice and public affairs research. (Cross-listed with PA 9080.)

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and CRCJ 8950 or PA 8950 and instructor permission.

**CRCJ 9090 SPECIAL PROBLEMS IN RESEARCH METHODS (3 credits)**

This course will explore specialized topics in research methodology. The course assumes that participants have a firm understanding of the basic principles of research methods and statistics.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9100 SPECIAL PROBLEMS IN STATISTICAL ANALYSIS (3 credits)**

This course will explore advanced techniques of statistical analysis within the field of criminal justice. It assumes that participants have taken courses in basic descriptive and inferential statistics and advanced multivariate analysis of variance and regression.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice and CRCJ 9080; or admission to UNO graduate program, CRCJ 9080, and permission of the instructor.

**CRCJ 9130 ADVANCED RESEARCH ON POLICING (3 credits)**

This course will explore critical research issues in American policing. The focus of the course may vary and cover topics such as police discretion, police use of force, labor unions in law enforcement, gender differences in policing, and police organization management.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and permission of the instructor.

**CRCJ 9150 SPECIAL TOPICS IN CRIMINAL JUSTICE RESEARCH (3 credits)**

This course will focus on specialized topics in criminology & criminal justice research. The purpose of the course is to provide students with an opportunity to read and critique current research on topics such as the history of the criminal justice system, civilian review of the police, sentencing, or the application of the death penalty.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9160 SEMINAR IN COMMUNITY-BASED CORRECTIONS (3 credits)**

This course will deal with strategies of correctional reform and with models and practices of community-based corrections. Recent innovations in community-based corrections will be examined to demonstrate how they fit into an overall correctional strategy.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 9170 SEMINAR ON INSTITUTIONAL CORRECTIONS (3 credits)**

This course will examine the role of correctional institutions in the criminal justice system. The student will be exposed to the historical, current, and projected role of these institutions.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 9180 SEMINAR ON THE CRIMINAL COURT SYSTEM (3 credits)**

This course will focus on the structure, organization, and operation of the state and federal court systems in the United States. The purpose of the course is to survey recent research on the dynamics of courthouse justice—charging, plea bargaining, bail decision making, jury decision making, and sentencing.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 9200 SEMINAR ON VIOLENT CRIME AND CRIMINAL BEHAVIOR (3 credits)**

This course exposes students to the leading theories and research in the area of violent criminal behavior. It addresses major violent crimes including rape, homicide, and child sexual physical abuse.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 9220 ADVANCED CRIMINOLOGICAL THEORY AND THEORY CONSTRUCTION (3 credits)**

This course is designed to extend students' knowledge of theory and theory construction beyond the basics of the elements and propositions of particular criminological theories. Students will have an opportunity to examine in depth topics such as theory construction, theory integration, theory compatibility and synthesis, and new directions in criminological theory.

**Prerequisite(s)/Corequisite(s):** CRCJ 8090 or CRCJ 9020 and admission to graduate program in Criminology and Criminal Justice; or permission of instructor.

**CRCJ 9250 SEMINAR ON VICTIMIZATION ACROSS THE LIFE-COURSE (3 credits)**

The Seminar on Victimization across the Life-course provides graduate students a survey of the primary topics regarding the predictors and consequences of victimization at various points in life. This an elective course for graduate students in Criminology and Criminal Justice. By the end of the course, students will understand major theories, research methods, and seminal research studies in the victimology field. Furthermore, students will learn how to critically analyze and interpret primary research regarding victimization.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program. Not open to non-degree graduate students.

**CRCJ 9700 TEACHING CRIMINAL JUSTICE AT THE COLLEGE/ UNIVERSITY LEVEL (3 credits)**

This seminar is a required course for doctoral students in criminal justice. The purpose of the course is to provide students with the knowledge and skills that will enable them to become informed, effective, and stimulating teachers. A variety of pedagogical issues will be covered during the course of the semester; theories of learning and student motivation; constructing a course syllabus; designing effective writing assignments and in-class exercises; leading class discussions; testing and grading; and managing the classroom.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice PhD graduate program; or admission to Criminology and Criminal Justice MA or MS graduate program and instructor permission. Not open to nondegree students.

**CRCJ 9800 ADVANCED RESEARCH DESIGN (3 credits)**

This is a required course which will expose students to advanced topics in research methods in preparation for writing their doctoral dissertation. It will also apply advanced methodological techniques to problems in the field.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9980 DIRECTED READINGS IN CRIMINOLOGY & CRIMINAL JUSTICE (1-6 credits)**

This course is designed to provide the advanced graduate student with the opportunity to do extended readings on a specialized criminology or criminal justice topic.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice or UNO graduate program, and permission of instructor.

**CRCJ 9990 DISSERTATION (1-20 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge on crime and criminal justice.

**Prerequisite(s)/Corequisite(s):** Completion of all coursework, completion of the comprehensive examination, and permission of Supervisory Committee Chair. Not open to non-degree graduate students.

## Criminology and Criminal Justice, MA

School of Criminology & Criminal Justice, College of Public Affairs & Community Service

### Vision Statement

The Master of Arts (MA) degree is a 30-hour non-terminal degree designed to emphasize research activity and independent inquiry. This degree is recommended for those students seeking an interim degree prior to pursuing a doctoral degree. To complete the MA degree, students must write and orally defend a thesis. The thesis is an independent research project and an academic exercise that is written to the standards of the faculty members on the thesis committee. A thesis requires a committee of three faculty members and typically takes two semesters to complete.

### Program Contact Information

Justin Nix, PhD, MA Program Coordinator  
218 College of Public Affairs & Community Service (CPACS)  
402.554.6157  
jnix@unomaha.edu (lsample@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/master-of-arts.php>)

### Other Program Related Information

#### Fast Track

The School of Criminology and Criminal Justice has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing a BS in Criminology and Criminal Justice desiring to pursue either an MA or MS in Criminology and Criminal Justice.
- Students must have completed no less than 90 undergraduate credit hours
- Students must have a minimum undergraduate GPA of 3.5
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their academic advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program but successful completion of the graduate courses will be a significant consideration in admission to the MA or MS in Criminology and Criminal Justice program.
  - The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework. For those interested being considered for a graduate research assistantship, an April 1 deadline for fall admission is recommended.

### Other Requirements

- **Entrance Exam:** Graduate Record Exam (GRE), a score of 300 or higher is typically required for admission to the MA program, or to be considered for a research assistantship
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country

on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: not accepted, Internet-based TOEFL: 95 with a minimum of 21 in each of the four areas, IELTS: 7.5 (8.0+ preferred), Duolingo: 115
- All ESL students are required to take a proficiency assessment examination at UNO upon admission, which will be used to determine whether further assistance is required.
- **Statement of Purpose:** One page discussing reasons for pursuing a graduate degree, research interests, and career goals for the future
- **Letters of Recommendation:** Two letters of recommendation are required, preferably from faculty or instructors familiar with your academic ability
- **Unconditional Admission:**
  - Possession of a bachelor's degree from a regionally accredited institution
  - Student has a 3.00 GPA (average of "B") overall in undergraduate work
  - At least 12 credit hours of criminal justice courses or related courses that meet the requirements of the current school undergraduate curriculum, including a basic statistics course, a research methods course, an introductory criminal justice course, and a criminology course.
- **Provisional Admission:**
  - Student has not completed all of the undergraduate prerequisite course requirements for unconditional admission to graduate study
  - Student has no less than a 2.75 overall GPA for the last two years of undergraduate work and not less than a 2.75 GPA in the undergraduate major

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
CRCJ 8010	NATURE OF CRIME	3
CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
CRCJ 8030	CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY	3
CRCJ 8950	STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN	3
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	3
or CRCJ 9030	SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE	
<b>Optional Course</b>		
Students can also take a diversity class from any field at the 8000 level or higher with adviser approval.		
<b>Electives</b>		
Select nine hours of CRCJ courses at the 8000 level or higher, with adviser approval: <sup>1</sup>		9
CRCJ 8990	MASTERS THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> If CRCJ 8130 or CRCJ 9030 is taken, they will serve as a diversity class, so another class should be selected to fulfill the 9 credit hours of CRCJ electives.

## Exit Requirement

- Thesis 6 hours CRCJ 8990

All candidates should carefully review the Graduate College requirements for forming a Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

# Criminology and Criminal Justice, MS

**School of Criminology & Criminal Justice, College of Public Affairs & Community Service**

## Vision Statement

The Master of Science degree in criminology and criminal justice is a 36 hour program (11 classes and a capstone course) designed to meet the needs of professionals who are dedicated to a career in criminal justice. This educational opportunity is offered in a *flexible online format*, or alternatively through on-campus evening classes. Full-time students can complete the degree in 18 months; part-time students may choose to pursue the degree at a slower pace.

## Program Contact Information

Mark Foxall, PhD, CJM, Master of Science Program Coordinator  
College of Public Affairs & Community Service (CPACS) - 218  
402.554.2610  
markfoxall@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/>)

## Other Program Related Information

### Fast Track

The School of Criminology and Criminal Justice has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BS in Criminology and Criminal Justice desiring to pursue either an MA or MS in Criminology and Criminal Justice.
- Students must have completed no less than 90 undergraduate credit hours
- Students must have a minimum undergraduate GPA of 3.5
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their academic advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program but successful completion of the graduate

courses will be a significant consideration in admission to the MA or MS in Criminology and Criminal Justice program.

- The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Minimum required scores are as follows: Paper-based TOEFL: 588, Internet-based TOEFL: 95 with a minimum of 21 in all four areas, IELTS: 7.5 (8.0+ preferred), PTE: 76, Duolingo: 115
  - All English as a second language students are required to take a proficiency assessment examination at UNO upon admission, which will be used to determine if further assistance is required
- **Statement of Purpose:** One page discussing reasons for pursuing a graduate degree, interests in the field, and career goals for the future
- **Letters of Recommendation:** Two letters are required
- **Unconditional Admission:**
  - Possession of a bachelor's degree from a regionally accredited institution
  - Applicant has at least a 3.0 GPA (average of "B") overall in the last two years of undergraduate work
  - At least 12 credit hours of criminal justice courses or related courses that meet the requirements of the current school undergraduate curriculum, including a basic statistics course, a research methods course, an introductory criminal justice course, and a criminology course.
- **Provisional Admission:**
  - Applicant must have a bachelor's degree from a regionally accredited institution (if the institution is non-accredited, 12 credit hours of graduate course work at UNO must be successfully completed before the student is eligible for unconditional admission)
  - Applicant has not completed all of the undergraduate prerequisite course requirements for unconditional admission to graduate study
  - Applicant has no less than a 2.75 overall GPA in the last two years of undergraduate work and not less than a 2.75 GPA in the undergraduate major.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
CRCJ 8010	NATURE OF CRIME	3
CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
CRCJ 8030	CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY	3

CRCJ 8950	STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN	3
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	3

#### Optional Course

Students can also take a diversity class from any field at the 8000 level with advisor approval.

#### Elective Courses

Select nine hours of CRCJ courses at the 8000 level <sup>1</sup> 9

**Open Electives or Specialization** 9

See Open Electives and Specializations below.

#### Capstone Course

CRCJ 8970	CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE	3
-----------	--	---

**Total Credits** 36

## Open Electives

### Open Elective Courses

In consultation with advisors, students will select three courses in the School of Criminology and Criminal Justice or any related field. Any course from any field at the 8000 level can count toward open elective hours.

NOTE: Students are encouraged to take their open elective courses in the form of a graduate minor or concentrated in a single field. Graduate minor programs generally all require 9 credit hours to complete and will be noted on students final transcripts.

Code	Title	Credits
COUN/SPED 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
COUN 8030	COUNSELING PRACTICES	3
COUN 8040	ETHICAL ISSUES FOR PROFESSIONAL COUNSELORS	3
COUN 8050	INTRODUCTION TO PROFESSIONAL SCHOOL COUNSELING	1
COUN 8100	RESEARCH PROJECT IN COUNSELING	1-3
COUN 8110	HUMAN DEVELOPMENT AND PSYCHO-SOCIAL INTERVENTION STRATEGIES	3
COUN 8200	COUNSELING THEORIES	3
COUN 8210	ORGANIZATION & ADMINISTRATION OF SCHOOL COUNSELING PROGRAMS	3
COUN 8220	COUNSELING PRACTICUM	3
COUN 8226	CAREER DEVELOPMENT AND LIFESTYLE	3
COUN 8230	APPRAISAL TECHNIQUES IN COUNSELING	3
COUN 8270	GROUP TECHNIQUES	1
COUN 8280	CRISIS INTERVENTION STRATEGIES AND TECHNIQUES	3
COUN 8306	COUNSELING TECHNIQUES I	1
COUN 8316	COUNSELING TECHNIQUES II	1
COUN 8406	COUNSELING TECHNIQUES III	1
COUN 8500	CONSULTATION IN PROFESSIONAL COUNSELING	2
COUN/SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	3
COUN 8520	COUNSELING MULTICULTURAL AND DIVERSE POPULATIONS	3
COUN 8610	INTRODUCTION TO MARITAL AND FAMILY THERAPY	3
COUN 8620	SURVEY OF ISSUES IN SCHOOL COUNSELING	2

COUN 8650	ISSUES IN ELEMENTARY AND MIDDLE SCHOOL COUNSELING	3	PA 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3
COUN/SPED 8656	TRANSITION PLANNING	3	PA 8710	FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS	3
COUN/SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	3	PA 8740	HEALTH CARE POLICY	3
COUN/SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	3	PA 8810	SEMINAR IN METROPOLITAN PLANNING	3
COUN 8750	SCHOOL COUNSELING GROUPS & ENRICHMENT PROGRAMS	2	PA/BIOL/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
COUN/GERO 8756	MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING	3	PA 8906	SPECIAL TOPICS IN PUBLIC ADMINISTRATION	1-3
COUN/GERO 8986	COUNSELING SKILLS IN GERONTOLOGY	3	PA 8920	READINGS IN PUBLIC ADMINISTRATION	1-3
COUN 8010	INTRODUCTION TO COUNSELING	3	SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	3
PA 8010	THE PUBLIC ECONOMY	3	SOWK 8046/GERO 8696	WORKING WITH MINORITY ELDERLY	3
PA/AVN 8020	AVIATION MANAGEMENT AND POLICY	3	SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3	SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3	SOWK 8090	SOCIAL WELFARE POLICY	3
PA 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3	SOWK 8110	INSTITUTIONAL OPPRESSION	3
PA 8106	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS	3	SOWK 8130	GENERALIST PRACTICE I	3
PA/AVN 8120	ANALYSIS AND DECISION MAKING	3	SOWK 8150	GENERALIST PRACTICE II	3
PA 8130	MANAGING DIGITAL GOVERNANCE	3	SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I	3
PA 8206	COMMUNITY ORGANIZING & SOCIAL CHANGE	3	SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3	SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
PA 8320	PUBLIC POLICY EVALUATION	3	SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
PA 8330	SEMINAR IN POLICY ANALYSIS	3	SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
PA 8400	PUBLIC AND NONPROFIT BUDGETING	3	SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	3
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3	SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	3
PA 8420	PUBLIC WORKS MANAGEMENT	3	SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	3
PA 8436	MUNICIPAL ADMINISTRATION	3	SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	3
PA 8440	ORGANIZATION DEVELOP. & PLANNED CHANGE IN THE PUBLIC SECTOR	3	SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	3
PA 8450	SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES	3	SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	3	SOWK 8510	SOCIAL WORK LEADERSHIP	3
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3	SOWK/COUN 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	3
PA 8500	ISSUES IN PUBLIC-PRIVATE SECTOR COOPERATION	3	SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
PA/GERO 8516	LONG-TERM CARE ADMINISTRATION	3	SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	3
PA 8520	SEMINAR IN GRANT WRITING	3	SOWK 8560	ADVANCED COMMUNITY PRACTICE	3
PA 8530	PLANNING AND EVALUATION	3	SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES	3
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	3	SOWK 8600	PERMANENCE FOR CHILDREN	3
PA 8566	INTERGOVERNMENTAL MANAGEMENT	3	SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	3
PA 8580	NONPROFIT HUMAN RESOURCES MANAGEMENT	3	SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
PA 8596	TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT	1-3	SOWK/COUN 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	3
PA 8600	ADMINISTRATIVE LAW	3	SOWK/COUN 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	3
PA 8616	MUNICIPAL LAW	3			

SOWK 8806	SOCIAL WORK AND THE LAW	3
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	3
SOWK/GERO 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	3
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	3
SOWK 8900	SPECIAL STUDIES IN SOCIAL WELFARE	1-3
SOWK 8940	EVALUATION OF SOCIAL PROGRAMS	3
SOWK 8950	RESEARCH METHODS IN CLINICAL PRACTICE	3
SOWK 8960	RESEARCH OTHER THAN THESIS	3
UBNS 8000/ GEOG 8830	SEMINAR IN URBAN STUDIES	3
UBNS/BLST 8020	RACE, ETHNICITY, AND AMERICAN CULTURE	3
UBNS 8060	INTRODUCTION TO URBAN PLANNING	3
UBNS 8200	COMMUNITY ORGANIZING AND DEVELOPMENT	3
UBNS 8820	COMPARATIVE URBAN STUDIES	3

## Criminology and Criminal Justice Specializations

Students may either choose to pursue one of the two following specializations or select a minor. A minor generally requires nine hours and the permission of the minor department/school. If all 9 or 12 credit hours cannot be timely attained in the specialization, students are free to take additional CRCJ elective classes.

### Public Administration

Code	Title	Credits
<b>Required Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
or PA 8440	ORGANIZATION DEVELOP. & PLANNED CHANGE IN THE PUBLIC SECTOR	
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3
or PA 8400	PUBLIC AND NONPROFIT BUDGETING	
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3
or PA 8420	PUBLIC WORKS MANAGEMENT	
<b>Total Credits</b>		<b>9</b>

**NOTE:** Students should check the Public Administration website for schedule of courses.

### Counseling

Code	Title	Credits
<b>Required Courses</b>		
COUN 8030	COUNSELING PRACTICES	3
COUN 8110	HUMAN DEVELOPMENT AND PSYCHO-SOCIAL INTERVENTION STRATEGIES	3
<b>Electives</b>		
Select one of the following:		3
COUN/SPED 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
COUN 8200	COUNSELING THEORIES	
COUN 8226	CAREER DEVELOPMENT AND LIFESTYLE	
COUN 8270	GROUP TECHNIQUES	
<b>Total Credits</b>		<b>9</b>

## Exit Requirements

Code	Title	Credits
CRCJ 8970	CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE	3

Capstone course is offered in the fall and spring semesters. Once all required coursework has been completed, the student can register to take the capstone course. In this course, students will make arrangements with the instructor to conduct a research project. The course will end with a research report detailing results and written in a way consistent with agency and/or criminal justice organizational standards.

## Criminology and Criminal Justice, PhD

**School of Criminology & Criminal Justice, College of Public Affairs & Community Service**

### Vision Statement

The vision of the School of Criminology and Criminal Justice is to be a program that is recognized nationally for its quality *and* impact on research and instruction. In terms of doctoral education, the aim is to foster a learning environment in which graduate students may gain the necessary knowledge, skills, and competencies to prepare them for careers in academia or in the public or private sectors. The curriculum emphasizes written and verbal communication skills, methodological competency, a strong statistical foundation, and hands-on research experience. Doctoral students will actively engage in research under the supervision of faculty, the Director of the School's Nebraska Center for Justice Research, and/or the Director of the Juvenile Justice Institute.

### Program Contact Information

Todd Armstrong, PhD, Doctoral Graduate Program Chair (GPC)  
218 College of Public Affairs and Community Service Building (CPACS)  
402.554.2326  
toddarmstrong@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/doctor-of-philosophy.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

**Application Deadline (Spring 2022, Summer 2022, and Fall 2022)**

- Application deadline for admission with graduate assistantship funding consideration: January 14
- Application deadline for admission with no graduate assistantship funding: June 1

### Other Requirements

The School of Criminology and Criminal Justice uses a holistic approach when evaluating application materials including the extent to which the applicant's interests align with faculty research areas and an interest in attracting a diverse student body with varying lived experiences. Admissions decisions are competitive with a limited number of qualified students admitted each fall semester. Applicants are typically notified of decision by mid-spring.

- Official transcripts documenting completion of a master's degree. Degree may be in process at time of application.
  - A Master of Arts or Master of Science degree in criminology or criminal justice from an accredited institution is required for unconditional admission into the program.
  - Applicants holding a master's degree in a related social science field (e.g., psychology, sociology, political science, public administration, etc.), but lacking substantive coursework in criminology and criminal justice may be granted provisional admission. Unconditional admission status will be granted upon successful completion of 18 hours of criminology and criminal justice core curriculum coursework.
- **English Language Proficiency:** Applicants must have a command of oral and written English. Applicants who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Internet-based TOEFL: 95 with a minimum score of 21 in each of the four areas (the paper TOEFL will NOT be accepted), IELTS: 7.5 (8.0+ is preferred), PTE: 76, Duolingo: 115
    - **NOTE:** All English as second language students will be required to complete a proficiency assessment examination upon admission. This assessment will be used to determine if further assistance is required.
- **Entrance Exam:** Graduate Record Examination (GRE) scores are required.
  - A GRE score above 300 (combined verbal and quantitative portions) and writing score at or above 4.0 and above is preferred. Students not meeting this threshold but demonstrate their exceptional academic potential through other aspects of their application materials may also be considered.
- **Statement of Purpose/Statement of Research Interests:** (max. 5 pages)
  - A statement of purpose should describe the applicant's prior education experience, research interests, any relevant professional experience, and long term career goals. Applicants may note their interests in working with specific faculty members with whom their research interests align.
- **Writing Sample:** This may be a chapter from a master's thesis, a published article, or a term paper or manuscript written in a scholarly style.
- **Resume**
- **Letters of Recommendation:** Three letters are required with at least two of the three letters must be submitted by professors who can attest to the applicant's academic strengths through experiences such as having the applicant as a student in their class and/or working under their direct supervision on research projects.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>21</b>
CRCJ 9020	SEMINAR ON THEORIES OF CRIME	
CRCJ/PA 9080	ADVANCED STATISTICAL APPLICATIONS (Statistics 2)	
CRCJ 9090	SPECIAL PROBLEMS IN RESEARCH METHODS (either quantitative or qualitative) <sup>1</sup>	
CRCJ 9100	SPECIAL PROBLEMS IN STATISTICAL ANALYSIS (Statistics 3)	
CRCJ 9050	ACADEMIC WRITING	

CRCJ 9700	TEACHING CRIMINAL JUSTICE AT THE COLLEGE/UNIVERSITY LEVEL	
CRCJ 9800	ADVANCED RESEARCH DESIGN	
<b>Select one of the following required three-hour diversity courses:</b>		<b>3</b>
CRCJ 9030	SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	
Or a master's-level or higher course from another department as approved by the supervisory committee chair and the doctoral program chair		
<b>Electives</b>		<b>18</b>
All doctoral students will select six (6) courses from the electives list for a total of 18 hours.		
CRCJ 8040	SEMINAR IN POLICE AND SOCIETY	
CRCJ 8050	SEMINAR IN CORRECTIONS	
CRCJ 8060	SEMINAR IN THE CRIMINAL COURT SYSTEM	
CRCJ 8070	SEMINAR IN CRIMINAL LAW AND PROCEDURE	
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE	
CRCJ 8100	CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT	
CRCJ 8110	VICTIMOLOGY	
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	
CRCJ 8190	INDEPENDENT STUDY	
CRCJ 8210	PROGRAM EVALUATION AND POLICY ANALYSIS	
CRCJ 8230	TERRORISM	
CRCJ 8850	RISK/NEEDS ASSESSMENT INSTRUMENTS	
CRCJ 8800	SPECIAL PROBLEMS IN CRIMINAL JUSTICE	
CRCJ 9010	SEMINAR ON LAW & SOCIAL CONTROL	
CRCJ 9030	SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE	
CRCJ 9090	SPECIAL PROBLEMS IN RESEARCH METHODS	
CRCJ 9130	ADVANCED RESEARCH ON POLICING	
CRCJ 9150	SPECIAL TOPICS IN CRIMINAL JUSTICE RESEARCH	
CRCJ 9160	SEMINAR IN COMMUNITY-BASED CORRECTIONS	
CRCJ 9170	SEMINAR ON INSTITUTIONAL CORRECTIONS	
CRCJ 9180	SEMINAR ON THE CRIMINAL COURT SYSTEM	
CRCJ 9200	SEMINAR ON VIOLENT CRIME AND CRIMINAL BEHAVIOR	
CRCJ 9220	ADVANCED CRIMINOLOGICAL THEORY AND THEORY CONSTRUCTION	
CRCJ 9250	SEMINAR ON VICTIMIZATION ACROSS THE LIFE-COURSE	
CRCJ 9980	DIRECTED READINGS IN CRIMINOLOGY & CRIMINAL JUSTICE (3 hours)	
CRCJ 9990	DISSERTATION (see details below)	20
<b>Total Credits</b>		<b>62</b>

- <sup>1</sup> This course may be substituted with a course from another department. Permission for course substitution must be granted by a student's supervisory committee and doctoral program chair.

**Both 8000- and 9000-level elective courses are available to doctoral students.**

There is a series of 9000-level courses that are required for doctoral students.

**A maximum of six (6) hours of dual-level courses (4—/8—6 course number) can be included in the program of study.**

A maximum of three (3) hours of directed readings (CRCJ 9980) may be included in the program of study; these three (3) hours must be used in preparation for the comprehensive examination. All coursework, excluding coursework in the form of directed readings related to the comprehensive examination, must be completed within two and half (2.5) years from the time a student's program of study is approved by the Dean for Graduate Studies. Three (3) hours for directed readings are to be used for the comprehensive examination in the fall semester of the student's third year in the program. All students will be required to complete all courses listed as required courses. Students also must take elective courses in criminal justice or related fields.

**Students are expected to complete 36 hours of coursework within two years.** Except in extraordinary circumstances. Some of these hours may be taken during summer semesters.

## Comprehensive Examination and Admission to Candidacy

After completion of 36 hours of coursework, doctoral students will be required to pass a comprehensive examination. The examination has two parts—criminological theory and criminal justice systems. Students are expected to take both comprehensive examinations during the fall and spring semesters of their third year in the program. It is expected that a doctoral student will complete 42 hours of coursework by the end of the fall semester of their third year.

## Dissertation

Students may register for dissertation credits after successful completion of one comprehensive examination. The dissertation must reflect original scholarship and contribute to the body of knowledge on criminology and criminal justice. The dissertation topic must be approved by the student's dissertation committee, which consists of a chair and three other members. One committee member must be a faculty member from outside the School of Criminology and Criminal Justice. The dissertation topic, prospectus, and the dissertation all require the approval of the dissertation committee. A doctoral student will be required to take at least one hour of CRCJ 9990 each fall and spring semester while working toward the completion of the dissertation. A minimum of 20 credit hours of CRCJ 9990 is required for all doctoral students.

## Total Credit Hours

A minimum of **92 graduate hours** beyond the baccalaureate degree. This includes up to 30 hours earned in a master's degree. Satisfactory completion of a teaching practicum is also required.

# Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ)

Grace Abbott School of Social Work, School of Criminology & Criminal Justice, College of Public Affairs & Community Service

## Vision Statement

The MSW/MSCRJ dual degree program is a collaborative effort between the University of Nebraska at Omaha, Grace Abbott School of Social Work and the School of Criminology and Criminal Justice. The MSW/MSCRJ offers interdisciplinary preparation in the fields of social work and criminal justice leading to the master of social work and the master of criminal justice degrees, with fewer required credit hours than it would take to obtain these degrees independently.

This dual degree program prepares students to provide a range of advanced social work services and assume leadership in the field of criminal justice and social work. Graduates with a dual MSW/MSCRJ are prepared to respond to the needs of the community by working with delinquent and criminal populations and the systems that impact these populations.

Students beginning the MSW/MSCRJ program at the MSW Foundation level must complete 81 credit hours total. Students beginning the MSW/MSCRJ program at the Advanced Standing level, must complete 57 credit hours total.

## Program Contact Information

### Social Work Contact

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
cwarden@unomaha.edu

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
jharder@unomaha.edu

### Criminology and Criminal Justice Contact

Mark Foxall, PhD, CJM, MS Coordinator  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
markfoxall@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/ms-msw.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Fall 2022)

- Fall: January 15

## Other Requirements

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Statement of Purpose:** The statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both

content and writing skills. In your statement of purpose, please address each of the items listed below, in no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.

- If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
- What type of work are you planning to engage with once you attain your MSW degree? Specifically, what are the issues, populations, and levels of practice you hope to work with after graduate school?
- The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction to a social situation. Reflecting on that experience, how might it influence your future social work practice?
- Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.
- Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.
- Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.
- Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
    - Identify whether the position is part or full-time
    - Identify whether the position is paid or volunteer
    - Field placements, internships or practicums
    - Honors or distinctions received
    - Professional experiences, especially in human services
- Letters of Recommendation:** Three letters of recommendation are required, the recommendation requests are generated from your online application. These recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past two years, it is suggested that at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.
- The MS application for criminology and criminal justice is completed online adhering to the same admission criteria for the MSW degree. The personal statement and letters of recommendation for admission to the

MSW degree will be used by the School of Criminology and Criminal Justice to admit students.

The MSW/CRCJ **Foundation Program** is a 81 credit hour program available to applicants who do **not** hold a BSSW degree from an accredited school of social work within the last 10 years.

The MSW/CRCJ **Advanced Standing Program** is a 57 credit hour program available to applicants who have earned a BSSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170).

Code	Title	Credits
<b>Required Core Courses</b>		
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8510	SOCIAL WORK LEADERSHIP	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II <sup>1</sup>	3

### Advanced Research Course

Select one of the following:	3
SOWK 8940	EVALUATION OF SOCIAL PROGRAMS
SOWK 8960	RESEARCH OTHER THAN THESIS
CRCJ 8210	PROGRAM EVALUATION AND POLICY ANALYSIS

### Social Work Electives

Select two Social Work Electives (see below)	6
SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY
SOWK 8046	WORKING WITH MINORITY ELDERLY
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES

SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	
SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	
SOWK 8420	ADVANCED SOCIAL WORK PRACTICUM III	
SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	
SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES	
SOWK 8600	PERMANENCE FOR CHILDREN	
SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	
SOWK 8626	TRAUMA AND RESILIENCE	
SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 8806	SOCIAL WORK AND THE LAW	
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 8836	CRISIS INTERVENTION	
SOWK 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	
SOWK 8900	SPECIAL STUDIES IN SOCIAL WELFARE	
<b>Required Criminology and Criminal Justice Courses</b>		
CRCJ 8010	NATURE OF CRIME	3
CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
CRCJ 8970	CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE	3
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	3
Select one course from the following		3
CRCJ 8040	SEMINAR IN POLICE AND SOCIETY <sup>2</sup>	
CRCJ 8050	SEMINAR IN CORRECTIONS <sup>2</sup>	
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE <sup>2</sup>	
<b>Criminology and Criminal Justice Electives</b>		
Select two Criminology and Criminal Justice Electives (see below).		6
CRCJ 8060	SEMINAR IN THE CRIMINAL COURT SYSTEM	
CRCJ 8030	CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY	
CRCJ 8070	SEMINAR IN CRIMINAL LAW AND PROCEDURE	
CRCJ 8100	CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT	
CRCJ 8136	SOCIOLOGY OF DEVIANT BEHAVIOR	
CRCJ 8180	CRIMINAL JUSTICE INTERNSHIP	
CRCJ 8230	TERRORISM	
CRCJ 8356	COMMUNITY-BASED CORRECTIONS	
CRCJ 8516	VIOLENCE	

CRCJ 8800	SPECIAL PROBLEMS IN CRIMINAL JUSTICE
CRCJ 8950	STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN

**Total Credits** **57**

- <sup>1</sup> A student must receive a grade of "B" or higher in practicum courses (SOWK 8400 and SOWK 8410).
- <sup>2</sup> Courses not selected from among the three listed may be used as an elective.

## Exit Requirements

- CRCJ 8970 Capstone course is offered in the fall and spring semesters. Once all required coursework has been completed, the student can register to take the capstone course. In this course, students will make arrangements with the instructor to conduct a research project. The course will end with a research report detailing results and written in a way consistent with agency and/or criminal justice organizational standards.
- Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

- The MSW Student Handbook can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/student-resources/>).

# Managing Juvenile and Adult Populations Certificate

**School of Criminology & Criminal Justice, Grace Abbott School of Social Work, College of Public Affairs & Community Service**

## Vision Statement

A unique program specifically designed for professionals working with juveniles and adults who are in contact with the criminal justice system as victims, offenders, or family members.

## Program Contact Information

Robert Houston, Senior Community Service Associate  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
[rhouston@unomaha.edu](mailto:rhouston@unomaha.edu)

Mark Foxall, PhD, CJM, Master of Science Program Coordinator  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
[markfoxall@unomaha.edu](mailto:markfoxall@unomaha.edu)

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
[cwarden@unomaha.edu](mailto:cwarden@unomaha.edu)

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
[jharder@unomaha.edu](mailto:jharder@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/graduate-certificate.php>)

### Other Program Related Information:

Note: This certificate can be obtained entirely online. All courses for the certificate will be offered online in a two-year rotation. Elective courses in criminology and criminal justice are also offered in the spring, summer and fall semesters.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- GPA of 2.75 or higher
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 588, Internet-based TOEFL: 95 with a minimum of 21 in each of the four areas, IELTS: 7.5 (8.0 preferred), PTE: 76, Duolingo: 115
  - All ESL students are required to take a proficiency assessment examination at UNO upon admission, which will be used to determine if further assistance is required.
- Statement of Purpose:** The statement should include how the certificate will help you achieve your professional goals.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK <sup>1</sup>	3
SOWK/COUN 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	3
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE	3
CRCJ 8850	RISK/NEEDS ASSESSMENT INSTRUMENTS	3
Select three additional graduate credit hours in consultation with your advisor.		3
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> Choose one of the following topics:

- Trauma & Resilience
- Crisis Intervention
- Advanced Clinical Skills

## Critical and Creative Thinking, MA

College of Arts and Sciences

### Vision Statement

The Master of Arts in Critical and Creative Thinking (MA CCT) embodies the College of Arts and Sciences' ongoing commitment to personal enrichment as well as to the practical application of analytical skills and knowledge in a diverse array of both for-profit and nonprofit professional environments. This interdisciplinary degree provides a unique opportunity to pursue both breadth and depth within the rich and diverse landscape of the liberal arts and sciences. Students pursuing this degree will enhance their career potential by developing advanced skills and abilities necessary for critical thinking, creativity, and leadership.

### Program Contact Information

Joseph (Joe) Price, PhD, Administrative Coordinator  
Arts & Sciences Hall (ASH)  
402.554.2545  
[jprice@unomaha.edu](mailto:jprice@unomaha.edu) ([katieberger@unomaha.edu](mailto:katieberger@unomaha.edu))

Katie Berger, Advisor/Program Coordinator  
Arts & Sciences Hall (ASH)  
402.554.6638  
[katieberger@unomaha.edu](mailto:katieberger@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/master-of-arts-in-critical-and-creative-thinking/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 15
- Spring: November 1
- Summer: March 1

### Other Requirements

- All applicants must have the equivalent of a four-year undergraduate degree from a regionally accredited four-year institution of higher learning or the equivalent international institution with a minimum GPA of at least 3.0 in undergraduate courses related to major.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 7.5, PTE: 76, Duolingo: 120

## Degree Requirements

Code	Title	Credits
<b>Required Course</b>		
CACT 8000	INTRODUCTION TO CRITICAL AND CREATIVE THINKING <sup>1</sup>	3

### Concentrations

Select one area of concentration. 12

### Elective Courses

Select 12 hours of elective courses; of those 9 hours maybe outside the CACT program. 12

### Exit Requirement

CACT 8090	CRITICAL AND CREATIVE THINKING GRADUATE PROJECT <sup>2</sup>	3
-----------	--	---

**Total Credits** 30

<sup>1</sup> This course must be completed within your first nine (9) hours of study.

<sup>2</sup> This course can be completed in your second or last semester of study.

At least 15 hours of the MA CACT program must be done at the seminar level (courses ending in zero). Students can apply up to nine (9) hours of coursework outside of the MA CACT to their program of study with the permission of the administrative coordinator. Other course substitutions may be made with the permission of the administrative coordinator.

## Concentrations

### Cultural and Global Analysis

Code	Title	Credits
<b>Required Courses</b>		
CACT 8106/ PSYC 8536	CULTURAL PSYCHOLOGY	3
CACT 8100	GLOBAL CINEMA	3
CACT 8116/ GEOG 8556	GEOGRAPHY OF ECONOMIC GLOBALIZATION	3
CACT/BLST 8110	GLOBAL-LOCAL: OPPORTUNITIES, BARRIERS, ENGAGEMENT	3
CACT 8420	MEXICO AND THE U.S. BORDERLANDS: TWO HISTORIES, ONE DESTINY	3
<b>Total Credits</b>		<b>12</b>

### Ethics and Values

Code	Title	Credits
<b>Required Courses</b>		
CACT/RELI 8206	COMPARATIVE RELIGIOUS ETHICS	3
CACT 8200/ PSCI 8300	SEMINAR IN POLITICAL THEORY	3
CACT 8215	VALUES AND VIRTUES	3
CACT/RELI 8226	VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION	3
CACT 8650	WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY	3
<b>Total Credits</b>		<b>12</b>

### Health and the Environment

Code	Title	Credits
<b>Required Courses</b>		
CACT 8306/ PSCI 8296	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	3
CACT/ENVN 8316	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	3
CACT/ENGL 8310	ECOLOGICAL WRITING AND ANALYSIS	3
CACT 8326	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	3
<b>Total Credits</b>		<b>12</b>

## International Migration, Development and Citizenship

Code	Title	Credits
<b>Required Courses</b>		
CACT 8416/ SPAN 8156	LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000	3
CACT 8400	A HISTORY OF AMERICAN IMMIGRATION POLICIES AND LAWS	3
CACT/ENGL 8410	IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE	3
CACT 8430	INTERNATIONAL MIGRATION, DEVELOPMENT AND CITIZENSHIP	3
CACT 8420	MEXICO AND THE U.S. BORDERLANDS: TWO HISTORIES, ONE DESTINY	3
<b>Total Credits</b>		<b>12</b>

## Organizational Science and Leadership

Code	Title	Credits
<b>Required Courses</b>		
CACT/SOC 8500	COMPLEX ORGANIZATIONS	3
CACT 8506/ PSYC 8656	CREATIVITY AND INNOVATION IN ORGANIZATIONS	3
CACT 8510/ PSCI 8120	SEMINAR IN LEADERSHIP	3
CACT 8520/ PSYC 9421	POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP	3
CACT 8530	PERSONNEL PSYCHOLOGY AND LEADERSHIP	3
<b>Total Credits</b>		<b>12</b>

## Writing and Critical Reflection

Code	Title	Credits
<b>Required Courses</b>		
CACT/ENGL 8310	ECOLOGICAL WRITING AND ANALYSIS	3
CACT/ENGL 8610	PROFESSIONAL AND TECHNICAL WRITING	3
CACT/ENGL 8630	DIGITAL RHETORIC	3
CACT/ENGL 8640	CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS	3
CACT/ENGL 8650	WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY	3
<b>Total Credits</b>		<b>12</b>

### CACT 8000 INTRODUCTION TO CRITICAL AND CREATIVE THINKING (3 credits)

This course is the foundational introductory course for the Master of Arts in Critical and Creative Thinking program (MA CCT). It focuses on the development of students' skills as critical thinkers and creative problem solvers as well as the cultivation of students' capacity to recognize and leverage tools, resources, and ideas towards finding innovative solutions to everyday problems.

**Prerequisite(s)/Corequisite(s):** Graduate status and acceptance into MA CACT program or permission of instructor.CACT8000

**CACT 8060 TOPICS IN CRITICAL AND CREATIVE THINKING (3 credits)**

This is a course on selected topics offered on a one-time or occasional basis. The course may be repeated as long as the topic is different each time. May be cross listed with other departments when topics are appropriate to other departments. A complete topics syllabus will be available on file in the Office of the Master of Arts in Critical and Creative Thinking program.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8080 INDEPENDENT STUDY (1-3 credits)**

This course is designed for those students who are independently pursuing an area of study that is not covered under the existing curriculum. The student will be supervised by a member of the faculty of the MA in Critical and Creative Thinking program. All course assignments, readings, requirements, and expectations will be clearly communicated to the student in advance. May be repeated for credit for a total of six credit hours.

**Prerequisite(s)/Corequisite(s):** Admission into the MA CCT program, successful completion of 6 hours of CACT coursework, including CACT 8000, and permission of faculty member. Not open to non-degree graduate students.

**CACT 8090 CRITICAL AND CREATIVE THINKING GRADUATE PROJECT (3 credits)**

The Graduate Project is an applied student project under the direction of a faculty advisor. In the project, the student will apply interdisciplinary knowledge and skills gained within the program to address a problem or to expand knowledge within or across disciplines. The product or artifact produced by the student may take a variety of forms.

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and Graduate Program Committee Leadership (or its designee). Not open to non-degree graduate students.

**CACT 8100 GLOBAL CINEMA (3 credits)**

A critical and analytic study of foreign films focusing on overlapping global issues. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking.

**CACT 8106 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4530, PSYC 8536).

**Prerequisite(s)/Corequisite(s):** Enrollment in MA in Critical & Creative Thinking program or by permission of the instructor.

**CACT 8110 GLOBAL-LOCAL: OPPORTUNITIES, BARRIERS, ENGAGEMENT (3 credits)**

This course focuses on global cultural and social forces and how they interact to form nexuses of both opportunity and obstacle to constructive human engagement on a wide array of social issues. An overview of topics covered in the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. This course will provide students with the analytical tools, collaborative engagement skills, and applied problem-solving techniques that will help students succeed in this concentration and program. (Cross-listed with BLST 8110)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8116 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 4550, GEOG 8556)

**Prerequisite(s)/Corequisite(s):** Graduate status.

**CACT 8200 SEMINAR IN POLITICAL THEORY (3 credits)**

This course introduces students to the history of political theory, from its origins in ancient Greece to its manifestations in contemporary thought. (Cross-listed with PSCI 8300)

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**CACT 8206 COMPARATIVE RELIGIOUS ETHICS (3 credits)**

An introduction to historical and contemporary approaches to comparative religious ethics, with special focus on specific case studies as encountered in societies and religious communities across the globe. In addition to reading authors from a variety of perspectives (Aristotelians, natural law theorists, philosophers of law, pragmatists, theologians, and historians of religion), students will be introduced to special topics in the field, e.g., religion and public life, religion and law, syncretism, the secular/non-secular divide, etc. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4200, RELI 8206)

**CACT 8215 VALUES AND VIRTUES (3 credits)**

This course explores advanced topics in ethics with particular emphasis on value theory and virtue ethics. Topics to be considered include the meaning and status of value claims, sources of value, intrinsic goods, agent-relative goods, practical reason, moral development, happiness, moral ambiguity, moral luck, the identification of virtues, and relationships of care, trust, and responsibility. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PHIL 3060)

**CACT 8226 VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION (3 credits)**

This course is designed to familiarize the student with the nature of violent conflict, including terrorism, and a variety of the mechanisms for peacebuilding. The course will also explore human rights and the ethics of intervention. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4220, RELI 8226)

**CACT 8306 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 4290, PSCI 8296)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**CACT 8310 ECOLOGICAL WRITING AND ANALYSIS (3 credits)**

This course provides students with the opportunity to develop expertise in a wide range of foundational works and key techniques of ecological writing and theory in English. By engaging mindfully with these works and techniques, students will develop advanced skills in ecologically oriented critical analysis and creative thinking. This course supports the Writing and Critical Reflection and the Health and the Environment concentrations in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8310)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8316 OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY (3 credits)**

In this course, students will analyze our energy options including the environmental, economic, and ethical connections with a particular emphasis on electrical energy. The course doesn't prescribe a particular energy future but rather emphasizes development of the knowledge and skills to more effectively contribute to the conversation. To understand our future, the course begins with the present energy landscape and its historical underpinnings, then focuses on developing a student's ability to critically assess energy options by examining the associated implications, consequences, intent, origins, and bias. Students' own work, life, and academic experience are used in the course to underscore the individual relevance of these energy choices. The course includes the necessary science, but the greater emphasis is on the associated critical and creative thinking so that ultimately students can make informed, creative, sustainable energy choices. (Cross-listed with ENVN 4310, ENVN 8316)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8326 ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH (3 credits)**

The course will explore and develop the complex context of the systemic links among ecosystems and human health (and more broadly human well-being) using case studies including climate change, water quality, infectious diseases and agricultural production. Students will develop skills in critical thinking and applied research by studying biological connections between humans and ecosystems and how social, economic and cultural processes and practices mediate these connections. This course supports the Health and the Environment concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENVN 4320)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8400 A HISTORY OF AMERICAN IMMIGRATION POLICIES AND LAWS (3 credits)**

This seminar will examine the evolution of American immigration policies and laws from the colonial period to the present day. Where appropriate, the course will examine American immigration laws in a comparative context. It will pay particular attention to how state policies create and/or sustain inclusionary or exclusionary practices for members of different racial, ethnic, religious, or gender groups in American society.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8410 IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE (3 credits)**

This seminar in literature and some film analyzes the depictions in non-fiction and fiction of displacement as a result of immigration, migration, refugee status, or any other considered movement, intentional or imposed. It will focus largely on the U.S. experiences of those displaced from all locales. (Cross-listed with ENGL 8410)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8416 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 4150, SPAN 8156)

**CACT 8420 MEXICO AND THE U.S. BORDERLANDS: TWO HISTORIES, ONE DESTINY (3 credits)**

Exploration of U.S.-Mexico Borderlands history and its pathways to current developments. It reviews borderland encounters, miscegenation, and wars between Indigenous groups, Europeans, North Americans, and Mexicans. It looks at the history of the drafting of the imaginary U.S.-Mexico borderline and follows its development until the construction of a wall to separate an undividable socio-cultural space. The course integrates a comparative conceptual approach to empires, nation-building, territorial expansion, identity formation, code-mixed English-Spanish uses, and state sovereignty.

**CACT 8430 INTERNATIONAL MIGRATION, DEVELOPMENT AND CITIZENSHIP (3 credits)**

The course allows students to gain an understanding of the forces driving contemporary world migration, the policies and practices of development expelling or attracting migrants from and to different parts of the world, and migrants' relative success in their quest for belonging and citizenship in their host communities. This course supports the International Migration, Development and Citizenship concentration in the Master of Arts in Critical and Creative Thinking.

**CACT 8500 COMPLEX ORGANIZATIONS (3 credits)**

This graduate seminar provides an overview focused on the understanding and analysis of intricate internal and external organizational forces such as organizational bureaucracy, organizational culture, autonomy and control systems, which affect performance of organizational members as well as influence organizational survival. (Cross-listed with SOC 8500)

**Prerequisite(s)/Corequisite(s):** Graduate enrollment or permission of class instructor.

**CACT 8506 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4650, PSYC 8656)

**CACT 8510 SEMINAR IN LEADERSHIP (3 credits)**

This course introduces students to classical and contemporary scholarship on leadership theory, research, and application. Students gain a foundation in models of leadership, assess their own leadership styles, and learn to integrate what they learn in corporate, governmental, non-profit, or community organizations. (Cross-listed with PSCI 8120)

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**CACT 8520 POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course is a graduate seminar on organizational psychology and leadership that focuses on the understanding and critical analysis of theory and practice pertaining to individual functioning at work. Positive organizational psychology theories and practices will provide the overarching framework in understanding potential solutions to challenges and problems facing leaders and their employees. (Cross-listed with PSYC 9421).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**CACT 8530 PERSONNEL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course provides an overview of personnel psychology from a leadership perspective. Topics include methodology, employee selection, performance appraisal, organizational attitudes and behavior, motivation, and leadership style.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**CACT 8610 PROFESSIONAL AND TECHNICAL WRITING (3 credits)**

This course will introduce students to the theory, research, and practices of professional and technical writing. Through readings, discussions, and assignments, students will gain an understanding of the types and circumstances of communication challenges encountered in the workplace. The course will also consider the roles of persuasion and ethics in written communication. (Cross-listed with ENGL 8610)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8630 DIGITAL RHETORIC (3 credits)**

This course provides students with the opportunity to develop expertise in the theory and practice of digital rhetoric by considering technology's deep impact on how we define and engage in writing. Students examine contemporary writing practices as part of a rich rhetorical tradition while they design and create effective multimodal compositions and analyze foundational works in digital rhetoric. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8630)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8640 CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS (3 credits)**

Students in this course will study creative nonfiction in digital environments, analyze rhetorical situations created in digital environments, and create individual creative nonfiction blogs-which might include, in addition to other modalities, sounds, animations, and hypertext. The course will also focus on the study and analysis of craft-elements of creative nonfiction: narrative persona, tone, rhythm and style, scenic construction, among others. Students taking this course will learn to read with interpretative and analytical proficiency a broad range of creative nonfiction in digital environments. (Cross-listed with ENGL 8640).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CACT 8650 WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY (3 credits)**

This course provides students a theoretical foundation for understanding how language is used in various types of discourses and texts as a means of convincing others of a given viewpoint or idea. Students will apply this theory to real-world writing scenarios in their scholarly areas of interest, to advocacy and social issues movements, or to address workplace needs and goals. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8650)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

## Cybersecurity

### Degree Programs Offered

- Cybersecurity, MS (p. 1108)

### Certificates Offered

- Cybersecurity Certificate (p. 1110)

**CYBR 8000 CENTER OF ACADEMIC EXCELLENCE-CYBER OPERATIONS COMPLETION CERTIFICATE (0 credits)**

This course is utilized to provide a specific designation for students that have completed the Center of Academic Excellence - Cyber Operations coursework. It is a zero credit hour class used to designate the completion of this focus area in the cybersecurity curriculum.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. The program committee will work with the UG advisors to ascertain that the student has fulfilled all requirements for this designation-if he/she has or will within the last semester, they will be allowed to register for this class.

**CYBR 8080 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-6 credits)**

The course provides a format for exploring advanced research areas for graduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research.

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CSCI 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CYBR 8386 COMPUTER AND NETWORK FORENSICS (3 credits)**

Computer forensics involves the preservation, identification, extraction and documentation of computer evidence stored on a computer. This course takes a technical, legal, and practical approach to the study and practice of incident response, computer forensics, and network forensics. Topics include legal and ethical implications, duplication and data recovery, steganography, network forensics, and tools and techniques for investigating computer intrusions. This course is intended as a second course in information assurance for undergraduate students as well as other qualified students. It is also intended as a foundation course for graduate digital forensics studies.

**Prerequisite(s)/Corequisite(s):** CYBR 1100, CIST 3600, CSCI 3500 or ISQA 3400, CYBR 3350 or CYBR 3370; or instructor permission.

**CYBR 8396 MOBILE DEVICE FORENSICS (3 credits)**

Mobile device forensics is the science of recovering digital evidence from a mobile device under forensically sound conditions using accepted methods. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a mobile device forensics investigation. Topics include: an introduction to digital and mobile device forensics, mobile forensics standards, acquisition methods (manual, logical, physical and provider-side), Android and iOS filesystem analysis, decoding approaches, application data analysis, and report writing. Students will be required to perform several investigations in a controlled lab environment, including acquiring forensically sound evidence and analyzing these using industry standard tools. (Cross-listed with CYBR 4390).

**CYBR 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CSCI 8410)

**Prerequisite(s)/Corequisite(s):** IASC 8366 or equivalent(s); or instructor permission. Not open to non-degree graduate students.

**CYBR 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CSCI 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CYBR 8436 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 4430, CSCI 4430).

**CYBR 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CSCI 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366.

**CYBR 8446 INDUSTRIAL CONTROL SYSTEM SECURITY (3 credits)**

The objective of this course is to research vulnerabilities into, and provide guidance for securing, industrial control systems (ICS). ICS is a general term that encompasses several types of control systems, including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system items such as Programmable Logic Controllers (PLC). The student will learn to identify network and device vulnerabilities and potential countermeasures to these weaknesses. (Cross-listed with CYBR 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 3550.

**CYBR 8450 APPLIED CRYPTOGRAPHY (3 credits)**

In this course we will implement stream and block ciphers in different modes, public key algorithms, hash functions, message authentication codes, random number generators, etc. Along the way we will also explore weaknesses of these algorithms and implement well-known attacks on them. We will also solve crypto challenges and puzzles. This is a hand-on course and will require programming proficiency. The preferred language will be Python; you can, however, use other object oriented languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8410 or CYBR 8410

**CYBR 8456 HOST-BASED VULNERABILITY DISCOVERY (3 credits)**

The class will cover security issues at an implementation and hardware level. The students will learn assembly language and the use of a reverse assembler and debugger. This will allow the student to analyze various "packing" algorithms for computer viruses, the viruses themselves, operating system "hooking", "fuzzing", and other machine code, host-based exploits. The class will be using both Windows and Linux as operating systems. (Cross-listed with CYBR 4450.)

**Prerequisite(s)/Corequisite(s):** CSCI 3710 and CYBR 2250.

**CYBR 8466 NETWORK-BASED VULNERABILITY DISCOVERY (3 credits)**

The course is an advanced class in which the students learn various techniques for testing for and identifying security flaws in network software and web applications. Internet technologies such as HTTP, DNS, DHCP, and others are examined in the context of cyber security. Students are expected to participate in numerous hands-on experiments related to Information Assurance with respect to web technologies. (Cross-listed with CYBR 4460)

**Prerequisite(s)/Corequisite(s):** CSCI 3550

**CYBR 8470 SECURE WEB APPLICATION DEVELOPMENT (3 credits)**

Web applications are pervasive fixtures of 21st century culture. Web application security is an inclusive, amorphous, term that spans application level security, i.e. ensuring high level code cannot be exploited, server level security, i.e. ensuring server resources such as databases and file systems cannot be exploited, and network security, i.e. ensuring unauthorized parties cannot access a server or tamper with user sessions. This course cross-cuts the web application security concepts across the different categories above and takes a heavily hands-on approach to introduce students to the world of secure web app. design and development.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 8480 SECURE MOBILE DEVELOPMENT (3 credits)**

Mobile devices are already pervasive fixtures of 21st century culture and increasingly the internet of things (IoT) and wearables are proliferating throughout the world. As this proliferation occurs, numerous vendor-centric and third-party mobile, wearable, and internet of things apps are being created by developers and downloaded by end-users with little to no thought about the security and privacy of the information used and collected by the apps. This course examines this issue from a development point of view to a) introduce mobile/wearable/IoT architectures and technologies, b) increase student application development competencies with these technologies, and c) integrate secure design principles into the ideation, design, and testing phases during development.

**Prerequisite(s)/Corequisite(s):** CYBR 8470 or Instructor Permission

**CYBR 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST 4540, CYBR 4540, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CYBR 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with ISQA 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**CYBR 8900 INDEPENDENT STUDY IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for graduate students in Information Assurance and related fields. The class is designed for students that would like to explore specific Information Assurance topics at a greater depth, or topics that are not currently a part of the IA curriculum. The class is proposed and organized by the student, with participating faculty mentoring.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 8910 INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the MS in CyberSecurity (CYBR) program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Students must have completed a minimum of 12 credit hours towards the MS in CYBR program. Instructor permission is required to register. Not open to non-degree graduate students.

**CYBR 8950 GRADUATE CAPSTONE IN INFORMATION ASSURANCE (3 credits)**

This is the graduate capstone course where students extend and apply their knowledge in defining, implementing, and assessing secure information systems. Students will demonstrate their ability to specify, apply, and assess different types of countermeasures at different points in the enterprise with a special focus on system boundaries. Students will complete and defend a Certification and Accreditation package. This course is intended for graduate students in the MS in IA degree program, coursework option, that are close to graduation (see prerequisites). This course replaces the MS in IA comprehensive examination requirement.

**Prerequisite(s)/Corequisite(s):** CYBR 8366, CYBR 8410, and CYBR 8456 and concentration area (systems or management and policy). Students must have 6 credit hours or less left in the program.

**CYBR 8986 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research. (Cross-listed with CYBR 4980)

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 8990 THESIS IN INFORMATION ASSURANCE (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 9460 SECURITY OF EMBEDDED SYSTEMS (3 credits)**

An embedded system is some combination of computer hardware and software, either fixed in capability or programmable, which is specifically designed for a particular function. Industrial machines, automobile electronic systems, medical equipment, cameras, household appliances, airplanes, and vending machines, are among the myriad possible hosts of an embedded system. This course covers forward-looking topics in the security of embedded systems, including topics such as logic circuit obfuscation, hardware security methods, network setup exploits, and other "lower level" computer architecture subjects with respect to cybersecurity.

**Prerequisite(s)/Corequisite(s):** CYBR 8366 - Foundations of Information Assurance

# Cybersecurity, MS

**School of Interdisciplinary Informatics, College of Information, Science & Technology**

## Vision Statement

The School of Interdisciplinary Informatics (Si2) is the academic home of the Master of Science (MS) in cybersecurity (previously information assurance). Cybersecurity is a rapidly expanding, multi-faceted science that integrates a diverse set of disciplines to address fundamental problems in the design, development, implementation and support of secure information systems. The Master of Science is a full graduate degree program balancing theory with practice in order to provide students with the knowledge and skills necessary to protect information systems. Because of the wide variety of subject areas to which cybersecurity can be applied, this degree program has two paths; cyber operations, a concentration with highly technical content, and interdisciplinary, with the opportunity for the students to tailor the degree to specific management goals. Students may also choose between a thesis or capstone exit option based on their individual interests.

## Program Contact Information

Matt Hale, PhD, Graduate Program Chair (GPC)

174D Peter Kiewit Institute (PKI)  
402.554.3978  
mlhale@unomaha.edu

Carlee Heylmun  
176C Peter Kiewit Institute (PKI)  
402.554.3819  
carleebrown@unomaha.edu

**Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/school-of-interdisciplinary-informatics/cybersecurity/ms-cybr.php>)**

## Other Program Related Information

### Fast Track

The College of Information Science & Technology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 (nine) graduate credit hours toward the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree desiring to pursue an MS in either the same or a related CIST field.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of Computer Science, which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 in the graduate coursework is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS in selected CIST program. The application fee will be waived, and the applicant must contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, you may be recommended for admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- The minimum undergraduate grade point average (GPA) requirement for the MS in Cybersecurity program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **Entrance Exam:** International applicants without a baccalaureate or equivalent degree from the United States are required to submit GRE scores. There is no minimum GRE requirement, but for international applicants the score will be one factor used in evaluating the student's portfolio.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum acceptable scores are:
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** a two-page, double-spaced, word-processed essay that addresses the following two topics:
  - Discussion of two accomplishments that demonstrate your potential for success in the graduate program
  - Discussion of your unique personal qualities and life experiences that distinguish you from other applicants to this graduate program
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Letters of Recommendation:** At least one but no more than three letters of recommendation from references who can evaluate your work and/or academic achievements.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required
- Interview (optional): Although not required, the graduate program committee may ask to conduct a telephone interview to further assess the experiences of the applicant.

## Requirements

### Foundation Courses

Foundation courses ensure that all students in the degree have a solid groundwork upon which to build the rest of the program. These courses not only provide essential prerequisite knowledge and skills for other courses in the program, but they also contain a distinct body of knowledge that is an important part of the cybersecurity professional's education. All foundation courses are required for all students, however, students who have obtained an undergraduate degree in a related field may already have this foundation. In such a case, most, if not all, foundation courses are waived. Students with undergraduate degrees in other disciplines, including computer science, management information systems, or engineering, will usually require one or more foundation courses. Occasionally, a student's work experience may be sufficient to waive one or more of the foundation courses.

Waivers for foundation courses are potentially granted by the graduate program committee upon the recommendation of the faculty member who is responsible for an individual course. Students requesting a waiver for a particular course should be prepared to meet with a faculty member and answer questions in the area of the course. They should bring to the meeting any relevant transcripts, course syllabi, course material, or evidence of practical experience. Some foundation courses may have an option for testing out.

Foundation courses cannot be used to satisfy the 33 semester hours required for the MS in Cybersecurity (CYBR) degree. Students who have not completed all the foundation course requirements may be admitted on a provisional status until those requirements have been completed. All foundation courses must be completed prior to or concurrent with the first six (6) hours of MS in CYBR graduate coursework.

### Foundation Requirements

(Nine hours if not waived)

Code	Title	Credits
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
or CYBR 2250	LOW-LEVEL PROGRAMMING	
CYBR 2600	SYSTEM ADMINISTRATION	3
CSCI 3550	COMMUNICATION NETWORKS	3
or ISQA 3400	INFORMATION TECHNOLOGY INFRASTRUCTURE	
<b>Total Credits</b>		<b>9</b>

## Degree Requirements

### Capstone Option

Code	Title	Credits
<b>Core Courses</b>		
CYBR 8366	FOUNDATIONS OF CYBERSECURITY	3
or CSCI 8366	FOUNDATIONS OF CYBERSECURITY	
CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	3
or CSCI 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CYBR 8420	SOFTWARE ASSURANCE	3
or CSCI 8420	SOFTWARE ASSURANCE	
CYBR 8490	CYBER INVESTIGATIONS	3
<b>Concentration</b>		
Select a concentration		18
CYBR 8950	GRADUATE CAPSTONE IN INFORMATION ASSURANCE	3
<b>Total Credits</b>		<b>33</b>

## Thesis Option

Code	Title	Credits
<b>Core Courses</b>		
CYBR 8366 or CSCI 8366	FOUNDATIONS OF CYBERSECURITY	3
CYBR 8410 or CSCI 8410	CRYPTOGRAPHY AND NETWORK SECURITY	3
CYBR 8420 or CSCI 8420	SOFTWARE ASSURANCE	3
CYBR 8490	CYBER INVESTIGATIONS	3
<b>Concentration</b>		
Select a concentration		15
CYBR 8990	THESIS IN CYBERSECURITY	6
<b>Total Credits</b>		<b>33</b>

## Exit Requirements:

- Capstone 3 Credits CYBR 8950
- Thesis 6 Credits CYBR 8990
  - All candidates should carefully review the Graduate College requirements for forming a supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

## Cyber Operations Concentration

Code	Title	Credits
<b>Electives</b>		
CYBR 8000	CENTER OF ACADEMIC EXCELLENCE- CYBER OPERATIONS COMPLETION CERTIFICATE	
Select 18 hours from the following:		18
CYBR 8396	MOBILE DEVICE FORENSICS	
CYBR 8436	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CYBR 8440	SECURE SYSTEMS ENGINEERING	
CYBR 8446	INDUSTRIAL CONTROL SYSTEM SECURITY	
CYBR 8450	APPLIED CRYPTOGRAPHY	
CYBR 8456	HOST-BASED VULNERABILITY DISCOVERY	
CYBR 8460	SECURITY OF EMBEDDED SYSTEMS	
CYBR 8466	NETWORK-BASED VULNERABILITY DISCOVERY	
CYBR 8470	SECURE WEB APPLICATION DEVELOPMENT	
CYBR 8480	SECURE MOBILE DEVELOPMENT	
CYBR 8546	COMPUTER SECURITY MANAGEMENT	
CYBR 8080	SPECIAL TOPICS IN INFORMATION ASSURANCE	
CYBR 8900	INDEPENDENT STUDY AND RESEARCH IN CYBERSECURITY	
CYBR 8910	INTERNSHIP	
CYBR 8986	SPECIAL TOPICS IN INFORMATION ASSURANCE	
<b>Total Credits</b>		<b>18</b>

## Interdisciplinary Concentration

Code	Title	Credits
<b>Electives</b>		
Select 18 hours from the following:		18
ISQA 8060	RESEARCH IN MIS	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS	
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8546	COMPUTER SECURITY MANAGEMENT	
ISQA 8560	INFORMATION WARFARE AND SECURITY	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8596	IT AUDIT AND CONTROL	
CSCI 8340	DATABASE MANAGEMENT SYSTEMS II	
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	
CSCI 8530	ADVANCED OPERATING SYSTEMS	
CSCI/MATH 8566	NUMBER THEORY & CRYPTOGRAPHY	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CYBR 8080	SPECIAL TOPICS IN INFORMATION ASSURANCE	
CYBR 8900	INDEPENDENT STUDY AND RESEARCH IN CYBERSECURITY	
CYBR 8910	INTERNSHIP	
CYBR 8986	SPECIAL TOPICS IN INFORMATION ASSURANCE	
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY	
PSCI 8266	INTERNATIONAL LAW	
<b>Total Credits</b>		<b>18</b>

## Quality of Work Standards

The Graduate College's Quality of Work Standards shall be applied to foundation courses as well as courses taken as part of the degree program. In particular, the GPC will recommend to the Graduate College that any

1. Student receiving a grade of "C-" or below on any foundation course will be dismissed from the program or, in the case of unclassified or non-degree students, be automatically denied admission.
2. Student receiving a grade of "C+" or "C" in any foundation course will be placed on probation or dismissed from the program.
3. Student not maintaining a "B" (3.0 on a 4.0 scale) average in foundation courses will be placed on probation or dismissed from the program.

## Cybersecurity Certificate

**School of Interdisciplinary Informatics, College of Information, Science & Technology**

### Vision Statement

Cybersecurity is the practice of managing information related risks by ensuring confidentiality, integrity, authentication, availability, and non-repudiation of data. In addition to the national interest in cybersecurity, local businesses are increasingly reliant on secure computer infrastructures for their daily operations. A graduate-level certificate is a logical step to

enhance the skill set of local and at-a-distance cybersecurity professionals. Additionally, the certificate program can serve as a feeder into the MS in cybersecurity degree should the students in the certificate choose to continue their graduate education.

## Program Contact Information

Matt Hale, PhD, Graduate Program Chair (GPC)  
174D Peter Kiewit Institute (PKI)  
402.554.3978  
mlhale@unomaha.edu

Carlee Heylman, Advisor  
176C Peter Kiewit Institute (PKI)  
402.554.3819  
carleebrown@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/school-of-interdisciplinary-informatics/cybersecurity/cybr-graduate-certificate.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements

- The minimum undergraduate grade point average requirement for the program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume indicating your work experience and background
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. the applicant will be notified by the individual program if an external course-by-course evaluation is required.

- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
CYBR 8366	FOUNDATIONS OF CYBERSECURITY	3
Select one of the following:		3
CYBR 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CYBR 8420	SOFTWARE ASSURANCE	
CYBR 8490	CYBER INVESTIGATIONS	
<b>Electives</b>		<b>6</b>
CYBR 8396	MOBILE DEVICE FORENSICS	
CYBR 8436	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CYBR/ISQA 8570	INFORMATION SECURITY POLICY AND ETHICS	
CYBR 8440	SECURE SYSTEMS ENGINEERING	
CYBR 8446	INDUSTRIAL CONTROL SYSTEM SECURITY	
CYBR 8450	APPLIED CRYPTOGRAPHY	
CYBR 8456	HOST-BASED VULNERABILITY DISCOVERY	
CYBR 8460	SECURITY OF EMBEDDED SYSTEMS	
CYBR 8466	NETWORK-BASED VULNERABILITY DISCOVERY	
CYBR 8470	SECURE WEB APPLICATION DEVELOPMENT	
CYBR 8480	SECURE MOBILE DEVELOPMENT	
CYBR 8546	COMPUTER SECURITY MANAGEMENT	
CYBR 8080	SPECIAL TOPICS IN INFORMATION ASSURANCE	
CYBR 8900	INDEPENDENT STUDY AND RESEARCH IN CYBERSECURITY	
CYBR 8910	INTERNSHIP	
CYBR 8986	SPECIAL TOPICS IN INFORMATION ASSURANCE	
CSCI 8340	DATABASE MANAGEMENT SYSTEMS II	
CSCI 8530	ADVANCED OPERATING SYSTEMS	
CSCI/MATH 8566	NUMBER THEORY & CRYPTOGRAPHY	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
ISQA 8060	RESEARCH IN MIS	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS	
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8546	COMPUTER SECURITY MANAGEMENT	
ISQA 8560	INFORMATION WARFARE AND SECURITY	
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	
ISQA 8596	IT AUDIT AND CONTROL	
<b>Total Credits</b>		<b>12</b>

Incoming certificate students that do not have a cybersecurity background may also require foundation courses as needed prerequisites, depending on which core courses are selected and depending on the background of the student.

# Data Science, MS

## College of Arts and Sciences, Business Administration, and Information Science & Technology

### Vision Statement

The vision of the Master of Science in data science program is to provide flexible, innovative, and technologically current education to rising data professionals who want to prepare for corporate leadership positions through their functional expertise. The interdisciplinary data science program brings together thought leaders in the fields of business, information technology, mathematics, and other units at UNO, including international university partners and local businesses.

This interdisciplinary graduate program is designed to be completed in 24 months. The curriculum includes course modules on topics that address the following major themes: data organization, manipulation, cleaning, and visualization; data analytics; working with massive amounts of data; dealing with missing and messy data; understanding the value of data and creating data products.

### Program Contact Information

Md Mahbubul Majumder, PhD, Graduate Program Chair (GPC)  
238 Durham Science Center (DSC)  
402.554.2734  
mmajumder@unomaha.edu

Program Website (<https://www.unomaha.edu/graduate-studies/prospective-students/ms-data-science.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, and Fall 2022)

- Spring: December 15
- Fall: July 1

### Other Requirements

- Minimum GPA of at least 3.0 in undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or advanced degree from a pre-determined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** An up-to-date resume with details about all relevant IT experience and skills.
- **Letters of Recommendation:** Three letters of recommendation are required
- **Interview:** A personal, telephone or Skype interview is encouraged, but is optional.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).

- UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Foundation Courses

Students must have completed basic courses in the following areas, either as an undergraduate student or prior to enrolling in the first data science course.

- Introduction to Programming: one semester of Java, Python, C++, or other approved programming course
- Statistics: one semester of undergraduate statistics

Foundation courses do not count towards the plan of study/degree requirements.

## Degree Requirements

Code	Title	Credits
<b>Core Courses</b>		<b>18</b>
STAT 8416	INTRODUCTION TO DATA SCIENCE	
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION	
ECON 8320	TOOLS FOR DATA ANALYSIS	
BSAD 8080	BUSINESS FORECASTING	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ITIN 8300	RESEARCH FOUNDATIONS	
or ISQA 8060	RESEARCH IN MIS	
<b>Concentration</b>		<b>12</b>
Select one of the five concentration areas.		
<b>Exit Requirement (Project or Thesis)</b>		<b>6</b>
Elective for Project Option (Select from the courses below or any other course from any concentration)		
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	
PSYC 9090	PSYCHOMETRIC THEORY	
PSYC 9100	SMALL N RESEARCH DESIGNS	
PSYC 9120	MULTIVARIATE STATISTICAL ANALYSIS	
PSYC 9910	TOPICAL SEMINAR IN PSYCHOLOGY (Structure Equation/Hierarchical Linear Modeling)	
PSYC 9920	CENTRAL TOPICS IN PSYCHOLOGY (Multilevel Modeling)	
<b>Total Credits</b>		<b>36</b>

## Exit Requirements

- Project Option: 3 Credits and 3 hours of additional electives is required for this option.
- Thesis 6 Credits
  - All candidates should carefully review the Graduate College requirements for forming a Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

## Business Concentration

Code	Title	Credits
<b>Select 12 hours from the following:</b>		<b>12</b>
ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	
BSAD 8376	SUPPLY CHAIN ANALYTICS	
BSAD 8396	MARKETING ANALYTICS	
BSAD 8426	BUSINESS DEMOGRAPHICS	
BSAD 8910	SPECIAL TOPICS IN BUSINESS	
ECON 8300	ECONOMETRICS	
ECON 8316	BUSINESS INTELLIGENCE AND REPORTING	
ECON 8330	DATA ANALYSIS FROM SCRATCH	
<b>Total Credits</b>		<b>12</b>

## Information Technology Concentration

Code	Title	Credits
<b>Select 12 hours from the following:</b>		<b>12</b>
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
or CSCI 8350	DATA WAREHOUSING AND DATA MINING	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
CSCI 8476	PATTERN RECOGNITION	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8600	FROM DATA TO DECISIONS	
ISQA 8750	STORYTELLING WITH DATA	
<b>Total Credits</b>		<b>12</b>

## Mathematics Concentration

Code	Title	Credits
<b>Select 12 hours from the following:</b>		<b>12</b>
STAT 8446	TIME SERIES ANALYSIS	
STAT 8436	LINEAR MODELS	
STAT 8456	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
STAT 8710	DESIGN AND ANALYSIS OF EXPERIMENTS	
MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	
MATH 8670	TOPICS IN PROBABILITY AND STATISTICS	
MATH 8440	NETWORK PROGRAMMING	
MATH 8460	INTEGER PROGRAMMING	
<b>Total Credits</b>		<b>12</b>

## Data Science for Health Sciences

Code	Title	Credits
BMI 8100	INTRODUCTION TO BIOMEDICAL INFORMATICS	3
<b>Select 9 hours from the following:</b>		<b>9</b>
BIOI 8850	SPECIAL TOPICS IN BIOINFORMATICS	
BMI 8020	ADVANCED COURSE IN BIOINFORMATICS	
BMI 8866	BIOINFORMATICS ALGORITHMS	
BMI 8896	GENETIC SEQUENCE ANALYSIS	
CSCI 8156	GRAPH THEORY & APPLICATIONS	
STAT 8456	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
<b>Total Credits</b>		<b>12</b>

## Interdisciplinary Concentration

Code	Title	Credits
<b>Select 12 hours from any of the other concentrations, courses must be approved by your advisor.</b>		<b>12</b>
<b>Total Credits</b>		<b>12</b>

### BIOI 8850 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 8850 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Course prerequisites of a specific offering of BIOI 8850 will be determined by the supervising faculty member and will be identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required.

### BMI 8000 ADVANCES IN BIOMEDICAL INFORMATICS (0 credits)

BMI 8000 provides a regular forum for BMI graduate students, where the latest developments in the field of Biomedical Informatics are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in BMI. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in BMI and PhD in BMI program may register. Not open to non-degree graduate students.

### BMI 8020 ADVANCED COURSE IN BIOINFORMATICS (3 credits)

This is a special topics course designed to explore the research interests of faculty and students. Therefore, topics may include, but are not limited to, such areas of study as next-generational sequencing, biological networks, proteomics, metabolomics, and biomedical informatics.

**Prerequisite(s)/Corequisite(s):** Admission to the MS/PhD Program in the College of Information Science and Technology, or permission of the instructor. Not open to non-degree graduate students.

### BMI 8080 SEMINAR IN BIOMEDICAL INFORMATICS (1-3 credits)

This is a variable-content course that engages students in current research in Biomedical Informatics and develops skills in the oral and written presentation of scientific research.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Additional prerequisite courses may be required for particular course offerings.

### BMI 8100 INTRODUCTION TO BIOMEDICAL INFORMATICS (3 credits)

This course offers students an overview of the field of biomedical informatics, combining perspectives from computing, biosciences and medicine. The historical development of the field and its influence on biological, clinical, and translational research will be discussed. Issues related to bioinformatics, clinical, bioimaging and public health/population informatics will be explored.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8300 PUBLIC HEALTH GENOMICS (3 credits)**

This course will address the biopsychosocial issues that bridge genomics and public health, which are generally considered two vastly different disciplines. The focus will center on understanding how genomics may be incorporated into health promotion and disease prevention efforts for individuals and population.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8400 LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI (3 credits)**

Matrix Analysis and Linear Algebra are at the core of several important algorithms and techniques that are widely used in machine learning for data analytics, imaging informatics, and bioinformatics. The course will explore fundamental concepts of matrix analysis and linear algebra as they apply to machine learning, emphasizing applications over proofs. Students will have an opportunity to perform "pencil and paper" calculations as well as more sophisticated numerical computations using a programming language/statistical environment of their choice. Applications of linear algebra to machine learning in the context of imaging informatics and biomedicine will be covered in depth.

**Prerequisite(s)/Corequisite(s):** Proficiency in programming and knowledge of calculus are required. Familiarity with concepts from biology is beneficial but not required.

**BMI 8540 FOUNDATIONS IN PROGRAMMING FOR BIOMEDICAL INFORMATICS (3 credits)**

Foundations in programming, software development, pipeline management, and version control are critical for developing a capable biomedical informatics workforce. This course will provide foundations in programming skills necessary for students with a limited computer science background to develop fluency and basic skills in the concepts of software development for biomedical informatics. Specific topics covered will include Unix/Linux shell programming, Python, databases, Applications Programming Interface (APIs), software versioning, and data management.

**Prerequisite(s)/Corequisite(s):** Experience with programming in a scripting, database management, or object-oriented programming language is strongly recommended but not required.

**BMI 8850 BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL (3 credits)**

This course will cover the basic principles of molecular and cellular biology, human anatomy, physiology, and pathology that are essential to an informed use of biomedical data. The biomedical topics will be interspersed and complemented with discussions about relevant data sources and datasets, emphasizing their strengths and weaknesses, and the lectures will be enriched with virtual anatomical dissections. Reading assignments from the primary literature and multimedia materials will supplement the textbook.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above

**BMI 8866 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BIOI 4860).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BMI 8896 GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the course will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor.

**BMI 8900 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

The content of the course will vary, however both the student and the faculty member must sign an Independent Research Agreement and file it with the Biomedical Informatics Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward the MS BMI program should be completed.

**BMI 8910 INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Biomedical Informatics graduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Students must have completed a minimum of 12 credit hours towards the MS in BMI program. Not open to non-degree graduate students.

**BMI 8970 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for graduate students in bioinformatics who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Permission of a supervising faculty member and approval of the Bioinformatics Program Committee Chair. A formal description of the problem area to be investigated, the resources to be used, and the results to be produced must be prepared.

**BMI 8990 THESIS IN BIOMEDICAL INFORMATICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Graduate major in BMI and approval of the Thesis Advisory Committee. Not open to non-degree graduate students.

**BMI 9900 ADVANCED RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course provides a format for exploring advanced research areas for doctoral students in Biomedical Informatics and related fields. Specific topics will vary in keeping with research interest of faculty and students.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Biomedical Informatics. Not open to non-degree graduate students.

**BMI 9980 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in Biomedical Informatics and permission of instructor. Not open to non-degree graduate students.

**BMI 9990 DISSERTATION (1-12 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee supervisory committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in health or bioinformatics and demonstrate technical mastery of the discipline.

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in Biomedical Informatics and candidacy for the Ph.D. degree. Prior to enrolling for dissertation hours, the students must have permission of the supervisory committee. Not open to non-degree graduate students.

**BSAD 8000 BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY (2 credits)**

This core MBA course will explore the relationship between law and ethics, will examine the generally-accepted theoretical principles associated with doing business ethically, and will examine practical ethical issues associated with various facets of business.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent) or admission to the MAcc program. Students with an undergraduate major or a graduate degree in Law may not include this course in a plan of study for the MBA degree. Not open to non-degree students

**BSAD 8010 LEGAL, SOCIAL AND ETHICAL ENVIRONMENT (3 credits)**

Focus upon law and ethics. Business law, legal processes, and regulation will be the subject matter focus. Business ethics will be a recurring focus of analysis. Analysis of the social environment will include public policy. Both subject matter and analysis will be integrated to build the student's critical thinking skills.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation requirements and BSAD 8060 (BSAD 8060 prior to or concurrent); or admission to the MAcc program. Not open to nondegree students.

**BSAD 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with ECON 8020)

**Prerequisite(s)/Corequisite(s):** Principles of Microeconomics (ECON 2200) and Principles of Macroeconomics (ECON 2220), or Analytical Foundations of Economics (BSAD 8180), or permission of the instructor. Not open to non-degree graduate students.

**BSAD 8026 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper. (Cross-listed with ECON8296.)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

**BSAD 8030 INFORMATION TECHNOLOGY IN BUSINESS (3 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent). Not open to nondegree students.

**BSAD 8040 BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION (2 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management information systems may not include this course in a plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8050 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, and the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of the statistical techniques of analysis to the business situation, within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180. Not open to nondegree students.

**BSAD 8060 PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP (2 credits)**

This course will prepare students with the skills to effectively enact the critical leadership skills of listening, employee feedback and coaching, goal-setting, empowerment/delegation, influencing, interviewing, conflict, negotiation, intercultural awareness, team/group discussions, and business etiquette.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program. Not open to non-degree graduate students.

**BSAD 8066 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with MGMT 4060, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8070 EXECUTIVE COMMUNICATION (1 credit)**

This course emphasizes both strategic and practical approaches to business communication from an executive perspective and provides students with tools to improve their business communication skills. This course will focus on composing effective executive/business documents business reports, and briefings.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8076 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with SCMT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8080 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with ECON 8310).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**BSAD 8090 ESSENTIAL LEADERSHIP SKILLS (3 credits)**

This course will teach students the interpersonal skills necessary to effectively manage others. Second, this course will serve as a vehicle to assess the business content knowledge and computer literacy of incoming MBA students in order to provide customized remediation recommendations for each student. Third, the course will collect information that will be used for assessment and accreditation purposes to evaluate the effectiveness of the MBA program. This course will address the following MBA program themes: communication, change agent, teamwork, information technology, critical thinking and information gathering and analysis.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program and completion of MBA foundation courses (or equivalent) or may be taken concurrently with the final foundation course. Not open to nondegree students.

**BSAD 8096 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with MGMT 4090, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program at UNO or the STRATCOM Leader Fellow Program. Not open to non-degree students.

**BSAD 8100 MANAGERIAL ECONOMICS (3 credits)**

The course will offer students tools of analysis drawn from consumer theory and the theory of the firm in order to improve the understanding of human behavior as it is constrained in the context of business decision-making. This course is intended for students who are seeking the degree of Master of Science in Economics or the degree of Master of Business Administration. (Cross-listed with ECON 8210).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and 2220 or BSAD 8180 and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8110 ACCOUNTING AND FINANCIAL FUNDAMENTALS (3 credits)**

The course is designed to give incoming graduate students the foundation in accounting that is necessary for subsequent graduate courses. Emphasis is on introducing the students to as many accounting concepts as possible.

**Prerequisite(s)/Corequisite(s):** Graduate admission or permission of the appropriate graduate advisor. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8136 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with MGMT 4030).

**BSAD 8146 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with MGMT 4010).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor

**BSAD 8150 ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS (2 credits)**

This course exposes MBA students to fundamental economic concepts necessary for successful business planning and financial success. Topics include: Comparative advantage and international trade, market dynamics, the role that the competitive landscape plays in company decision-making, macroeconomic growth and development, and monetary and fiscal policy and their impact on business activity.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in economics may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8156 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with MGMT 4120).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8166 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with MGMT 4110).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8176 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with SCMT 4170).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8180 ANALYTICAL FOUNDATIONS OF ECONOMICS (3 credits)**

To familiarize students with the basic economic theory and policy analysis (principles level) required to analyze economic problems and to understand and evaluate recommendations designed to solve those problems. This is a course for students and professionals seeking a degree of Master of Business Administration with little or no formal background in economics.

**Prerequisite(s)/Corequisite(s):** Graduate. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8200 MANAGERIAL ACCOUNTING (3 credits)**

A study of concepts, analysis and procedures of accounting utilizing internal financial and non-financial data which provides management with information for planning and controlling routine operations, for non-routine decisions, policy-making and long-range planning; and for external reporting to stockholders, governments and interested parties.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and 2020 or BSAD 8110, and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8206 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with MKT 4200)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8210 ACCOUNTING: DECISIONS & CONSEQUENCES (2 credits)**

Managers and administrators must be able to understand, analyze, and use accounting information to make operational and strategic business decisions. In this course, we will study practical uses of accounting information to address the problems and decisions managers face in business. Emphasis is placed on the user of accounting information rather than the preparer. Upon completion of this course, a student should be able to use accounting information to make management decisions, understand how accounting rules inform those decisions, and consequently, how those decisions affect a company's financial reports.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or graduate degree in accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8216 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with MKT 4210, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**BSAD 8226 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers.

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**BSAD 8230 CHANGE MANAGEMENT (2 credits)**

This course provides a theoretical as well as pragmatic approach to change management for executive and senior level leaders in all types of organizations. Focus is given to organizational structure, managing culture, and critical components of senior level management effectiveness in leading change.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8240 EXECUTIVE LEADERSHIP DEVELOPMENT (2 credits)**

This course aims to enhance the leadership effectiveness of students by developing executive competencies in problem solving, collaborative behaviors, teamwork, and conflict resolution. Students will gain crucial experience in using effective leadership tools to become leaders who act with a deeper understanding of themselves, their organizations, and their communities, and contribute positively to the growth of each.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8250 ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES (2 credits)**

This course will prepare students with the knowledge necessary to manage and lead organizations effectively. Students will learn management theories, understand important research findings in organizational behavior, and apply both theory and research results to real organizational situations, thus giving them the capacity to use OB theories to enhance organizational effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8260 ACCOUNTING THEORY & PRACTICE (2 credits)**

This course is designed to enhance students' understanding of financial statements and how executive decisions can influence these statements. Financial statements, including footnotes and explanatory material, are the primary instruments utilized by parties external to the enterprise in making judgments about the enterprise. By understanding how management decisions are reflected in the financial statements, managers will understand how they can influence their judgment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8280 STEWARDSHIP OF THE FIRM'S RESOURCES: HUMAN RESOURCE MANAGEMENT (2 credits)**

This course provides a comprehensive review of effective human resource theory and practice with an emphasis on managerial influence on attracting, retaining, developing, and rewarding employees.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8300 ORGANIZATION THEORY & DESIGN (3 credits)**

A study of theories and guidelines for enhancing organizational effectiveness by matching an organization's structure to its environment, strategy, technology and size.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8310 MANAGING PERFORMANCE IN ORGANIZATIONS (3 credits)**

A human behavior course emphasizing the areas of individual behavior, interpersonal behavior, group behavior and the interplay of human and non-human factors.

**Prerequisite(s)/Corequisite(s):** Essential Leadership Skills (BSAD 8060) or admission to the MAcc program. Not open to nondegree students.

**BSAD 8326 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with MKT 4320.)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8330 STRATEGIC COLLABORATION: LEADING HIGH IMPACT TEAMS (1 credit)**

This course is designed to enhance students' understanding of collaboration principles, practices and processes. In this interactive course, students will learn how to utilize collaboration tools and techniques and creative problem solving methods to enhance strategic decision making. Other concepts that will be introduced include building and assessing high-performing teams, managing and leading teams, identifying and resolving team dysfunctions, and team decision making approaches. Ultimately, students will learn how to be more influential and improve interactions so people and organizations can work together more efficiently.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8336 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, SCMT 4330)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program; or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8340 INTERNATIONAL BUSINESS STUDY ABROAD (3 credits)**

This course provides students with an international business and cultural experience through a study tour in a selected international location. Students will develop an understanding of the factors that affect international business decisions by visiting American companies operating abroad and foreign companies that export goods and services to the U.S. Typically, travel is conducted during Spring Break.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BSAD 8345 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with MKT 3320).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor.

**BSAD 8350 SEMINAR IN MANAGEMENT (3 credits)**

A student participation course emphasizing current issues and problems in the areas of management theory and operation.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8356 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with SCMT 4350).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8360 FINANCIAL MANAGEMENT FOR EXECUTIVES (3 credits)**

Students will develop strategic decision making skills by using financial concepts including time value of money, capital budgeting processes, cash flow forecasting and project risk analysis. Topics covered include: capital budgeting, financial statement analysis, capital structure, financial risk analysis and others..

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8366 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with MKT 4360).

**Prerequisite(s)/Corequisite(s):** BSAD 8400 with a grade of 'B' or above. Not open to non-degree graduate students.

**BSAD 8370 BUSINESS LAW AND ETHICS (2 credits)**

Only students who have been admitted to the Executive MBA program may take this course. A comprehensive examination of the existing structure and mechanisms used to resolve disputes in the United States, which allows the student to understand the strengths and weaknesses of this system. It will specifically examine the body of substantive law that affects management, including court decisions, statutes (federal and state), traditional ethical theories as they relate to the law, and international problems that exist in the legal environment.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8376 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with SCMT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8380 STRATEGIC OPERATIONS MANAGEMENT (2 credits)**

Students will learn how effective decision-making skills can be used to create a long-term competitive advantage for an organization through operational excellence. Key concepts in this course will include operations management, quality management, and data analytics. Specific topics will include process improvement, quality assurance, supply chain management, project management, and performance assessment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8386 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, SCMT 4380)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8396 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with MKT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8400 MARKETING POLICIES (3 credits)**

This course provides an introduction to the fundamental concepts of marketing, including a customer orientation, matched with attention to competition and core strengths. The course will illustrate strategies and principles that will help you understand how marketing managers, product managers or service managers must think through their situations, determine their goals and lay a course to achieve those goals.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent); or admission to MAcc program. Not open to nondegree students.

**BSAD 8420 MARKETING: UNDERSTANDING CONSUMERS AND MARKETS (2 credits)**

This course exposes MBA students to the fundamental concepts, practices and issues of marketing. A wide range of marketing practices and structures will be explored including product and service firms, consumer and business markets, profit and not-for-profit organizations, domestic and global companies, and small and large businesses.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in marketing may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8426 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with MKT 4420).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8430 STRATEGIC BRAND MANAGEMENT (3 credits)**

An exploration of the characteristics, meanings, and management of brands in the business world. The course examines brands as a strategic asset, and draws on managerial, consumer, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** BSAD 8420 or permission of instructor. Not open to nondegree students.

**BSAD 8440 DECISION ANALYTICS (2 credits)**

Students will learn to use statistical and decision making tools to interpret data to solve practical management problems and gain desired results. Areas of focus will include market research, decision analysis, data analytics, and business forecasting.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8450 SEMINAR IN MARKETING (3 credits)**

Exploration, study and critical analysis of contemporary marketing problems, trends, methods and approaches for seminar discussion and written report.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8456 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, SCMT 4450).

**BSAD 8466 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with SCMT 4460).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8480 APPLICATIONS IN ECONOMICS (2 credits)**

Students will learn how to apply micro-economic concepts to corporate strategy. Topics covered include demand analysis and consumer behavior, cost efficiencies such as economies of scale and scope, market structure and strategic pricing, applications of game theory to strategy, and others. The course will also cover macroeconomic conditions and concepts that affect business decisions such as the detection, measurement, and determinants of business cycles and the resulting impact of macroeconomic policy.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8510 SECURITY ANALYSIS (3 credits)**

Study of the efficient market, fundamental and technical analysis approaches for the valuation of marketable securities. Methods of analysis are considered for the economy, industry groups and individual corporations.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8520 SEMINAR INVESTMENT MANAGEMENT (3 credits)**

This course focuses upon the modern portfolio theory of investment management and its application in formulation of policies for individuals and institutional investors. Topics addressed will include qualitative and quantitative analysis of the risks and returns of portfolio management using efficient market, fundamental analysis, and technical analysis approaches.

**Prerequisite(s)/Corequisite(s):** BSAD 8510. Not open to nondegree students.

**BSAD 8530 BANK & FINANCIAL MARKETS (3 credits)**

This course focuses on the theory and practice in managing commercial banks. Topics covered include but not limited to: bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. The course emphasizes the link between theory and practice through assigned course related readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to non-degree graduate students.

**BSAD 8540 MULTINATIONAL FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on multinational financial management as viewed and practiced by the multinational firm and on current developments in international financial markets, including global banking. Familiarity with certain areas of the firm's environment, such as the international monetary system, the European Monetary System, and determination of exchange rates under alternative regimes, is essential to the international financial manager.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8550 SEMINAR IN FINANCE (1-3 credits)**

Selected topics from areas of business finance.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8560 MARKETING STRATEGIES (3 credits)**

Marketing is the core of an operating business. Marketing is the art and science of creating customer value and market place exchanges that benefit the organization and its stakeholders. It is an organizational philosophy and a set of guiding principles for interfacing with customers, competitors, collaborators, and the environment. Students will learn how successful businesses match their objectives and resources with opportunities in the marketplace by identifying and measuring consumer needs, determining target markets and deciding which products and services to offer. Strategies for pricing, promoting and distributing the firm's products and services to create competitive advantage in domestic and international markets are covered.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8570 STRATEGIC MANAGEMENT (3 credits)**

This course centers around the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. Students will develop the strategic thinking skills needed to formulate and execute successful strategies for firms/organizations in a variety of industries and dynamic environments. Emphasis is given to the contributions of several business disciplines of study, such as marketing, finance and management, to understanding both the internal operations of the organization and the influences of the external environment. This course is integrative and introduces both the theory and practice that enables that integrative process.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8576 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with FNBK 4570)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BSAD 8590 SEMINAR IN BUSINESS ADMINISTRATION (3 credits)**

This course hosts the international business consulting project. Both a theory and a practical course, it examines opportunities and challenges for a domestic U.S. firm or industry attempting to enter or expand its presence in an international market. Emphasis is placed on developing focused and appropriate research objectives, the collection and analysis of data for decision-making, development and evaluation of strategy alternatives, and on the production and presentation of a professional, prescriptive consulting report.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8596 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control, and risk avoidance, among others. (Cross-listed with FNBK 4590.)

**BSAD 8600 REAL ESTATE FINANCE THEORY AND APPLICATIONS (3 credits)**

This course explores advanced financial analysis tools and methodologies used to quantify complex factors surrounding real estate productivity, value, investment, and project feasibility. Specific course topics will coincide with student interest in one of three focus areas: Investment, Development, or Commercial Finance.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of Real Estate Program Director.

**BSAD 8605 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with RELU 3410).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program, or permission of Real Estate Program Director.

**BSAD 8606 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with FNBK 4600.)

**Prerequisite(s)/Corequisite(s):** BSAD 8500 and 8510 or their equivalent, and graduate standing. Not open to nondegree students.

**BSAD 8610 REAL ESTATE APPRAISAL (3 credits)**

This course addresses the fundamentals of real estate valuation and appraising, including factors affecting value, valuing land, improvements, and special classes of residential property, appraisal practice and rules, depreciation and obsolescence, and the mathematics of appraising.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of instructor.

**BSAD 8620 VALUATION OF INTELLECTUAL PROPERTY (3 credits)**

Intellectual Property (IP) is critical to business success. Accounting, economics, and finance all struggle to quantify "value" of individual IP (e.g., trademark) and bundles of IP (e.g., patent pool). Value depends on the context (e.g., infringement versus depreciation versus sale). This course focuses on application of theory.

**Prerequisite(s)/Corequisite(s):** BSAD 8010 or BSAD 8100 or BSAD 8110 or BSAD 8500, or its equivalents. Not open to non-degree graduate students.

**BSAD 8630 FINANCE: UNDERSTANDING CAPITAL AND CASH (2 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070, 8150 and 8210. Students with an undergraduate major or a graduate degree in finance or accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8640 IT: STRATEGIC DEVELOPMENT AND DEPLOYMENT (1 credit)**

Students will gain a strategic perspective of information technology management, including current trends and best practices, and understand how technology can be used in competitive positioning. Processes for innovation and research and development spending and new business models will be covered.

**BSAD 8650 INTERNATIONAL: COMPETING IN GLOBAL MARKETS (2 credits)**

This course allows students to develop an understanding of the evolution of the global political economy, challenges faced when operating in the global business environment, and how to evaluate the risks and returns of global expansion. Students will also learn how to effectively communicate in international settings, to successfully manage international conflicts, and to conduct effective cross-border business negotiations.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8696 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, MGMT 4690).

**Prerequisite(s)/Corequisite(s):** Admission to a UNO graduate degree program or permission of instructor

**BSAD 8700 BUSINESS ANALYTICS: MAKING SENSE OF DATA (2 credits)**

The purpose of this course is to provide business managers with an understanding of the important role data analytics has assumed in today's organizations. Data analytics has become a key component in accomplishing strategic and operational goals. This course is designed to familiarize students with the concepts and principles of analytics. It is targeted for graduate or MBA students who have little or no background in analytics. Therefore, it focuses on breadth of coverage rather than depth in any specific area.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent); or admission to the MAcc program. Not open to non-degree graduate students.

**BSAD 8710 SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on supply chain management as a key functional area of organizational success. Students will learn about current techniques used by supply chain practitioners to make strategic and tactical decisions that support the overall strategy and day-to-day operations of an organization. Students will develop an understanding of how supply chain decisions and appropriate metrics of performance can be utilized to improve the operational efficiency and effectiveness of an organization.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8720 STRATEGIC FINANCIAL MANAGEMENT (2 credits)**

This course is intended to be advanced financial management. It will stress the theory and application of topics including, but not limited to capital budgeting, cash flow estimation, real options, capital structure, dividends and share repurchases, working capital management, budgeting, planning and forecasting, and lease management. The material covered in Strategic Financial Management will increase the student's knowledge of how to strategically manage financial resources to increase the intrinsic value of the organization.

**Prerequisite(s)/Corequisite(s):** For MBA students, BSAD 8630. For MAcc students, completion of all Master of Accounting (MAcc) foundation courses. Not open to non-degree graduate students.

**BSAD 8726 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with ENTR 4720, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or by instructor permission

**BSAD 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, ECON 8436)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**BSAD 8750 TELECOMMUNICATIONS IN BUSINESS (3 credits)**

This course is designed to introduce students to basic technology of modern telecommunications, including voice, data and video, as well as the contemporary issues of telecommunication policy. In addition, the course will address managerial issues of modern telecommunications in business.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to non-degree graduate students.

**BSAD 8766 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, MKT 4760)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8776 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with ENTR 4770).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must apply and interview to take this course. Preference is given to students in their junior year, and must have three semesters of school left before graduating.

**BSAD 8786 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4780).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8776 with a grade of C or better.

**BSAD 8796 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4790).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8786 with a grade of C or better.

**BSAD 8800 MBA PROJECT-FOCUSED CAPSTONE (2 credits)**

In this Master's of Business Administration (MBA) required project-focused capstone course, students complete a service-learning consulting project for a non-profit or other type of organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program.

**Prerequisite(s)/Corequisite(s):** Students must complete this course in the final semester or within the final 9 credits of their MBA program courses. A minimum B grade required to successfully complete the course and qualify for graduation. Not open to non-degree graduate students.

**BSAD 8810 APPLIED STRATEGIC LEADERSHIP (3 credits)**

Applied and integrative course in the MBA program, with an emphasis on field experiences when possible.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in, or completion of, BSAD 8060. Not open to nondegree students.

**BSAD 8820 SUSTAINABLE BUSINESS PRACTICES (1 credit)**

This course exposes students to motivations for, and implications of business engagement in, sustainable management practices. As such the course addresses why firms have increasingly been investing in energy and natural resource conservation, recycling, green products, green branding, and environmental impact mitigation. This course addresses a firm's market-based incentives to grow profits, gain market share and/or otherwise differentiate themselves from their competition through green initiatives.

**Prerequisite(s)/Corequisite(s):** BSAD 8150 or permission of instructor. Not open to non-degree graduate students.

**BSAD 8830 STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE (2 credits)**

This course centers on the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. The primary objective of this course is to sharpen the ability of students to think strategically, to diagnose situations from a strategic perspective and to develop creative solutions to enable firms to achieve a sustainable competitive advantage.

**Prerequisite(s)/Corequisite(s):** Students must successfully complete BSAD 8150 and BSAD 8210 before enrolling in this course. This course must be taken within the first 20 hours of the MBA program. Not open to non-degree graduate students.

**BSAD 8880 ARTS AND THE EXECUTIVE (3 credits)**

The course will provide the graduate student with an understanding of the organizational and managerial issues involved in an arts organization as the role of the arts in the business community.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8900 INDEPENDENT STUDY (1-6 credits)**

Individual research in an academic area in business administration.

**Prerequisite(s)/Corequisite(s):** Graduate and permission of MBA Advisor. Requires submission of completed Independent Study Contract to MBA Advisor prior to registration. Not open to non-degree graduate students.

**BSAD 8910 SPECIAL TOPICS IN BUSINESS (1-3 credits)**

May be repeated up to (6). A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate in good standing and as indicated for specific workshop or seminar. Not open to non-degree graduate students.

**BSAD 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with ECON 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**BSAD 8990 THESIS (1-6 credits)**

A research project, under the supervision of a faculty thesis adviser in the College of Business Administration, in which the student establishes his capacity to design, conduct and complete an independent, scholarly investigation of a high order of originality. The research topic and the completed project must be approved by the student's faculty thesis adviser and two other faculty members, one of whom must be from outside the program area.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser. Not open to non-degree graduate students.

**CSCI 8000 ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES (3 credits)**

Logic/Declarative programming is an important programming paradigm in which problems are described in terms of the properties they possess. As a result, in this style of programming many algorithmic elements, which explicitly must be articulated when writing programs in other programming languages, can be omitted. Core elements of logic programming play important roles in AI.

**Prerequisite(s)/Corequisite(s):** CSCI 3320; CSCI 3660; CSCI 4220. Not open to non-degree graduate students.

**CSCI 8010 FOUNDATIONS OF COMPUTER SCIENCE (3 credits)**

This is a foundational course for students enrolled in the graduate program in computer science. The objectives are to introduce students to a large body of concepts so that they are better prepared for undertaking the core courses in the graduate program. It is assumed that student would have programmed in a high-level language and have exposure to basic college level mathematical concepts such as logarithms, exponents, sequences, and counting principles.

**Prerequisite(s)/Corequisite(s):** Students are expected to have written programs using a high-level programming language and should understand basic mathematical concepts including exponents, logarithms, sequences, and counting principles. Not open to non-degree graduate students.

**CSCI 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 8040 LARGE SCALE NETWORK ANALYSIS ALGORITHMS (3 credits)**

The course will provide a review of the properties of large complex network systems, such as those occurring in social networks, epidemiology and biological systems. We will discuss algorithms to analyze these properties, their implementations, their stability under information fluctuation and how information spreads through networks.

**Prerequisite(s)/Corequisite(s):** Students should be comfortable w/ programming, have knowledge of data structures, preliminary graph algorithms, & linear algebra. Suggest Prep Courses: CSCI 4150 or CSCI 8156; CSCI 3320; MATH 4050 or Permission. Not open to non-degree graduate students.

**CSCI 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with MATH 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**CSCI 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with MATH 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**CSCI 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with MATH 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**CSCI 8100 EXPERT SYSTEMS (3 credits)**

A study of the theoretical basis and practical design of expert systems. Knowledge engineering. Foundations in logic programming, the architecture of expert systems, languages (Prolog, LISP) for expert systems, expert system shells, knowledge acquisition, current issues.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent. Not open to non-degree graduate students.

**CSCI 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, MATH 3100, CSCI 3100).

**CSCI 8110 ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE (3 credits)**

An in-depth study of one or more topics selected from: search techniques, knowledge representation, knowledge programming, parallel processing in Artificial Intelligence, natural language processing, image processing, current and future directions, etc. May be repeated with different topics, with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent.

**CSCI 8150 ADVANCED COMPUTER ARCHITECTURE (3 credits)**

Various parallel architectures, models of parallel computation, processor arrays, multiprocessor systems, pipelined and vector processors, dataflow computers and systolic array structures.

**Prerequisite(s)/Corequisite(s):** CSCI 4350, CSCI 4500 and graduate. Not open to non-degree graduate students.

**CSCI 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**CSCI 8160 INTRODUCTION TO VLSI DESIGN (3 credits)**

Introduction to the principle concepts of integrated circuit layout. Presentation of the hardware foundations, algorithmic mathematical and graph theoretical foundations of circuit layout. Partitioning problems in integrated circuits. Placement and floor planning phase in layout. Routing algorithms and compaction techniques. Applications of graph theory in several steps of the design process of VLSI circuits.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4350 or CSCI 8356. Not open to non-degree graduate students.

**CSCI 8170 VLSI TESTING (3 credits)**

This course covers topics in VLSI testing. In particular, topics covered include fault modeling, fault simulation, test generation, testability profiles, built-in tests, and binary decision diagrams.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee; CSCI 4350. Not open to non-degree graduate students.

**CSCI 8200 INTERCONNECTION NETWORKS (3 credits)**

This course is to introduce the technology of interconnection networks from topology of networks, through routing and flow control, to a discussion of hardware/software fault tolerance, and to understand parameters affecting performance.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8210 ADVANCED COMMUNICATIONS NETWORKS (3 credits)**

Advanced study of communication networks, analysis of communication needs, special problems encountered in different types of networks, efficiency and traffic analysis and emerging hardware software technologies. Detailed "hands-on" study of the TCP/IP networking protocols.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or 8555 or equivalent. Not open to non-degree graduate students.

**CSCI 8256 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 4250).

**CSCI 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, ITIN 4260, ITIN 8266).

**CSCI 8300 IMAGE PROCESSING AND COMPUTER VISION (3 credits)**

This course introduces the computer system structures and programming methodologies for digital image processing and computer vision. The course will cover the mathematical models of digital image formation, image representation, image enhancement and image understanding. Techniques for edge detection, region growing, segmentation, two-dimensional and three-dimensional description of object shapes will be discussed. The course will concentrate on the study of knowledge-based approaches for computer interpretation and classification of natural and man-made scenes and objects.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 3220. Not open to non-degree graduate students.

**CSCI 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 8325 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 3320)

**CSCI 8340 DATABASE MANAGEMENT SYSTEMS II (3 credits)**

A continuation of the study of Data Base Management Systems. Extended discussion of logical data base design, normalization theory, query optimization, concurrent issues. Advanced topics including distributed data bases, deductive data bases, data base machine, and others.

**Prerequisite(s)/Corequisite(s):** CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8350 DATA WAREHOUSING AND DATA MINING (3 credits)**

Covers topics related to decision support queries. In particular, topics covered include building data warehouses, On-Line Analysis Processing (OLAP), maintenance of materialized views, indexing, various data mining techniques, and integration of OLAP and data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8856; bachelors degree and permission from Graduate Committee. Not open to non-degree graduate students.

**CSCI 8360 MACHINE LEARNING FOR TEXT (3 credits)**

This course focuses on the fundamental techniques for extraction of various insights from text data which is ubiquitous on the Web, social media sites, emails, news articles, digital libraries, and other sources. The course topics will include concepts and techniques used by search engines to crawl, index, and rank web pages on the Web, machine learning techniques for categorization of news articles into different categories, sentiment and opinion analysis of social media chats, text summarization, and information extraction.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CSCI 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CYBR 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CSCI 8390 ADVANCED TOPICS IN DATA BASE MANAGEMENT (3 credits)**

An in-depth study of one or more topics in the field of Data Base Management Systems, such as logical and/or physical data base design, query optimization, distributed data bases, intelligent knowledge-based systems, emerging technologies and applications. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8400 ADVANCED COMPUTER GRAPHICS (3 credits)**

Computer graphics continues to play an important role in computer science. This course covers the mathematical foundations of three-dimensional representation and animation; ray tracing and path tracing rendering methods; using the graphical processing unit (GPU) for real time applications; and concludes with simulation of natural phenomenon.

**Prerequisite(s)/Corequisite(s):** Bachelors degree or permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CYBR 8410)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalent(s). Not open to non-degree graduate students.

**CSCI 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CYBR 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8430 TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT (3 credits)**

This course examines in detail: the principles of a security architecture, access control, policy and the threat of malicious code; the considerations of trusted system implementation to include hardware security mechanisms, security models, security kernels, and architectural alternatives; the related assurance measures associated with trusted systems to include documentation, formal specification and verification, and testing, and approaches that extend the trusted system, into applications and databases and into networks and distributed systems.

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalents, or instructor permission. Not open to non-degree graduate students.

**CSCI 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CYBR 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366

**CSCI 8446 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchronizing constructs; and operating systems for parallel computers. (Cross-listed with CSCI 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 or CSCI 8506 (May be taken concurrently). Not open to non-degree graduate students.

**CSCI 8450 ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING (3 credits)**

The course will provide in depth study of the topics in natural language processing and understanding, such as syntax, lexical and computational semantics, natural language ambiguities and their disambiguation, logical form construction and inference. The course will survey state-of-the-art natural language processing toolkits and knowledge bases that boost the development of modern language processing and understanding applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 OR CSCI 3660 OR CSCI 4450. Not open to non-degree graduate students.

**CSCI 8456 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 4450).

**CSCI 8476 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 4470)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with MATH 8480)

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**CSCI 8486 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 4480).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with MATH 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8506 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 4500).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with MATH 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with MATH 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**CSCI 8530 ADVANCED OPERATING SYSTEMS (3 credits)**

State of the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation, and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500/8506. Not open to nondegree students.

**CSCI 8555 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 3550)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 8590 FUNDAMENTALS OF DEEP LEARNING (3 credits)**

This course is an introduction to deep learning, a branch of machine learning concerned with the development and application of neural networks. Deep learning trains the machine to learn patterns that it is presented with rather than requiring the human operator to define the patterns that the machine should look for. Deep learning is behind many recent advances in artificial intelligence, such as face recognition, speech recognition and autonomous driving. This course will cover the foundations of deep learning, learning theory, basic/advanced neural networks and problem domains of many selected applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or instructor permission

**CSCI 8610 FAULT TOLERANT DISTRIBUTED SYSTEMS (3 credits)**

This course is to study the theory and practice of designing computer systems in the presence of faulty components. Emphasizes the basics of how faults can affect systems and what is required to mask or compensate for their efforts.

**Prerequisite(s)/Corequisite(s):** CSCI 4500 and CSCI 4350. Not open to non-degree graduate students.

**CSCI 8620 MOBILE COMPUTING AND WIRELESS NETWORKS (3 credits)**

Contemporary issues in mobile computing and wireless networks, including the differences between mobile computing and the traditional distributed computing paradigm, impediments of the mobile and wireless environments, problems and limitations due to such impediments, using the spectrum, wireless data networks, various network layers solutions, location management techniques, mobile IP, wireless LANs, wireless TCP, ad hoc networks, performance issues, security issues.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or CSCI 8555. Not open to non-degree graduate students.

**CSCI 8626 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 4620).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320.

**CSCI 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 8700 SOFTWARE SPECIFICATIONS AND DESIGN (3 credits)**

A continuation of the study of software engineering with an emphasis on early phases of software development, namely requirements engineering/ specification and architectural design. Includes an in-depth study of practices for effective software requirements specification and architectural design, as well as formal specifications of software systems. Related topics such as metrics and support tools are also covered.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8706 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 4700).

**CSCI 8710 MODERN SOFTWARE DEVELOPMENT METHODOLOGIES (3 credits)**

Designed to introduce students to advanced object technology and other modern methodologies for developing software systems. Intended for graduate students who have mastered the basic concepts and issues of software engineering. Course covers advanced object-oriented software development. The course also covers several offshoots of object technology, including: component-based software engineering, aspect-oriented software development, software product line engineering, service-oriented computing, etc.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836.

**CSCI 8760 FORMAL METHODS IN SOFTWARE ENGINEERING (3 credits)**

In the high consequence system domain, a primary objective of any construction technique employed is to provide sufficiently convincing evidence that the system, if put into operation, will not experience a high consequence failure or that the likelihood of such a failure falls within acceptable probabilistically defined limits. Systems for which such evidence can be provided are called high assurance systems. The objective of this course is to examine software-engineering techniques across the development life cycle that are appropriate for high assurance systems. The course will analyze the nature of the evidence provided by various techniques (e.g., does a given technique provide sufficiently strong evidence in a given setting).

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and CSCI 8836 or CSCI 4830

**CSCI 8766 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 4760).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 8790 ADVANCED TOPICS IN SOFTWARE ENGINEERING (3 credits)**

An in-depth study of one or more topics in the field of software engineering such as human factors in software engineering, software specifications and modeling, reuse and design recovery, software valuations, software management, emerging technology and applications.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8836 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 4830).

**CSCI 8856 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 4850).

**CSCI 8876 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with BIOI 4870)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOI 3500, or permission of instructor; BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required. Not open to non-degree graduate students.

**CSCI 8910 MASTER OF SCIENCE CAPSTONE (3 credits)**

The capstone course is to integrate coursework, knowledge, skills and experimental learning to enable the student to demonstrate a broad mastery of knowledge, skills, and techniques across the Master degree curriculum of Computer Science for a promise of initial employability and further career advancement. The course is designed to be in a student-centered and student-directed manner which requires the command, analysis and synthesis of knowledge and skills. Students may apply their knowledge and skill to a project which serves as an instrument of evaluation. Students are encouraged to foster an interdisciplinary research and cultivate industry alliances and cooperation in this course. This capstone course should be taken only after students have completed at least 3/4 of course requirements for the major.

**Prerequisite(s)/Corequisite(s):** Master's degree of Computer Science with course-only option (program III). Not open to nondegree students.

**CSCI 8920 ADVANCED TOPICS COMPUTER SCIENCE (3 credits)**

An in-depth study, at the graduate level, of one or more topics that are not treated in other courses. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** Permission of instructor; will vary with offering. Not open to non-degree graduate students.

**CSCI 8950 GRADUATE INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in environments such as those found in business, industry, and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate program chairperson and a minimum grade point average of 3.0 (B), with at most one grade below B, but not lower than C+ for all CS graduate classes. Not open to non-degree graduate students.

**CSCI 8960 THESIS EQUIVALENT PROJECT IN COMPUTER SCIENCE (1-6 credits)**

This course allows a graduate student to conduct a research project in computer science or a related area. The project is expected to place an emphasis on applied, implementations-based, or experimental research. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, and final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 8970 INDEPENDENT STUDY (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available in a formal course. The topics to be studied will be in a graduate area of computer science to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8980 GRADUATE SEMINAR (1-3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques and methodologies, and/or the current research results in the fundamental areas of computer science. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** Permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8986 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior/graduate level. Topics not normally covered in the computer science degree program, but suitable for senior/graduate-level students. (Cross-listed with CSCI 4980).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 8990 THESIS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 9210 TYPE SYSTEMS BEHIND PROGRAMMING LANGUAGES (3 credits)**

Empirical evidence suggests that a large number of errors made when writing software can be detected by analyzing the behavior of the program from the perspective of type. This course provides an in-depth exploration of various type systems for programming languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9220 REWRITING AND PROGRAM TRANSFORMATION (3 credits)**

This course begins by exploring the foundations of term rewriting. Topics such as unification, confluence, completion and termination are covered. Then a strategic framework is considered in which the application of rewrite rules can be controlled.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9350 MATHEMATICAL AND LOGICAL FOUNDATIONS OF DATA MINING (3 credits)**

With the maturity of data mining techniques, it is extremely important to examine the foundations of data mining. Instead of providing coverage of basic data mining methods, the course will focus on methodology employed in data mining, logical and mathematical foundations of data mining, as well as other issues related to the intrinsic nature of data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8456, CSCI 8856, and CSCI 8390. Not open to non-degree graduate students.

**CSCI 9410 ADVANCED TOPICS IN LOGIC PROGRAMMING (3 credits)**

This course will examine some advanced topics in logic programming, in particular logic programming under stable model (or answer set) semantics. Answer set programming is a common name of the field. Formal syntax, semantics, and proofs of correctness for logic programs will be considered. Elements of inductive and Prolog programming will also be introduced. Each advanced topic will be followed by how it has been applied in practice. Advanced applications of logic programming will be covered in detail.

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and doctoral student standing in Information Technology or the permission of the instructor.

**CSCI 9420 INTELLIGENT AGENT SYSTEMS (3 credits)**

This course covers the principles of interaction between agents in multi-agent systems using game theory. Relevant topics studied in this course include competitive games, statistical Bayesian games, cooperative games, and mechanism design. Students will have to implement projects related to the material studied in the course.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4450 or CSCI 8456. Not open to non-degree graduate students.

**CSCI 9710 METHODS IN SOFTWARE ENGINEERING RESEARCH (3 credits)**

This course provides guidelines on how to conduct research in the field of software engineering by presenting the research methods, classic readings, and development of theories and their application to real life problems. The main emphasis of the course is to provide opportunity for in-depth study of topics such as contemporary methods for software development.

**Prerequisite(s)/Corequisite(s):** CSCI 8836 or equivalent course and doctoral student standing in Information Technology or permission of the instructor. Not open to non-degree graduate students.

**CSCI 9810 RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING (3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques, and methodologies, and/or the current research results in the fundamental areas of theoretic computing. The course will examine advanced research topics in computer science and engineering, including foundations of automata theory, computability, complexity analysis, computational logics and algorithmic analysis, hybrid dynamic systems theory, number theory, adaptation and learning theory, concepts and principles in computational geometry, stochastic processes, and random optimization. Each topic will be discussed with a perspective of research issues and directions. Active student participation in investigation of the research topics, survey of the current state-of-art, and identifying the future research insights is required. Students will take turn presenting their research results on specific topics. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** The prerequisites of this course vary depending on the areas to be covered in the semester the course is offered. Good standing in Ph.D. program is required. Permission of the instructor may be required. Not open to non-degree graduate students.

**ECON 8010 SEMINAR IN PUBLIC FINANCE (3 credits)**

This course is designed to develop the tools of applied welfare economics and to use these tools to evaluate the expenditure and tax decisions of governments. The structure, effects and reform of the U.S. individual and corporate income taxes, social security and healthcare system will be emphasized. Government debt and deficits will also be discussed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100 or permission

**ECON 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with BSAD 8020).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 or BSAD 8180, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8050 ECONOMIC EDUCATION (3 credits)**

A study and examination of economic principles and how they can be related to the teacher's classroom presentation. This course is designed to furnish the K-12 teacher with sufficient background and understanding to aid in the recognition of economic issues and the teaching of economic concepts and principles.

**Prerequisite(s)/Corequisite(s):** No previous course work in economics. Not open to Economics majors.

**ECON 8200 SEMINAR IN MICRO ECONOMIC THEORY (3 credits)**

The course covers major topics in microeconomic theory. The major topics covered are the theory of consumer behavior, theory of production and cost, theory of the firm, pure exchange economy, general equilibrium, and welfare theory.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220 and ECON 8306 or permission.

**ECON 8210 MANAGERIAL ECONOMICS (3 credits)**

Microeconomics for graduate students of business. Economic analysis of the business firm and its environments, with emphasis on market structure, production possibilities and cost factors. Additional consideration is given to the theory of the firm under conditions of uncertainty. (Cross-listed with BSAD 8100).

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and ECON 2200 or equivalent.

**ECON 8216 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8220 SEMINAR IN MACRO THEORY (3 credits)**

This course traces the development of macroeconomic theory from the classical point of view to current schools of thought. Keynesian, neo-Keynesian and neo-classical models are developed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100, ECON 3220, and ECON 8306, or permission.

**ECON 8230 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, as well as the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of statistical analysis techniques to business situations within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**ECON 8290 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220, or equivalents, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8300 ECONOMETRICS (3 credits)**

The study of the underlying assumptions, techniques and applications of single and multiple equation regression analysis in economics.

**Prerequisite(s)/Corequisite(s):** Basic Statistics, ECON 8306/ ECON 4300, or permission. Not open to non-degree graduate students.

**ECON 8306 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 4300).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180.

**ECON 8310 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with BSAD 8080).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**ECON 8316 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 4350).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 8320 TOOLS FOR DATA ANALYSIS (3 credits)**

The course will cover basic principles of programming languages, as well as libraries useful in collecting, cleaning and analyzing data to answer research questions. The course will utilize basic Economic principles and Econometric methods as inspiration for assignments and projects throughout the duration of the course, and will do so in a way that is accessible to non-Economists. This course is intended to introduce the student to the Python programming language as a tool for conducting data analysis. While the course uses Python, the student should be able to move to other languages frequently used in data analysis using the principles taught in this course.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8150 (or equivalent); BSAD 2130 or equivalent; or instructor approval.

**ECON 8326 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role do markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 4320).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, BSAD 8150 or permission of instructor.

**ECON 8330 DATA ANALYSIS FROM SCRATCH (3 credits)**

Econometrics is routinely taught as an application class using a 'black box' like Stata or SAS to perform calculations. This class takes a different approach. Using the Python programming language, we build all estimators from scratch. Additionally, we introduce numerous non-parametric and simulation techniques. This approach to econometrics results in a stronger understanding of statistical assumptions and methods, a better understanding of when a method is appropriate, and stronger programming techniques. Furthermore, a deeper understanding of the underlying mechanics provides the student the ability to program custom procedures not already built into popular software packages.

**Prerequisite(s)/Corequisite(s):** A multivariate or regression analysis course such as ECON 8300, ISQA 9130 or STAT 8436, and a programming class such as ECON 8320 or equivalent programming experience; or instructor approval. Not open to non-degree graduate students.

**ECON 8346 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 4340).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180 or permission of the instructor.

**ECON 8456 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 4450).

**ECON 8576 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 4570).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or Permission from the instructor

**ECON 8600 HEALTH ECONOMICS (3 credits)**

This course is designed to help students understand how the theories and models of economics can be applied to the study of health and health care. The examination of the markets (demand and supply) for health, health care and health insurance is stressed. In addition, the economic analytic tools such as microeconomic theories and economic evaluation methods also will be reviewed and introduced. The objective of this course is to equip students with the knowledge tools to examine and analyze the problems issues of health care from the perspective of economics.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or equivalent.

**ECON 8616 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 4610).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8626 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 4620).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8666 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 4660).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, BSAD 8736.)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students.

**ECON 8856 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 4850).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8910 SPECIAL STUDIES IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses, each designed to focus on current major issues and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing and as indicated for specific workshop or seminar.

**ECON 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6 hours) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with BSAD 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**ECON 8920 INDEPENDENT STUDY (1-3 credits)**

Guided independent study and research.

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and permission of instructor.

**ECON 8940 ECONOMIC INTERNSHIP (1-3 credits)**

Guided internship in a firm or organization that makes use of, or extends, the student's skill in economics.

**Prerequisite(s)/Corequisite(s):** Completion of at least nine hours of graduate level economics and permission of instructor.

**ECON 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of economics. Approval of the topic and the completed project by departmental committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by departmental committee is required.

**ISQA 8016 BUSINESS INTELLIGENCE (3 credits)**

This course intends to provide graduate students in-depth exposure to the growing field of business intelligence. Business intelligence (BI) consists of the set of concepts and techniques used to analyze business data in support of decision-making and planning. BI spans a number areas of management information systems, including Decision Support Systems (DSS), Enterprise Resource Planning (ERP), Data Warehousing, Knowledge Management, Customer Relationship Management, Data Mining, and others.

**Prerequisite(s)/Corequisite(s):** (ISQA 4150 or ISQA 8156) and ISQA 8040 and ISQA 8050. Not open to non-degree graduate students.

**ISQA 8030 INFORMATION SYSTEMS AND ETHICS (3 credits)**

This course gives you an introduction to organizations and the role that information and information systems play in supporting an organization's operations, decision-making processes, quality management, and strategic activities. The course provides an introduction to the management of information systems function, the strategic and regulatory issues of telecommunications, and ethical and legal issues related to information systems.

**Prerequisite(s)/Corequisite(s):** Admission into the MS in MIS program.

**ISQA 8040 AN OVERVIEW OF SYSTEMS DEVELOPMENT (3 credits)**

The course presents an overview of the systems development lifecycle and database development. The course will focus on theory, current tools and techniques that the system developer can use to develop and document information systems. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8050 DATA ORGANIZATION AND STORAGE (3 credits)**

The course will provide concepts of data organization, data storage, and data transfer through computer networks. The performance implications of various design decisions will be explored. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8060 RESEARCH IN MIS (3 credits)**

This course covers research methods and their application to the development and evaluation of management information systems. Also covered is the relationship between organization theory and IS research.

**Prerequisite(s)/Corequisite(s):** CIST 2500, CIST 2100, and ISQA 8040, or permission of the instructor.

**ISQA 8080 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** 1) Permission of the instructor. 2) Additional prerequisite courses may be required for particular course offerings.

**ISQA 8086 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 4000)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ISQA 8106 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)**

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 4100)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 8136 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 4130)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background : CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 8156 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 4150)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 8160 APPLIED DISTRIBUTION FREE STATISTICS (3 credits)**

The primary objective of this course is to expose students to methods of analyzing data from non-normal populations including binomial tests, contingency tables, use of ranks, Kolmogorov-Smirnov type statistics and other selected topics.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156

**ISQA 8166 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 8180 ELECTRONIC COMMERCE (3 credits)**

Electronic Commerce is the digital enablement of transactions between multiple parties. A multitude of technologies, tools and applications have brought about changes in business, and society that require careful consideration. Students are given an overview of electronic commerce business models and required to apply these to solve business problems or take on opportunities presented. They will cover topics such as social networking, electronic markets, and political and ethical issues associated with electronic commerce, and business plans for technology ventures. They will apply these concepts using Web 2.0 tools, mobile applications and website design assignments.

**ISQA 8196 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 4190)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 8206 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 4200)

**Prerequisite(s)/Corequisite(s):** CIST 2500

**ISQA 8210 MANAGEMENT OF SOFTWARE DEVELOPMENT (3 credits)**

This course should encourage you to think critically about aspects of software development that make it difficult and strategies to mitigate these challenges. This course integrates concepts from software engineering, management science, psychology, and organizational behavior to identify, understand, and propose solutions to problems associated with software development. We examine and consider issues from various perspectives, such as the project manager, development team, senior management, and project sponsor. This course prepares students for various roles within a software development effort including leadership positions in software development. Students will practice software project management and agile methods of managing projects in a semester long team project using contemporary project and development methods.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or equivalent. Not open to non-degree graduate students.

**ISQA 8220 ADVANCED SYSTEMS ANALYSIS AND DESIGN (3 credits)**

This course is a systems analysis and design course for systems and business analysts. The course presents an overview of object-oriented system analysis and design. The course will then focus on theory, best practices, and modern methodologies that analysts can use to analyze and design information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or (ISQA 4110 and ISQA 4120) or equivalent and ISQA 8050 or ISQA 3310 or equivalent

**ISQA 8250 FACILITATION OF COLLABORATIVE PROBLEM SOLVING (3 credits)**

The course focuses on the facilitation of collaborative problem solving and decision making processes. Students learn how to design and facilitate collaborative workshops, with support from both paper-based and electronic meeting tools. The course is hands-on and experiential, with students working in small teams to conduct real workshops.

**ISQA 8306 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 4300)

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 8310 IT INFRASTRUCTURE & CLOUD COMPUTING (3 credits)**

This course provides a graduate-level introduction to the business and technical decisions around technical infrastructure. It covers topics related to computer and systems architecture and communications networks, with a focus on the technical and business decisions around technology. Students completing the course will be able to understand and design network infrastructure, evaluate cloud computing offerings, and communicate their decisions. The course covers hardware, software, and cloud computing technologies.

**ISQA 8340 APPLIED REGRESSION ANALYSIS (3 credits)**

The primary objective of this course is to expose students to regression models and applications with particular emphasis on applying these concepts to IT research. Topics to be discussed include: Foundations of regression analysis using least squares procedures; model formulation, stepwise regression, transformations; graphical methods, estimation; inference; influence diagnosis; matrix formulation, multicollinearity, time series, and nonlinear models.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156, not open to non-degree graduate students.

**ISQA 8380 ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION (3 credits)**

This course is designed to give students grounding in the concepts, issues, and tools needed to manage enterprise architecture, distributed systems & Internet-based environments. The goal of the course is to equip students to make the architecture and infrastructure-related decisions needed for successful development and use of contemporary client/server and Internet-based systems. Topics include middleware, architecture, XML, JSON, web services, service-oriented architecture, enterprise application integration, distributed computing services, Model View Controller (MVC) development frameworks.

**Prerequisite(s)/Corequisite(s):** ISQA 8310 and ISQA 8050 or equivalent; permit required.

**ISQA 8410 DATA MANAGEMENT (3 credits)**

The course provides in-depth coverage of such areas as: the relational model, SQL, data modeling, data quality management, database design, data warehousing, business intelligence, document and content management, NoSQL systems, and data governance. The course offers a mix of theoretical treatment and hands-on application. Current DBMS and data modeling software will be used.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 or equivalent, permit only.

**ISQA 8420 MANAGING THE I.S. FUNCTION (3 credits)**

The course provides a focus on the business management implications of the information explosion. The course is organized around a management audit of the information services activity to help present and future managers recognize and implement effective information services management.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8450 NOSQL AND BIG DATA TECHNOLOGIES (3 credits)**

The course will cover topics in the area of NoSQL and Big Data management. The course is intended to get students familiarized with NoSQL and Big Data technologies, explore how these database technologies differ conceptually from traditional relational database technologies, understand their applications, uses, advantages, and disadvantages, and provide hands-on experience with NoSQL and Big Data databases. The course offers a mix of theoretical treatment and hands-on application of the discussed NoSQL and Big Data technologies.

**Prerequisite(s)/Corequisite(s):** Prior exposure to data management is expected. The prereq is: ISQA 3310, ISQA 8040, CSCI 4850, or work experience that has given you a comparable grounding in database concepts and technologies; in this case permission by the instructor is needed.

**ISQA 8460 INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD (3 credits)**

This course introduces the Internet of Things (IoT). It provides an overview of a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. In the future, the "Things" in question may have identities and virtual personalities, operating in smart spaces using intelligent interfaces to connect and communicate with the social, environmental, and user context.

**Prerequisite(s)/Corequisite(s):** Basic Web Development using HTML/CSS and some MVC framework. The equivalent of two semester exposure to programming.

**ISQA 8510 MANAGING USABILITY FUNCTIONS IN SYSTEMS DEVELOPMENT ORGANIZATION (3 credits)**

This course deals with usability of information systems, from the perspective of organizing and managing usability functions in a systems development organization. After briefly introducing the background to system usability and usability principles, the course focuses specifically on the introduction, organization, support, management and evaluation of usability functions in systems development organizations. The role of the usability professional in the organization is emphasized.

**Prerequisite(s)/Corequisite(s):** Two semesters of programming or demonstrable experience and ISQA 8040 or equivalent, not open to non-degree graduate students.

**ISQA 8525 GRAPHICAL USER INTERFACE DESIGN (3 credits)**

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 3520)

**Prerequisite(s)/Corequisite(s):** CIST 1300

**ISQA 8530 E-COMMERCE SECURITY (3 credits)**

The course will integrate concepts, principles, and technologies from business, telecommunications, and computer science to identify, understand, and propose solutions to the security threats to e-commerce.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8310. Not open to non-degree graduate students.

**ISQA 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST4540, CYBR 4540, CYBR 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**ISQA 8560 INFORMATION WARFARE AND SECURITY (3 credits)**

This course will study the nature of information warfare, including computer crime and information terrorism, as it relates to international, national, economic, organizational, and personal security. Information warfare policy and ethical issues will be examined.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030 or ISQA 8030, or permission of instructor required.

**ISQA 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with IASC 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**ISQA 8580 SECURITY RISK MANAGEMENT AND ASSESSMENT (3 credits)**

The purpose of this course is to prepare the student for managing information security at the organizational level. This course will combine concepts from strategic management, decision science and risk analysis to prepare the student to integrate security issues into an organizational strategic planning process.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or ISQA 8030. Not open to non-degree graduate students.

**ISQA 8596 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 4590)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 8600 FROM DATA TO DECISIONS (3 credits)**

This course focuses on inquiry-driven data preparation and exploratory analysis skills for audience-driven, decision-oriented data analysis. Students gain experience in data evaluation, cleaning, documentation, and exploration with basic descriptive statistics and visualizations.

**ISQA 8700 DATA MINING: THEORY AND PRACTICE (3 credits)**

This course provides students theoretical issues as well as practical methods for conducting data mining process, including the implementation of a warehouse. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course also promotes students to conduct a real-life data analyzing project in Big Data Era.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 and ISQA 8310 and ISQA 8040, not open to non-degree graduate students.

**ISQA 8720 APPLIED STATISTICAL MACHINE LEARNING (3 credits)**

This course focuses on advanced techniques in the analysis and evaluation of data, using both supervised and unsupervised methods. It covers the main types of statistical learning models needed for complex data analytics problems, as well as aspects of model development and optimization.

Topics include: Linear and Non-Linear Regression Models, Classification, Resampling Methods, Model Selection and Regularization, Decision Trees, Model Boosting and Bagging, Support Vector Machines, and Clustering methods. This is an applied, hands-on course that will use a state-of-the-art statistical tool to implement the discussed approaches in assignments and a course project and focuses on the understanding and application of the concepts.

**Prerequisite(s)/Corequisite(s):** ISQA 8156 (B- grade or better) and the following topics: The equivalent of two classes of statistics and/or advanced mathematics and a minimum of one semester of applying R in courses and/or projects

**ISQA 8736 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 4730)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 8750 STORYTELLING WITH DATA (3 credits)**

This course provides an in-depth study of how to build a compelling story using data for business professionals to make winning arguments, it provides an overview of a number of technologies and research disciplines that enabled the power of data visualization. Data visualization is critical to managing large volumes of data, and can be defined as the science (analytical) and art (design) of manipulating and presenting data for expression and cognitive recognition. Data visualization involves using data in a way that humans can clearly understand, supporting efforts by organization to gain competitive advantage by changing operations, decision-making, and strategic initiatives.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or equivalent. Admission into the UNO graduate program, basic web development or work experience with comparable grounding in programing, scripting concepts & technologies and permission by the instructor is needed.

**ISQA 8810 INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS (3 credits)**

The course will integrate concepts and techniques from management science, psychology, organizational behavior, & administration change to identify, understand & propose solutions to the problems of project management. The purpose of the course is to prepare the graduate for project participation and leadership.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8820 PROJECT RISK MANAGEMENT (3 credits)**

This course will cover project risk management, i.e., the process of measuring or assessing risk in projects and then developing strategies to manage the risk. The topics covered will include: Risk Management Planning, Risk Identification, Quantitative Risk Analysis, Qualitative Risk Analysis, Risk Response Planning, and Risk Monitoring and Control will be covered in detail. Students will learn how to apply and use the tools and techniques needed to perform these project management tasks. A collection of readings on risk management from the empirical literature coupled with risk management standards from organizations such as IEEE and the Project Management Institute (PMI) will be used to provide the student with an excellent foundation in risk management and control.

**Prerequisite(s)/Corequisite(s):** ISQA 8810 or permission of instructor.

**ISQA 8900 INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS (1-3 credits)**

The content of the course will vary. However, both the student and the faculty member must sign an Independent Research Agreement and file it with the Master of Science in Management Information Systems Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward a M.S. in MIS should be completed.

**ISQA 8910 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

Information Systems Internship provides students with an opportunity for practical application and further development of knowledge and skills acquired in the MS MIS degree program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor required. Students must have completed a minimum of 18 credit hours towards the MS MIS program. Not open to non-degree graduate students.

**ISQA 8950 CAPSTONE MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course consists of a student executed Information Systems design project providing an in-depth practical experience. It typically covers system conceptualization, analysis, and design. It may also involve prototyping. The project will typically not include the actual implementation of the system. This course replaces the MS in MIS comprehensive exam requirement.

**Prerequisite(s)/Corequisite(s):** Students must have 6 credit hours or fewer left in the program. Students must have completed all core classes. Not open to non-degree graduate students.

**ISQA 8990 THESIS (1-6 credits)**

This course is a research project designed and executed under supervision of a thesis supervisory committee. Student will develop skills, including the ability to design, conduct, analyze, and report results in writing (i.e., thesis) of an original, independent, scientific investigation. The student's thesis supervisory committee must approve the project plan.

**Prerequisite(s)/Corequisite(s):** ISQA 8060 research methods or equivalent. Graduate major in MIS and approval of the thesis supervisory committee. Not open to non-degree graduate students.

**ISQA 9010 FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH (3 credits)**

This course covers the following areas: (1) information systems as an academic discipline including classic readings in IS and its reference disciplines, (2) theory development and evaluation, (3) research methods applicability in IS.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems areas or with the permission of the instructor; ISQA 8060 or equivalent. Not open to non-degree graduate students.

**ISQA 9020 TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH (3 credits)**

This seminar is a survey course on the technical and process issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in technical and process issues with the application of that knowledge to research on information systems. Major topics include: software engineering, programming, data base systems, decision support systems, data warehousing and mining systems, object-oriented systems, adaptive and expert systems, client-service systems, information filtering and multimedia systems, information agents, mobile computing, telecommunications, and electronic commerce.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9030 BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS (3 credits)**

This seminar is a survey course on behavioral and organizational issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in behavioral and organizational issues with the application of that knowledge to research on information systems. The course is intended for doctoral students in Information Technology or related areas.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9120 APPLIED EXPERIMENTAL DESIGN AND ANALYSIS (3 credits)**

Constructing and analyzing designs for experimental investigations; completely randomized, randomized complete block and Latin-square designs, split-plot designs, incomplete block designs, confounded factorial designs, nested designs, and treatment of missing data, comparison of designs. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (a programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9130 APPLIED MULTIVARIATE ANALYSIS (3 credits)**

The use of multivariate analysis for solving business problems. Multivariate Analysis of Variance (MANOVA), factor, cluster, and discriminant analysis techniques in IT research. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (A programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9150 RESEARCH IN INFORMATION TECHNOLOGY (3 credits)**

Research methods in Information Technology involves an overview of the research process specific to problems in IT. Students will learn about theories in IT relevant to their areas of research. They will identify key components of research problems in IT, understand different types of research processes, develop research questions, and design research projects. They will learn to construct research instruments that enable them to collect data. They will also learn about the different data collection and analysis tools and techniques. As part of this course, students will take the CITI training and achieve the research readiness they need to succeed in the PhD in IT program.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**ISQA 9900 ADVANCED RESEARCH IN INFORMATION SYSTEMS (3 credits)**

This course provides a format for exploration of advanced research areas that are of interest to doctoral students in the information systems and/or information technology area. The specific research area will vary from semester to semester, in keeping with research interests of faculty and students. Examples of areas include, but are not limited to, e-business technology, mobile commerce, intelligent agents e-enabled decision support, electronic collaboration, computer-mediated communications, human-computer interaction and information assurance.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor

**ITIN 8000 TECHNOLOGY & INNOVATION-STATE OF THE ART (3 credits)**

ITIN 8000 provides a regular forum for IT Innovation graduate students, where the latest developments in the field of IT Innovation are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in IT Innovation. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in IT Innovation program may register. Not open to non-degree graduate students.

**ITIN 8006 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 4000).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ITIN 8100 INTERMEDIA (3 credits)**

This is an ongoing course that brings together students of the arts and students of scientific disciplines in order to facilitate and promote the creation of intermedia art, and to further explore shared resources, joint research, and exhibition/performance opportunities.

**Prerequisite(s)/Corequisite(s):** Instructor permission

**ITIN 8210 DESIGN SCIENCE AND THEORY DEVELOPMENT (3 credits)**

The purpose of this course is to help students understand theory, theoretical contributions, and design science. Students will approach such questions as: What is a theory? What makes a good theory? Why are theories just theories and not laws? What is not a theory? Following this introduction, we explore design science as a research methodology and Information Technology design theories. Ultimately, students create their own new studies around some design concept.

**Prerequisite(s)/Corequisite(s):** Graduate standing / permission of the instructor

**ITIN 8220 DESIGN PROCESS (3 credits)**

Inter-disciplinary design teams will work together to design and innovate products of the future. The design projects in the course are developed to directly address a problem brought forward by a technology company in the Omaha area in order to provide students with a design experience that directly impacts real-world product development. Students will focus on the technological (interface), physical (ergonomics) and aesthetic quality of design, and will learn how to conduct rigorous user studies in a laboratory setting. Teams will be cross disciplinary and consider all aspects of the design, creation, testing, and fabrication of the products.

**ITIN 8256 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 4720, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or instructor permission.

**ITIN 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 4260).

**ITIN 8300 RESEARCH FOUNDATIONS (3 credits)**

This course serves as an introduction to research literature and research methodology in the innovation and creativity research domain. Students are introduced to skills, methodological issues, and bibliographic resources to enhance their ability in critically evaluating and conducting research in the IT Innovation field. Through a series of readings, in-class discussions, and lectures the student will select and define a research question, explore the various types of research designs and complete a literature review.

This course is structured to make research meaningful and significant and enable students to write effectively.

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent

**ITIN 8900 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the graduate student who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Graduate Program Committee Chair at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required

**ITIN 8940 ITIN CAPSTONE I (3 credits)**

The purpose of the Information Technology Innovation (ITIN) capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and includes an interdisciplinary field of study. The capstone is the culmination product of the specific various disciplines a student has selected as the unique combination for his or her degree. This course serves as part one of the capstone project for the ITIN Masters degree. The two courses for the ITIN capstone project are intended to be completed in two consecutive semesters (Fall/Spring).

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: two sections of ITIN 8000, ITIN 8220, 8300, and 3 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

**ITIN 8950 ITIN CAPSTONE II (3 credits)**

The purpose of the ITIN capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and an interdisciplinary field. The capstone is the culmination product for prospective graduate and utilizes the discipline(s) a student has selected as the unique combination for his or her degree. This course serves as part two of the capstone project for the Information Technology Innovation (ITIN) program. The two courses for the ITIN capstone project are taught in two consecutive semesters.

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: three sections of ITIN 8000, ITIN 8220, 8300, 8940 and 6 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

**ITIN 8990 THESIS (1-6 credits)**

This course is required for the Master of Science degree in the MS in IT Innovation Program. The purpose of this course is to conduct original research in IT Innovation, under supervision of a faculty member, culminating in a paper document that represents the student's competency in their chosen field, as well as scholarly contributions. With consultation from their committee, MS in IT Innovation thesis students should be prepared to independently complete the writing of their thesis and successfully defend their thesis.

**Prerequisite(s)/Corequisite(s):** Graduate major in ITIN and approval of the Thesis Advisory Committee.

**ITIN 9300 SOCIAL COMPUTING AND ITS APPLICATIONS (3 credits)**

It is indisputable that social media and the Internet more broadly reshaped information disbursement and processing. Digital participation and communication has become the 'new normal' and the dividing line between off- and online communities is increasingly blurred. This leads to specific challenges in the extraction and analysis of online social media data, and the management of new communication.

**Prerequisite(s)/Corequisite(s):** Open to all currently-admitted doctoral students. Students should have a technical aptitude; experience with at least one web scripting language, (e.g. PHP, rails, python etc) is helpful. Experience with JSON is advantageous but not essential.

**MATH 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with CSCI 4010, CSCI 8016, MATH 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**MATH 8036 MODERN ALGEBRA (3 credits)**

Algebra is the study of mathematical manipulations that preserve something (like equality - when solving equations). The areas in which Algebra finds application are quite diverse, from Ancient Greek Geometry through to Modern Information Protection and Security (error correcting codes, data compression, and cryptography). This course begins with topics that should be familiar (such as ruler-and-compass constructions, and modular arithmetic) and builds upon this foundation through polynomial rings up to finite fields and basic group theory. (Cross-listed with MATH 4030).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better

**MATH 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with CSCI 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**MATH 8056 LINEAR ALGEBRA (3 credits)**

Linear algebra is extensively utilized in the mathematical modeling of many natural phenomena. Many scientific and engineering disciplines, such as data science, chemical engineering and biology, make extensive use of the theory and techniques commonly present in basic to advanced linear algebra courses. The goal of this course is to help students to grasp a solid theoretical understanding of vectors, vector spaces, inner product spaces, linear transformations, eigenvalues, canonical forms, complex vectors, matrices, and orthogonality. By going through the materials in a mathematically rigorous way, students will develop deeper and more accurate intuitions of the basic concepts in linear algebra. Consequently, the applications of linear algebra will become much more transparent. (Cross-listed with MATH 4050).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a grade of C- or better; MATH 2030 or MATH 2230 or equivalent with a grade of C- or better; or permission

**MATH 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with CSCI 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**MATH 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with CSCI 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**MATH 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with CSCI 3100, CSCI 8105, MATH 3100).

**MATH 8116 ABSTRACT ALGEBRA I (3 credits)**

An introduction to group theory. Various classes of group are studied: symmetric groups, abelian, cyclic, and permutation groups. Basic tools are developed and used: subgroups, normal subgroups, cosets, the Lagrange theorem, group homomorphisms, quotient groups, direct products, and group actions on a set. The course culminates with the Sylow theorems in finite group theory. The theory is illustrated with examples from geometry, linear algebra, number theory, crystallography, and combinatorics. (Cross-listed with MATH 4110).

**Prerequisite(s)/Corequisite(s):** MATH 4050/MATH 8056 with a C- or better or MATH 4560/MATH 8566 with a C- or better or permission of instructor

**MATH 8126 ABSTRACT ALGEBRA II (3 credits)**

An introduction to ring and field theory. Various classes of commutative rings are considered including polynomial rings, and the Gaussian integers. Examples of fields include finite fields and various extensions of the rational numbers. Concepts such as that of an ideal, integral domain, characteristic and extension field are studied. The course culminates with an introduction to Galois theory. Applications include the resolution of two classical problems: the impossibility of angle-trisection and the general insolubility of polynomial equations of degree 5 or higher. (Cross-listed with MATH 4120)

**Prerequisite(s)/Corequisite(s):** MATH 4110/MATH 8116 with a C- or better or permission of instructor

**MATH 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, CSCI 8156, MATH 4150).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**MATH 8235 INTRODUCTION TO ANALYSIS (3 credits)**

This course provides a theoretical foundation for the concepts of elementary calculus. Topics include real number system, topology of the real line, limits, functions of one variable, continuity, differentiation. (Cross-listed with MATH 3230).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2230 each with a grade of C- or better.

**MATH 8236 MATHEMATICAL ANALYSIS I (3 credits)**

Provides a theoretical foundation for the concepts of elementary calculus. Topics include ordered fields and the real number system, basic properties of complex numbers, metric space topology, sequences and series in  $\mathbb{R}^k$ , limits and continuity in a metric space, monotonic functions. (Cross-listed with MATH 4230).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or equivalent

**MATH 8246 MATHEMATICAL ANALYSIS II (3 credits)**

Provides a theoretical foundation for the concepts of classical Calculus (vector calculus included). Topics include sequences and series of functions, uniform convergence, power series, Fourier series, multivariable real differential and integral calculus, the Implicit Function Theorem, integration of different forms, and the important formulas, connecting those integrals, due to: Green, Gauss, Riemann, and Ostrogradski. (Cross-listed with MATH 4240).

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236

**MATH 8250 PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

Partial differential equations (PDEs) are fundamental in the application of mathematics to science and engineering. Topics to be covered will include: Linear and nonlinear first-order equations, classification of second-order linear equations, elliptic, hyperbolic and parabolic equations and boundary value problems, and Green's functions.

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or instructor's permission. MATH 4330/MATH 8336 is recommended, but not required.

**MATH 8276 COMPLEX ANALYSIS (3 credits)**

This course is an introduction to the theory of functions of a complex variable, a fundamental area of mathematics with multiple applications to science and engineering. Topics include the field of complex numbers, complex differentiation, the complex contour integral and Cauchy's integral formula, Taylor expansions and analytic functions, conformal mapping and Riemann's conformal equivalence theorem, residue theory and Laurent series, harmonic functions, and applications. (Cross-listed with MATH 4270).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or permission of the instructor.

**MATH 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, CSCI 8305, MATH 3300).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor.

**MATH 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, CSCI 8306, MATH 4300).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**MATH 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, CSCI 8316, MATH 4310).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**MATH 8326 COMPUTATIONAL OPERATIONS RESEARCH (3 credits)**

Survey of computational methods used in the solution of operations research problems. Topics include scripting to guide optimization software, metaheuristics for optimization, and basic machine learning algorithms. (Cross-listed with MATH 4320).

**Prerequisite(s)/Corequisite(s):** MATH 3200 and MATH 4300 each with a grade of C- or better or permission of instructor.

**MATH 8336 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

This course introduces the basic methods of PDEs guided by applications in physics and engineering. The main topics to be covered include The Linear First order PDEs, Transport equations, Characteristics, Classification of PDEs, Separation of variables, Heat conduction, vibrating membranes, boundary value problems, Maximum principle, Sturm-Liouville problems, Fourier series, Fourier integrals, Harmonic functions, Legendre polynomials, Distributions, Green's functions. (Cross-listed with MATH 4330).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better and MATH 2350 with a C- or better, or permission of instructor; MATH 2050 recommended, not required.

**MATH 8356 ORDINARY DIFFERENTIAL EQUATIONS (3 credits)**

This course covers the theory of initial-, boundary-, and eigenvalue problems, existence theorems, real and complex linear systems of differential equations, and stability theory. There will be a strong emphasis on methods for finding solutions of initial and boundary value problems and analyzing properties of these solutions for various ordinary differential equations. (Cross-listed with MATH 4350).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better, MATH 2050 with a C- or better, and MATH 2350 with a C-, or better or instructor's permission.

**MATH 8400 DYNAMICAL SYSTEMS AND CHAOS (3 credits)**

Review of difference equations and differential equations, stability theory, periodic orbits, lyapunov exponents, fractals, chaos, state reconstruction from time series data.

**Prerequisite(s)/Corequisite(s):** Permission from Instructor

**MATH 8406 THE FINITE ELEMENT METHOD (3 credits)**

Introduction to finite elements methods for solving ordinary and partial differential equations. Theoretical foundations of finite element methods for boundary value problems, approximation by piecewise polynomial functions, variation formulation of partial differential equations, basic error estimates. The Rayleigh-Ritz-Galerkin method, convergence of approximations, time-dependent problems, error analysis, discretization and computer implementation, applications to problems in elasticity, heat transfer, and fluid mechanics. (Cross-listed with MATH 4400).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2050 and MATH 2350 all with a C- or better or instructor permission. MATH 3300/MATH 8305 and MATH 4330/MATH 8336 recommended. Students should be able to use a programming language (ie MATLAB) to complete computational assignments

**MATH 8410 BOOLEAN NETWORKS (3 credits)**

This course is focused on introduction to discrete dynamical networks, in particular logical networks, and their applications.

**Prerequisite(s)/Corequisite(s):** MATH 1960 (Calculus II), MATH 2230 (proof writing skills), MATH 4740 or equivalent (basic probability theory), basic computer skills; or permission of the instructor.

**MATH 8430 LINEAR PROGRAMMING (3 credits)**

This course includes a complete development of theoretical and computational aspects of linear programming. Basic theoretical foundations covered include polyhedra, convexity, linear inequalities and duality. Advanced topics such as decomposition and column generation are covered. Both simplex methods and interior point methods are included.

**Prerequisite(s)/Corequisite(s):** MATH 4300/MATH 8306

**MATH 8440 NETWORK PROGRAMMING (3 credits)**

A presentation of network flow models and optimization algorithms. Topics include pure, generalized, integer, and constrained network problems, plus special cases of each, including transportation, assignment, shortest-path, transshipment, and multicommodity.

**Prerequisite(s)/Corequisite(s):** MATH 4300/MATH 8306

**MATH 8456 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, STAT 4450, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**MATH 8460 INTEGER PROGRAMMING (3 credits)**

Advanced study in mathematical programming with integer or mixed integer variables. Topics include integer programming, model creation, developing solution algorithms, and applications of integer programming.

**Prerequisite(s)/Corequisite(s):** MATH 2030 or MATH 2230 Not open to non-degree graduate students.

**MATH 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with CSCI 8480).

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**MATH 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with CSCI 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with CSCI 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with CSCI 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**MATH 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, CSCI 8566, MATH 4560).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**MATH 8616 INTRODUCTION TO TOPOLOGY (3 credits)**

This is a proof-oriented course presenting the foundations of topology.

Metric spaces and general topological spaces are introduced. The course explores the properties of connectedness, compactness and completeness, and operations of Tychonoff product and hyperspace. (Cross-listed with MATH 4610).

**Prerequisite(s)/Corequisite(s):** MATH 3230/8235 with a C- or better or permission of instructor.

**MATH 8620 GENERAL TOPOLOGY (3 credits)**

General topology has roots in geometry and analysis through the study of spaces, dimensions, and transformations. Its development was influenced by the parallel development of (axiomatic) set theory. This course introduces topological spaces from the point of view of separation axioms, countability axioms, compactifications, Baire property, and other completeness properties. Basic concepts of Descriptive Set Theory are also introduced.

**Prerequisite(s)/Corequisite(s):** MATH 4610/8616 or permission of instructor.

**MATH 8626 ITERATED FUNCTION SYSTEMS AND FRACTALS (3 credits)**

This is a proof-oriented course presenting the foundations of fractal geometry. It introduces students to the beauty, magic, and applications of fractals and iterated function systems, with emphasis on the mathematics behind it all. Topics range from contractions on hyperspaces and their fixed points to fractal dimensions to Julia and Mandelbrot sets. (Cross-listed with MATH 4620).

**Prerequisite(s)/Corequisite(s):** MATH 8616 with a C or better or permission of instructor.

**MATH 8645 MODERN GEOMETRY (3 credits)**

This course will study the modern foundations of Euclidean and Non-Euclidean Geometry. Included will be a study of the principles of axiomatic systems. Euclidean Geometry will be investigated using Hilbert's axioms for Euclidean geometry (or another equivalent Euclidean geometry axiom set). Hyperbolic geometry will be encountered through the models of Klein and Poincare. Neutral geometry with Lambert and Saccheri quadrilaterals will be studied. Finite geometries and projective geometries will also be explored. (Cross-listed with MATH 3640).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a grade of C- or better.

**MATH 8650 INTRODUCTION TO PROBABILITY MODELS (3 credits)**

This is an introduction to probability modeling including Poisson Processes, Markov chains, birth-death processes, queueing models and renewal theory. Applications will be an important part of the course.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746 or STAT 3800/STAT 8805 or permission of instructor.

**MATH 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, CSCI 8666, MATH 4660).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**MATH 8670 TOPICS IN PROBABILITY AND STATISTICS (3 credits)**

A variable topics course in probability and or statistics. Topics covered will include one or more of the following: reliability theory and applications in engineering and science, advanced probability and statistical models, theory of parametric estimation and applications, and advanced probability theory and application.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8740 or STAT 3800/STAT 8800 or permission from instructor

**MATH 8720 RELIABILITY THEORY (3 credits)**

This course covers the probabilistic and statistical aspects of reliability theory. Reliability theory is concerned with the probability that a component or system is successfully working over a given time period or at a specific time instance. (Cross-listed with STAT 8720).

**MATH 8746 INTRODUCTION TO PROBABILITY AND STATISTICS I (3 credits)**

A mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments; specific discrete and continuous distributions; and transformations of random variables. (Cross-listed with MATH 4740).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and either MATH 2230 or MATH 2030 or permission of instructor.

**MATH 8756 INTRODUCTION TO PROBABILITY AND STATISTICS II (3 credits)**

Theory and methods of statistical inference including sampling distributions, estimators, estimation, and statistical hypotheses. (Cross-listed with MATH 4750).

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746

**MATH 8766 TOPICS IN APPLIED MATHEMATICS (3 credits)**

Selection of such topics such as dynamical systems and chaos, Boolean networks, modeling of discrete or continuous systems, matrix theory, difference equations, information theory, discrete events simulation and other approved by Upper Curriculum Committee. (Cross-listed with MATH 4760).

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 8855 HISTORY OF MATHEMATICS (3 credits)**

An overview of the history of mathematics and famous mathematicians via studying and solving famous mathematical problems, exploring famous mathematical theorems, and studying the biographies of famous mathematicians. (Cross-listed with MATH 3850).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and MATH 2230

**MATH 8960 MASTER'S PROJECT (1-6 credits)**

An applied project, designed and executed under the supervision of both a faculty and industry advisor. In the project the student will apply their mathematical and/or statistical skills to an applied problem. The student will present their results via a written report and oral presentation. (Cross-listed with STAT 8960).

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and graduate program chair. Not open to non-degree graduate students.

**MATH 8970 INDEPENDENT GRADUATE STUDIES (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available to him/her in a formal course. The topics studied will be a graduate area in mathematics to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of instructor and graduate classification.

**MATH 8980 GRADUATE SEMINAR (1-3 credits)**

A graduate seminar in mathematics.

**MATH 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of mathematics. Approval of the topic and the completed project by thesis committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by thesis committee is required.

**MATH 9110 ADVANCED TOPICS IN APPLIED MATHEMATICS (3 credits)**

Advanced treatment of a specific topic in the area of applied mathematics not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MATH 9230 THEORY OF FUNCTION OF REAL VARIABLES (3 credits)**

A theoretical foundation for the concepts of measure theory and integration on a measure space as developed by Henry Leon Lebesgue (followed by others) starting the first decade of the 20th century including a comparison with Riemann's classical construction of integration theory known from classical calculus. Topics include: Real number system, convergence, continuity, bounded variation, differentiation, Lebesgue-Stieltjes integration, abstract measure theory, and the  $L_p$  spaces.

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236 or permission of the instructor

**STAT 8005 STATISTICAL METHODS I (3 credits)**

An introduction to descriptive statistics, measures of central value and dispersion, probability and distributions, population and sample, simple linear regression, statistical inference: point estimation, confidence intervals, hypotheses testing, two population comparison, goodness-of-fit tests, analysis of variance. Statistical software like Minitab or Excel will be utilized in the course. (Cross-listed with STAT 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent with a grade of C- or better.

**STAT 8416 INTRODUCTION TO DATA SCIENCE (3 credits)**

Topics covered in this course include Data Technology, Methods of gathering and cleaning structured or unstructured data, Exploratory data analysis & Dynamic and interactive data visualization, Modeling data for prediction, forecasting or classification. (Cross-listed with STAT 4410).

**Prerequisite(s)/Corequisite(s):** MATH 4740 with a C- or better or concurrent; or STAT 3800 with a C- or better or concurrent; or permission of instructor. Students should be comfortable with computer programming & have knowledge of data structures & preliminary statistical methods.

**STAT 8426 EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (3 credits)**

Topics covered in this course include Exploratory Data Visualization for categorical/qualitative single/multivariate data, Grammar of Graphics, Organizing Data for Visualization, Methods of Displaying Data that include dynamic and interactive visualization, Visual Diagnostics of Statistical Models and Visual Statistical Inference. Students planning to enroll in this course should be comfortable with computer programming and have knowledge of data structures and preliminary statistical methods. (Cross-listed with STAT 4420)

**Prerequisite(s)/Corequisite(s):** STAT 3800 or STAT 8805 or MATH 4740 or MATH 8746 with a grade of C- or better or another introductory probability/statistics course with a grade of C- or better, and MATH 3200 or CSCI 1620 with a grade of C- or better, or permission of instructor.

**STAT 8436 LINEAR MODELS (3 credits)**

This is an introduction to linear statistical models which will include: simple linear regression models, multiple linear regression models, ANOVA models including one way ANOVA, randomized block design, and other designs. Also, logistic regression models, Poisson regression models, bootstrapping/resampling models, survival analysis. Some necessary linear algebra and mathematical statistics ideas will be covered in the course also. If time allows, some mixed models and/or survival models. Much use of computer software will be made. (Cross-listed with STAT 4430)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or instructor permission based on students' having taken a basic statistics course w/ a grade of C- or better & having at least a basic knowledge of calculus.

**STAT 8446 TIME SERIES ANALYSIS (3 credits)**

The objective of this course is to learn and apply statistical methods for the analysis of data that have been observed over time. Topics covered include: Models for Stationary and Non-Stationary Time Series, Model Specification, Parameter Estimation, Model Diagnostics, Forecasting, Seasonal Models, Time Series Regression, and Spectral Analysis. Statistical software will be used. (Cross-listed with STAT 4440)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or another introductory probability/statistics course w/ a C- or better, or permission of instructor.

**STAT 8456 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, MATH 8456, STAT 4450)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**STAT 8700 BAYESIAN STATISTICS (3 credits)**

The objective of this course is to introduce the Bayesian approach to statistical inference. Topics covered include: Review of probability, Bayes theorem, and Likelihood; The Bayesian methodology, prior and posterior distributions; Choices of prior distribution, conjugate and Jeffreys priors; Credible intervals and inference; Bayesian computation - Markov Chain Monte Carlo and the Gibbs Sampler; Hierarchical models; Regression models.

**Prerequisite(s)/Corequisite(s):** MATH 8756 or equivalent or permission of instructor.

**STAT 8710 DESIGN AND ANALYSIS OF EXPERIMENTS (3 credits)**

Introduction to design and analysis of controlled experiments. The goal of experimental design is to be able to construct an experiment to identify which factors most impact the response and do so in an efficient manner. Statistical software will be used. Types of designs studied include: Randomized Block Designs, Latin Square Designs, Incomplete Block Designs, Factorial Designs, and Nested Designs.

**Prerequisite(s)/Corequisite(s):** MATH 4750/8756 or permission of instructor.

**STAT 8720 RELIABILITY THEORY (3 credits)**

This course covers the probabilistic and statistical aspects of reliability theory. Reliability theory is concerned with the probability that a component or system is successfully working over a given time period or at a specific time instance. (Cross-listed with MATH 8720).

**Prerequisite(s)/Corequisite(s):** Either MATH 4740 or STAT 3800 or permission of the instructor. Some basics of mathematical analysis are helpful when discussing limit theorems, but not required.

**STAT 8805 APPLIED ENGINEERING PROBABILITY AND STATISTICS (3 credits)**

An introduction to the application of probability and statistics to engineering problems. Topics include: probability and probability distributions, mathematical expectation, distribution of random variables, binomial, Poisson, hypergeometric, gamma, normal, and t-distributions, Central Limit Theorem, confidence intervals, hypothesis testing. If time allows, some linear regression and contingency tables. Credit for both MATH 4740 and STAT 3800 will not be given. (Cross-listed with STAT 3800)

**Prerequisite(s)/Corequisite(s):** MATH 1970

**STAT 8960 MASTER'S PROJECT (1-6 credits)**

An applied project, designed and executed under the supervision of both a faculty and industry advisor. In the project the student will apply their mathematical and/or statistical skills to an applied problem. The student will present their results via a written report and oral presentation. (Cross-listed with MATH 8960).

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and graduate program chair. Not open to non-degree graduate students.

## Economics

### Degree Programs Offered

- Economics, MA (p. 1143)
- Economics, MS (p. 1145)
- Business Administration, MBA and Economics, MS (MBA/ECON) (p. 1040)
- Economic Education Certificate (p. 1149)

**ECON 8010 SEMINAR IN PUBLIC FINANCE (3 credits)**

This course is designed to develop the tools of applied welfare economics and to use these tools to evaluate the expenditure and tax decisions of governments. The structure, effects and reform of the U.S. individual and corporate income taxes, social security and healthcare system will be emphasized. Government debt and deficits will also be discussed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100 or permission

**ECON 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with BSAD 8020).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 or BSAD 8180, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8050 ECONOMIC EDUCATION (3 credits)**

A study and examination of economic principles and how they can be related to the teacher's classroom presentation. This course is designed to furnish the k-12 teacher with sufficient background and understanding to aid in the recognition of economic issues and the teaching of economic concepts and principles.

**Prerequisite(s)/Corequisite(s):** No previous course work in economics. Not open to Economics majors.

**ECON 8200 SEMINAR IN MICRO ECONOMIC THEORY (3 credits)**

The course covers major topics in microeconomic theory. The major topics covered are the theory of consumer behavior, theory of production and cost, theory of the firm, pure exchange economy, general equilibrium, and welfare theory.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220 and ECON 8306 or permission.

**ECON 8210 MANAGERIAL ECONOMICS (3 credits)**

Microeconomics for graduate students of business. Economic analysis of the business firm and its environments, with emphasis on market structure, production possibilities and cost factors. Additional consideration is given to the theory of the firm under conditions of uncertainty. (Cross-listed with BSAD 8100).

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and ECON 2200 or equivalent.

**ECON 8216 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8220 SEMINAR IN MACRO THEORY (3 credits)**

This course traces the development of macroeconomic theory from the classical point of view to current schools of thought. Keynesian, neo-Keynesian and neo-classical models are developed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100, ECON 3220, and ECON 8306, or permission.

**ECON 8230 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, as well as the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of statistical analysis techniques to business situations within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**ECON 8290 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220, or equivalents, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8300 ECONOMETRICS (3 credits)**

The study of the underlying assumptions, techniques and applications of single and multiple equation regression analysis in economics.

**Prerequisite(s)/Corequisite(s):** Basic Statistics, ECON 8306/ECON 4300, or permission. Not open to non-degree graduate students.

**ECON 8306 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 4300).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180.

**ECON 8310 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with BSAD 8080).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**ECON 8316 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 4350).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 8320 TOOLS FOR DATA ANALYSIS (3 credits)**

The course will cover basic principles of programming languages, as well as libraries useful in collecting, cleaning and analyzing data to answer research questions. The course will utilize basic Economic principles and Econometric methods as inspiration for assignments and projects throughout the duration of the course, and will do so in a way that is accessible to non-Economists. This course is intended to introduce the student to the Python programming language as a tool for conducting data analysis. While the course uses Python, the student should be able to move to other languages frequently used in data analysis using the principles taught in this course.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8150 (or equivalent); BSAD 2130 or equivalent; or instructor approval.

**ECON 8326 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role to markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 4320).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, BSAD 8150 or permission of instructor.

**ECON 8330 DATA ANALYSIS FROM SCRATCH (3 credits)**

Econometrics is routinely taught as an application class using a 'black box' like Stata or SAS to perform calculations. This class takes a different approach. Using the Python programming language, we build all estimators from scratch. Additionally, we introduce numerous non-parametric and simulation techniques. This approach to econometrics results in a stronger understanding of statistical assumptions and methods, a better understanding of when a method is appropriate, and stronger programming techniques. Furthermore, a deeper understanding of the underlying mechanics provides the student the ability to program custom procedures not already built into popular software packages.

**Prerequisite(s)/Corequisite(s):** A multivariate or regression analysis course such as ECON 8300, ISQA 9130 or STAT 8436, and a programming class such as ECON 8320 or equivalent programming experience; or instructor approval. Not open to non-degree graduate students.

**ECON 8346 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 4340).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180 or permission of the instructor.

**ECON 8456 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 4450).

**ECON 8576 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 4570).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or Permission from the instructor

**ECON 8600 HEALTH ECONOMICS (3 credits)**

This course is designed to help students understand how the theories and models of economics can be applied to the study of health and health care. The examination of the markets (demand and supply) for health, health care and health insurance is stressed. In addition, the economic analytic tools such as microeconomic theories and economic evaluation methods also will be reviewed and introduced. The objective of this course is to equip students with the knowledge tools to examine and analyze the problems issues of health care from the perspective of economics.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or equivalent.

**ECON 8616 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 4610).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8626 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 4620).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8666 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 4660).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, BSAD 8736.)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students.

**ECON 8856 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 4850).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8910 SPECIAL STUDIES IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses, each designed to focus on current major issues and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing and as indicated for specific workshop or seminar.

**ECON 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6 hours) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with BSAD 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**ECON 8920 INDEPENDENT STUDY (1-3 credits)**

Guided independent study and research.

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and permission of instructor.

**ECON 8940 ECONOMIC INTERNSHIP (1-3 credits)**

Guided internship in a firm or organization that makes use of, or extends, the student's skill in economics.

**Prerequisite(s)/Corequisite(s):** Completion of at least nine hours of graduate level economics and permission of instructor.

**ECON 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of economics. Approval of the topic and the completed project by departmental committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by departmental committee is required.

## Economics, MA

Department of Economics, College of Business Administration

### Vision Statement

The science of economics creates a deep understanding of individual behavior, firm dynamics, markets, and some of the world's most interesting and challenging problems. Economics is a way of thinking that provides generalized tools to the practitioner to solve business, social, political, and many other issues faced by the modern organization.

The graduate program in economics is designed to provide a solid background in theory, quantitative methods and application appropriate to the needs of economists involved in the analysis of domestic and international business and economic conditions, financial analysis, policy analysis, forecasting, simulation and related work. In addition, the program prepares students for further graduate work in economics and related fields.

### Program Contact Information

Catherine Yap Co, PhD, Graduate Program Chair and Advisor  
332R Mammel Hall (MH)  
6708 Pine Street  
402.554.2805  
cco@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-business-administration/economics/graduate-programs/>)

## Admissions

### Application Deadlines

NOT APPLICABLE

New economics graduate students will be admitted only to the MS economics program (non-thesis option). After completing nine (9) hours of coursework in the MS in economics program, a student may submit a written request to the economics graduate program committee to transfer from the MS program to the MA (thesis option) program. Students are strongly encouraged to seek the advice of the economics graduate program advisor prior to submitting the written request. The student's request should include a thesis proposal written in consultation with a student-identified main thesis advisor (must be a tenure-track faculty in the economics department) who will serve as the chair of the thesis committee. In addition, the student should include an unofficial graduate transcript, a writing sample, and any other relevant information in the request. The graduate program committee, based on its evaluation of the student's potential to complete a quality master's thesis, will approve or deny this request. Upon transfer to the MA program an oral defense of the proposal will be scheduled and the thesis committee members will approve the scope of work. If the graduate program committee denies the student's request to transfer to the MA program, the student may submit a second (and final) written request to transfer to the MA program with supporting materials to the graduate program committee after he/she has completed 18 credit hours of coursework in the MS in economics program.

## Degree Requirements

Code	Title	Credits
<b>Required Core Courses</b>		
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS <sup>1</sup>	3
ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8300	ECONOMETRICS	3
<b>Electives and Concentrations</b>		
Elective courses will be selected in consultation with the graduate program chair and advisor. Students are strongly encouraged to complete an area of concentration which requires nine hours of elective courses. Students' area(s) of concentration will appear on the transcript. Dual-level ("8-6") course(s) completed as an undergraduate cannot be repeated for graduate credit.		9-12
ECON 8010	SEMINAR IN PUBLIC FINANCE	
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8050	ECONOMIC EDUCATION	
ECON 8210	MANAGERIAL ECONOMICS	
ECON 8230	BUSINESS CONDITIONS ANALYSIS	
ECON 8310	BUSINESS FORECASTING	
ECON 8320	TOOLS FOR DATA ANALYSIS	
ECON 8330	DATA ANALYSIS FROM SCRATCH	
ECON 8600	HEALTH ECONOMICS	
ECON 8910	SPECIAL STUDIES IN ECONOMICS	
ECON 8920	INDEPENDENT STUDY	
ECON 8940	ECONOMIC INTERNSHIP	
ECON 8216	INDUSTRIAL ORGANIZATION	
ECON 8316	BUSINESS INTELLIGENCE AND REPORTING	
ECON 8326	NATURAL RESOURCE ECONOMICS	
ECON 8346	ECONOMICS OF TECHNOLOGY	
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	
ECON 8616	INTERNATIONAL TRADE	
ECON 8626	INTERNATIONAL MONETARY THEORY	
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	
ECON 8736	ECONOMICS OF ENTREPRENEURSHIP	
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	
ACCT 8210	FINANCIAL ACCOUNTING THEORY	
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	

BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	
BSAD 8300	ORGANIZATION THEORY & DESIGN	
BSAD 8510	SECURITY ANALYSIS	
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
BSAD 8610	REAL ESTATE APPRAISAL	
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH	
BSAD 8710	SUPPLY CHAIN MANAGEMENT	
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	
BSAD 8336	PROJECT MANAGEMENT	
BSAD 8356	GLOBAL SOURCING AND INNOVATION	
BSAD 8376	SUPPLY CHAIN ANALYTICS	
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	
PA 8300	POLICY DESIGN AND IMPLEMENTATION	
PA/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8180	ELECTRONIC COMMERCE	
ISQA 8410	DATA MANAGEMENT	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8736	DECISION SUPPORT SYSTEMS	
MATH 8250	PARTIAL DIFFERENTIAL EQUATIONS	
MATH 8500	NUMERICAL LINEAR ALGEBRA	
MATH 8510	NUMERICAL DIFFERENTIAL EQUATIONS	
MATH 8520	ADVANCED TOPICS IN OPERATIONS RESEARCH	
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	
MATH 8056	LINEAR ALGEBRA	
MATH 8235	INTRODUCTION TO ANALYSIS	
MATH 8236	MATHEMATICAL ANALYSIS I	
MATH 8246	MATHEMATICAL ANALYSIS II	
MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH 8336	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 8356	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 8616	INTRODUCTION TO TOPOLOGY	
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I	
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 8766	TOPICS IN APPLIED MATHEMATICS	
STAT 8446	TIME SERIES ANALYSIS	
ECON 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> ECON 8306: This course is not required for students demonstrating satisfactory mathematical skills. If this course is not taken, students should take three (3) additional hours of elective courses.

## Exit Requirement

- Thesis 6 hours ECON 8990

All candidates should carefully review the Graduate College requirements for forming a supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

## Concentrations

### Business Economics

Code	Title	Credits
Select three of the following:		
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8940	ECONOMIC INTERNSHIP	3
<b>Total Credits:</b>		<b>9</b>

### Econometrics and Data Analytics

Code	Title	Credits
Required Courses		
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
<b>Total Credits:</b>		<b>9</b>

### Growth and Innovation Economics

Code	Title	Credits
Select three of the following:		
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

### International Economics

Code	Title	Credits
Select three of the following:		
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3

BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
<b>Total Credits:</b>		<b>9</b>

## Monetary and Financial Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
BSAD 8510	SECURITY ANALYSIS	3
<b>Total Credits:</b>		<b>9</b>

## PhD Preparatory

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
MATH 8056	LINEAR ALGEBRA	3
MATH 8235	INTRODUCTION TO ANALYSIS	3
MATH 8236	MATHEMATICAL ANALYSIS I	3
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
<b>Total Credits:</b>		<b>9</b>

## Public Policy Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
<b>Total Credits:</b>		<b>9</b>

## Real Estate and Land Use Economics

Code	Title	Credits
<b>Required Courses</b>		
BSAD 8600	REAL ESTATE FINANCE THEORY AND APPLICATIONS	3
BSAD 8610	REAL ESTATE APPRAISAL	3
<b>Electives</b>		
To be selected in consultation with the Graduate Program Chair		3
<b>Total Credits:</b>		<b>9</b>

## Trade and Global Value Chains

Code	Title	Credits
<b>Required Courses</b>		<b>6</b>
ECON 8616	INTERNATIONAL TRADE	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
<b>Electives</b>		<b>3</b>
To be selected in consultation with the Graduate Program Chair		3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

## Academic Performance

Students dismissed from the MS/MA economics program may request for reinstatement to the program by following this procedure. Write a reinstatement letter addressed to the economics graduate program committee and hand delivered to the economics graduate program advisor as soon as possible addressing the following points at the minimum:

1. Request for reinstatement;
2. Explanations for below par performance;
3. Arguments for why despite item #2 student be reinstated back into the program;
4. Describe activities student will do to ensure that performance moving forward will meet the quality of work standards set by Graduate Studies.

The economics graduate program committee will evaluate the student's request and inform the student of its decision as soon as practically possible.

## Economics, MS

**Department of Economics, College of Business Administration**

### Vision Statement

The science of economics creates a deep understanding of individual behavior, firm dynamics, markets, and some of the world's most interesting and challenging problems. Economics is a way of thinking that provides generalized tools to the practitioner to solve business, social, political, and many other issues faced by the modern organization.

The graduate program in economics is designed to provide a solid background in theory, quantitative methods and application appropriate to the needs of economists involved in the analysis of domestic and international business and economic conditions, financial analysis, policy analysis, forecasting, simulation and related work. In addition, the program

prepares students for further graduate work in economics and related fields.

## Program Contact Information

Catherine Yap Co, PhD, Graduate Program Chair and Advisor  
332R Mammel Hall (MH)  
6708 Pine Street  
402.554.2805  
cco@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-business-administration/economics/graduate-programs/>)

## Other Program Related Information

The Department of Economics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

### Program Specifics:

- This program is available for undergraduate students pursuing Bachelor of Science in Business Administration (with a concentration in Economics), Bachelor of Science in Economics, or Bachelor of Arts in Economics, desiring to pursue a Master of Science in Economics.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

Students in the Fast Track program must only enroll in dual-level ECON courses (ECON 8xx6) as their graduate coursework prior to admittance to the graduate program.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Students are strongly encouraged to apply as early as possible, especially if applying for assistantships or scholarships.

- Fall Admission:  
June 1 for international applicants who are required to secure a new student visa

July 15 for all other applicants

- Spring Admission:  
October 1 for international applicants who are required to secure a new student visa  
December 1 for all other applicants
- Summer Admission:  
March 1 for international applicants who are required to secure a new student visa  
April 15 for all other applicants

## Other Requirements

- Junior/senior GPA of at least 2.85 (on a 4.0 point scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Applicants must have completed courses equivalent to the following five foundation courses (UNO undergraduate courses):

Code	Title	Credits
ECON 2200	PRINCIPLES OF ECONOMICS (MICRO)	3
ECON 2220	PRINCIPLES OF ECONOMICS (MACRO)	3
ECON 3200	ECONOMIC THEORY: MICRO	3
ECON 3220	ECONOMIC THEORY: MACRO	3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	3

- Applicants meeting the minimum GPA and language requirement but lacking some foundation courses will be granted provisional admission status until all foundation courses are completed with grades of "B" (3.0/4.0) or above.
- New economics graduate students will be admitted only to the MS economics program (non-thesis option). After completing nine (9) hours of coursework in the MS in economics program, a student may submit a written request to the economics graduate program committee to transfer from the MS program to the MA (thesis option) program. Students are strongly encouraged to seek the advice of the economics graduate program advisor prior to submitting the written request. The student's request should include a thesis proposal written in consultation with a student-identified main thesis advisor (must be a tenure-track faculty in the economics department) who will serve as the chair of the thesis committee. In addition, the student should include an unofficial graduate transcript, a writing sample, and any other relevant information in the request. The graduate program committee, based on its evaluation of the student's potential to complete a quality master's thesis, will approve or deny this request. Upon transfer to the MA program, an oral defense of the proposal will be scheduled, and the thesis committee members will approve the scope of work. If the graduate program committee denies the student's request to transfer to the MA program, the student may submit a second (and final) written request to transfer to the MA program with supporting materials to the graduate program committee after he/she has completed 18 credit hours of coursework in the MS in economics program.

## Degree Requirements

Code	Title	Credits
<b>Required Core Courses</b>		
ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS <sup>1</sup>	3

ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ECON 8220	SEMINAR IN MACRO THEORY	3
ECON 8300	ECONOMETRICS	3
<b>Electives and Concentrations</b>		
Elective coursework will be selected in consultation with the graduate program chair and advisor. At least six hours must be graduate only courses. Students are strongly encouraged to complete an area of concentration which requires nine hours of elective courses. Students' area(s) of concentration will appear on the transcript. Dual-level ("8-6") course(s) completed as an undergraduate cannot be repeated for graduate credit.		21-24
ECON 8010	SEMINAR IN PUBLIC FINANCE	
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8050	ECONOMIC EDUCATION	
ECON 8210	MANAGERIAL ECONOMICS	
ECON 8230	BUSINESS CONDITIONS ANALYSIS	
ECON 8310	BUSINESS FORECASTING	
ECON 8320	TOOLS FOR DATA ANALYSIS	
ECON 8330	DATA ANALYSIS FROM SCRATCH	
ECON 8600	HEALTH ECONOMICS	
ECON 8910	SPECIAL STUDIES IN ECONOMICS	
ECON 8920	INDEPENDENT STUDY	
ECON 8940	ECONOMIC INTERNSHIP	
ECON 8216	INDUSTRIAL ORGANIZATION	
ECON 8316	BUSINESS INTELLIGENCE AND REPORTING	
ECON 8326	NATURAL RESOURCE ECONOMICS	
ECON 8346	ECONOMICS OF TECHNOLOGY	
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	
ECON 8616	INTERNATIONAL TRADE	
ECON 8626	INTERNATIONAL MONETARY THEORY	
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	
ECON 8736	ECONOMICS OF ENTREPRENEURSHIP	
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	
ACCT 8210	FINANCIAL ACCOUNTING THEORY	
ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	
ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	
BSAD 8040	BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION	
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	
BSAD 8300	ORGANIZATION THEORY & DESIGN	
BSAD 8510	SECURITY ANALYSIS	

BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	
BSAD 8610	REAL ESTATE APPRAISAL	
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH	
BSAD 8710	SUPPLY CHAIN MANAGEMENT	
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT	
BSAD 8336	PROJECT MANAGEMENT	
BSAD 8356	GLOBAL SOURCING AND INNOVATION	
BSAD 8376	SUPPLY CHAIN ANALYTICS	
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	
PA 8300	POLICY DESIGN AND IMPLEMENTATION	
PA 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8180	ELECTRONIC COMMERCE	
ISQA 8410	DATA MANAGEMENT	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8736	DECISION SUPPORT SYSTEMS	
MATH 8250	PARTIAL DIFFERENTIAL EQUATIONS	
MATH 8500	NUMERICAL LINEAR ALGEBRA	
MATH 8510	NUMERICAL DIFFERENTIAL EQUATIONS	
MATH 8520	ADVANCED TOPICS IN OPERATIONS RESEARCH	
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	
MATH 8056	LINEAR ALGEBRA	
MATH 8235	INTRODUCTION TO ANALYSIS	
MATH 8236	MATHEMATICAL ANALYSIS I	
MATH 8246	MATHEMATICAL ANALYSIS II	
MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
MATH 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH 8336	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 8356	ORDINARY DIFFERENTIAL EQUATIONS	
MATH 8616	INTRODUCTION TO TOPOLOGY	
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I	
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II	
MATH 8766	TOPICS IN APPLIED MATHEMATICS	
STAT 8446	TIME SERIES ANALYSIS	
Total Credits		36

<sup>1</sup> ECON 8306: This course is not required for students demonstrating satisfactory mathematical skills. If this course is not taken, students should take three additional hours of elective courses.

## Exit Requirement

Comprehensive Examination

## Concentrations

### Business Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8940	ECONOMIC INTERNSHIP	3
<b>Total Credits:</b>		<b>9</b>

### Econometrics and Data Analytics

Code	Title	Credits
<b>Required Courses</b>		
ECON 8320	TOOLS FOR DATA ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8330	DATA ANALYSIS FROM SCRATCH	3
<b>Total Credits:</b>		<b>9</b>

### Growth and Innovation Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

### International Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
<b>Total Credits:</b>		<b>9</b>

### Monetary and Financial Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3

ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
BSAD 8510	SECURITY ANALYSIS	3
<b>Total Credits:</b>		<b>9</b>

### PhD Preparatory

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON 8616	INTERNATIONAL TRADE	3
ECON 8626	INTERNATIONAL MONETARY THEORY	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
MATH 8056	LINEAR ALGEBRA	3
MATH 8235	INTRODUCTION TO ANALYSIS	3
MATH 8236	MATHEMATICAL ANALYSIS I	3
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I	3
<b>Total Credits:</b>		<b>9</b>

### Public Policy Economics

Code	Title	Credits
<b>Select three of the following:</b>		
ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ECON 8210/ BSAD 8100	MANAGERIAL ECONOMICS	3
ECON 8216	INDUSTRIAL ORGANIZATION	3
ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8326	NATURAL RESOURCE ECONOMICS	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
ECON 8600	HEALTH ECONOMICS	3
ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
<b>Total Credits:</b>		<b>9</b>

### Trade and Global Value Chains

Code	Title	Credits
<b>Required Courses</b>		<b>6</b>
ECON 8616	INTERNATIONAL TRADE	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
<b>Electives</b>		<b>3</b>
To be selected in consultation with the Graduate Program Chair		
ECON 8216	INDUSTRIAL ORGANIZATION	3

ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
<b>Total Credits:</b>		<b>9</b>

Students dismissed from the MS/MA Economics program may request for reinstatement to the program by following this procedure. Write a reinstatement letter addressed to the economics graduate program committee and hand delivered to the economics graduate program advisor as soon as possible addressing the following points at the minimum:

1. Request for reinstatement;
2. Explanations for below par performance;
3. Arguments for why despite item #2 student be reinstated back into the program;
4. Describe activities student will do to ensure that performance moving forward will meet the quality of work standards set by Graduate Studies.

The economics graduate program committee will evaluate the student's request and inform the student of its decision as soon as practically possible.

## Economic Education Certificate

Department of Economics, College of Business Administration

### Vision Statement

The graduate certificate in economic education is to assist high school instructors who teach economics to obtain the 18 graduate credit hours needed to teach economics as a dual enrollment course. The Higher Learning Commission (HLC) requires that teachers must have at least 18 graduate credit hours in a given subject to teach classes that can be considered dual-enrollment. The graduate certificate is designed to expand high school teachers' economics knowledge both in theory and practice so they can deliver high quality classes at the college-level.

### Program Contact Information

Jamie Wagner, PhD, Director, UNO Center for Economic Education  
332B Mammel Hall (MH)  
6708 Pine Street  
402.554.2357  
jfwagner@unomaha.edu

Catherine Yap Co, PhD, Graduate Program Chair and Advisor  
332R Mammel Hall (MH)  
6708 Pine Street  
402.554.2805  
cco@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-business-administration/economics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Students are strongly encouraged to apply as early as possible, especially if applying for assistantships or scholarships.

- Fall: July 15
- Spring: December 1
- Summer: April 15

## Other Requirements

- All applicants must have earned a minimum junior/senior GPA of 2.85
- Students must have completed ECON 2200 and ECON 2220.
  - Students with a secondary education degree from UNO may substitute ECON 2400—Economics for Educators in lieu of Principles of Macroeconomics and Principles of Microeconomics.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

## Degree Requirements

Code	Title	Credits
ECON 8050	ECONOMIC EDUCATION	3
<b>Electives</b>		<b>15</b>
ECON 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	
ECON 8210	MANAGERIAL ECONOMICS	
ECON 8216	INDUSTRIAL ORGANIZATION	
ECON 8230	BUSINESS CONDITIONS ANALYSIS	
ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	
ECON 8326	NATURAL RESOURCE ECONOMICS	
ECON 8346	ECONOMICS OF TECHNOLOGY	
ECON 8600	HEALTH ECONOMICS	
ECON 8616	INTERNATIONAL TRADE	
ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	
ECON 8736	ECONOMICS OF ENTREPRENEURSHIP	
ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	
ECON 8910	SPECIAL STUDIES IN ECONOMICS	
ECON 8920	INDEPENDENT STUDY	

**Total Credits**

**18**

## Educational Leadership

### Degree Programs Offered

- Educational Leadership, MS (p. 1153)
- Educational Administration & Supervision, EdS (p. 1154)
- Educational Administration, EdD (p. 1155)

**EDL 8000 SPECIAL STUDIES IN EDUCATIONAL LEADERSHIP (3 credits)**

This course will provide candidates in educational leadership with the opportunities and experiences of in-depth study of a specialized area of practice and research in school leadership.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or permission of instructor.

**EDL 8010 INTRODUCTORY RESEARCH METHODS (3 credits)**

The Introductory Research Methods course will introduce graduate degree candidates to foundational topics in quantitative, qualitative, and mixed methods research. Particular attention will be given to aligning evidence based literature frameworks with research methodology and data analysis techniques. The course will also prepare graduate students to generate ethically considered research topics and formally evaluate and present research findings in written form.

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**EDL 8020 EDUCATIONAL POLICY AND LEADERSHIP (1 credit)**

This course explores the expanded federal and state presence in local school districts. Historical and political factors influencing the governance of today's schools are explored, as well as current trends and policy decisions.

**Prerequisite(s)/Corequisite(s):** Acceptance to Graduate Studies or department permission.

**EDL 8030 INTRODUCTION TO EDUCATIONAL LEADERSHIP (3 credits)**

This course is designed to introduce the beginning school leadership candidate to theories and practices of organization, motivation, leadership, and change processes, in order to develop an understanding of schools as complex organizations and the nature and challenges of leadership.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate Studies or department permission.

**EDL 8050 SCHOOL-COMMUNITY CONNECTIONS (3 credits)**

School leaders engage the external and internal communities in their buildings and districts. This course assists candidates in developing an understanding of school-community relations, practicing the skills of positive influence with education stakeholders, and refining the dispositions of responsible citizenship by connecting to diverse community needs.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or department permission.

**EDL 8100 INDEPENDENT STUDY IN EDUCATIONAL LEADERSHIP (1-6 credits)**

This course is designed to allow graduate candidates in educational leadership to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities are mutually agreed upon by the candidate and instructor. This course will prepare school leaders as practitioners and researchers who can meet the dynamic challenges of education.

**Prerequisite(s)/Corequisite(s):** Admittance to the doctoral program in educational administration/leadership, or instructor permission.

**EDL 8310 ISSUES IN TECHNOLOGY FOR SCHOOL LEADERS (1 credit)**

This class addresses the unique needs that those in administrative positions encounter in the constantly changing world of technology. Topics include: managing sustainability and obsolescence; ethics and policies for faculty, staff and students-including prevention of cyberbullying; technology for teaching and learning; and technology for business and accountability.

**EDL 8320 ESSENTIALS OF DATA ANALYSIS AND PRESENTATION (1 credit)**

This course is designed to give graduate students a foundational understanding of how information is processed, interpreted, and presented to provide school leaders with the ability to make data informed decisions. Major topics include how usable information can be extracted from tests and surveys, how probability is used to make claims from data sets, how charts and tables can be most effectively leveraged to understand the full scope of data sets, and how to publish results.

**EDL 8340 ISSUES IN IDENTITY, CULTURE, AND POWER (1 credit)**

This class promotes personal reflection and content awareness needed for educational leaders to promote racial equity in education. Topics include structural racism, bias, historical context of educational policy, and a call to action for racial justice in education.

**EDL 8350 ISSUES IN MANAGEMENT FOR SCHOOL LEADERS (1 credit)**

This class addresses the unique needs that those in educational leadership positions encounter when determining resource management of non-instructional systems. Topics include resource acquisition and management, using resources effectively, and oversight of facilities.

**EDL 8400 ELEMENTARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP (3 credits)**

Elementary internship is designed to provide practice in elementary and general and special education administration and supervision according to the interests and needs of the candidates. Candidates will work with practicing administrators and a university supervisor.

**Prerequisite(s)/Corequisite(s):** Candidates must be enrolled in the Master's and/or the Building Administration Endorsement program in Educational Leadership and be in their last year of the program or have department permission. Permit to enroll from department is required.

**EDL 8410 SECONDARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP (3 credits)**

Secondary school internship is designed to provide practice in 7-12 and general and special education administration and supervision according to the interests and needs of the candidates. Candidates will work with practicing administrators and a university supervisor.

**Prerequisite(s)/Corequisite(s):** Candidates must be enrolled in the Master's and/or the School Administration Endorsement program in Educational Leadership and be in their last year of the program or have department permission. Permit to enroll from department is required.

**EDL 8470 ADMINISTRATION AND SUPERVISION IN SCHOOLS (3 credits)**

This course is designed to prepare educational leaders as dedicated practitioners, reflective scholars, and responsible citizens as they relate to the administration of a school site and system. This course is specifically designed to address the problems, issues, and opportunities of building level leadership.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College. Not open to non-degree graduate students.

**EDL 8490 INSTRUCTIONAL LEADERSHIP (3 credits)**

School leaders serve as instructional leaders in their buildings and districts. This course assists candidates in developing knowledge and practicing skills necessary to lead educators and schools in the areas of instruction and curriculum.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College

**EDL 8550 SCHOOL BUSINESS MANAGEMENT (3 credits)**

This course will analyze the functions of school business management: budgetary processes, financial accounting, auditing and reporting, management of funds, purchasing procedures, transportation, food services, insurance and inventory control.

**Prerequisite(s)/Corequisite(s):** EDAD8030 (previously or concurrently). Not open to non-degree graduate students.

**EDL 8560 SCHOOL FINANCE (1 credit)**

This course provides a study of the current sources of school financing: local, state, and federal. In addition to a review of the history of school finance, emphasis is placed on current problems in school finance, especially those related to overseeing the financial aspects of a school district.

**Prerequisite(s)/Corequisite(s):** EDL 8350 or permission of the instructor.

**EDL 8596 FOUNDATIONS OF LEADERSHIP DEVELOPMENT (3 credits)**

Leadership development is an educational outcome for college students, and at UNO, is strongly encouraged. This course will expose students to foundational leadership theories and challenge them to explore personal and social competencies associated with effective collaboration and leadership. (Cross-listed with EDL 4590).

**EDL 8620 SCHOOL PLANTS AND EQUIPMENT (3 credits)**

This course is designed for aspiring superintendents and central office leaders. It will prepare school leaders to be proactive in developing specifications for school buildings that will enhance educational processes. It includes planning procedures for new and remodeled buildings, soliciting support for projects, site selection, design, maintenance and operations of school buildings.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**EDL 8710 INTERPERSONAL RELATIONSHIPS IN EDUCATIONAL LEADERSHIP (3 credits)**

This course deals with the establishment of quality interpersonal and group relations among adults in school settings. Candidates will develop an increased awareness of their own and others' perspectives and will develop dispositions and skills that will allow them to work more productively. This course does not meet the requirements of Nebraska law LB 250 (Multi-Cultural and Interpersonal Relations).

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate Studies and Department of Educational Leadership or department permission.

**EDL 8720 MULTICULTURAL AND NON-SEXIST AWARENESS (1 credit)**

This course is designed for certificated educational employees, both teachers and administrators, seeking renewal of Nebraska certification under Nebraska LB 250 (Multi-Cultural and Interpersonal Relations). This course meets the requirements of Nebraska law LB 250 (Multi-Cultural and Interpersonal Relations). The purpose of the course is to develop awareness of cultural diversity in American society and to develop skills to effectively meet the needs of students, parents, and school community members.

**Prerequisite(s)/Corequisite(s):** Graduate level. Permit of department required.

**EDL 8730 COMMUNICATION AND CULTURE IN EDUCATIONAL HUMAN RESOURCES (1 credit)**

This course focuses upon the interpersonal and professional knowledge, skills, and dispositions of human resources issues and functions for effective leadership in education.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**EDL 8740 PROFESSIONAL DEVELOPMENT FOR SCHOOL LEADERSHIP (1 credit)**

This course addresses strategies and models of planning, implementing, and evaluating adult and organizational learning for effective leadership in education.

**Prerequisite(s)/Corequisite(s):** Admittance to Graduate College. Not open to non-degree graduate students.

**EDL 8750 FUNDAMENTALS OF HUMAN RESOURCES IN EDUCATION (1 credit)**

This course examines the frameworks that schools utilize to recruit, select, place, and support faculty and staff. School leaders need human resources skills and knowledge in order to effectively implement strategies and policies related to staff management, motivation, and evaluation.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College. Not open to non-degree graduate students.

**EDL 8780 EDUCATIONAL LEADERSHIP SUMMIT (2 credits)**

The leadership summit in educational leadership synthesizes the program of school administration, supervision, and management in a manner that can be professionally presented and clearly articulated.

**Prerequisite(s)/Corequisite(s):** Twenty four credit hours must be completed or taken concurrently in educational leadership. Department permit to enroll is required. Not open to non-degree graduate students.

**EDL 8800 SCHOOL LEADERSHIP ACADEMY (3 credits)**

A leadership course designed for current and aspiring school administrators and teacher-leaders. The course content will relate administrative theory to operations of schools drawing on research, models, and various organizational structures. This course is specifically designed to bridge leadership and management theory to the practical operations of schools.

**Prerequisite(s)/Corequisite(s):** Advisor's approval.

**EDL 8810 URBAN SCHOOL LEADERSHIP (3 credits)**

This course is designed to acquaint candidates with urban concerns and issues which most significantly affect the administration of schools in and around metropolitan areas.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**EDL 8900 SPECIAL EDUCATION LAW (3 credits)**

The purpose of this course is to research and explore legal and policy issues affecting special education within our schools. Case law will be examined to ensure effective special education programs for children and youth with disabilities. (Cross-listed with SPED 8900).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**EDL 9000 SEMINAR IN RESEARCH DESIGN (3 credits)**

This course will provide support and assistance concerning principles of research design as related to topics in educational leadership. Instruction as to appropriate format, style, and content of educational research as well as designing methodology for dissertation proposal will be emphasized.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

EDL 9610 or permission from instructor. Not open to non-degree students.

**EDL 9010 ADVANCED SEMINAR IN EDUCATIONAL RESEARCH (3 credits)**

This seminar will provide support for doctoral candidates in applying skills of educational research to the creation of a successful dissertation.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

EDL 9000 or permission from instructor. Not open to non-degree graduate students.

**EDL 9020 CONCEPTS AND CONTEXTS FOR LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

Concepts and Context for School Libraries will introduce candidates to the broad landscape of school librarianship and its relationship to the greater library and information profession.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Doctoral Program in Educational Administration or other University of Nebraska doctoral program in education, and instructor permission. Not open to non-degree graduate students.

**EDL 9110 FIELD PROJECT IN EDUCATIONAL ADMINISTRATION (1-3 credits)**

Administrative practitioners will study a current or anticipated educational problem using research techniques. Candidates will review a change process to their school or district that has recently been implemented or is under consideration for future implementation as the capstone work for the Educational Specialist degree.

**Prerequisite(s)/Corequisite(s):** Admittance to the Ed.S. program and completion of EDL 9200. Candidates are encouraged, but not required, to utilize the project from EDL 9200 for the focus of the field project. Not open to non-degree students.

**EDL 9200 ADVANCED PRACTICUM IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is an independent, advanced practicum course meant to help practitioners prepare to be reflective scholars. It builds upon theory and practice of educational leadership and provides a guided experience.

**Prerequisite(s)/Corequisite(s):** Admittance to the Ed.S. program and completion of EDL 9200. Candidates are encouraged, but not required, to utilize the project from EDL 9200 for the focus of the field project. Not open to non-degree students.

**EDL 9310 ISSUES IN STRATEGIC PLANNING FOR SCHOOL LEADERS (1 credit)**

Strategic planning is critical to the health, growth and sustainability of a school district. The process provides an opportunity to prioritize goals, actions, time and resources on key initiative. This course will examine the strategic planning processes used by leaders to guide educational change and improvement.

**EDL 9320 LEGAL ISSUES IN SPECIAL EDUCATION (1 credit)**

School Leaders have an obligation to know the rights of students with disabilities and the laws and policies that protect those rights. This course will focus on the mandatory requirements of Individuals with Disabilities Education Improvement Act (IDEIA) of 2004; the Americans with Disabilities Act (ADA) of 1990, amended in 2008 and the Rehabilitation Act of 1973, Section 504 along with program mandates and the case law that protects these students.

**EDL 9330 ISSUES IN SCHOOL OPERATIONS (1 credit)**

This course addresses leadership issues that current and prospective school leaders will find applicable as they earn certification as a superintendent, principal, curriculum supervisor, or special education leader. This one-hour course will provide knowledge and skills educational leaders will need to effectively and efficiently lead a public or private school building, program, or school district. Course modules will engage candidates in developing a leadership entry/transition plan, a leadership succession plan, and a leadership succession board policy and administrative procedures.

**EDL 9340 CONTEMPORARY ISSUES IN SCHOOL LAW (1 credit)**

This course is concerned with the most recent legal challenges and judicial decisions that are impacting schools. Topics include the most recent decisions from all levels of the courts up to the Supreme Court. School leaders will help prevent litigation by understanding the implications of current cases for the purpose of work with students, staff, faculty and community members without infringing upon their due process rights. School leaders may use the current decisions to update student and faculty handbooks and understand the critical need for guidance by school district legal counsel.

**Prerequisite(s)/Corequisite(s):** School Law 9540 Legal Issues in Special Education Law 8920 or Instructor permission

**EDL 9500 FRAMEWORKS OF BEST PRACTICE: LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

This class will explore best practice in school libraries using the framework of current national standards for school librarianship preparation programs. Major areas for exploration include but are not limited to teaching for learning, literacy and reading, information and access, advocacy and leadership, and program management and administration.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration pursuing studies in educational leadership with an emphasis in school librarianship or with instructor permission. Not open to non-degree graduate students.

**EDL 9510 SEMINAR IN CULTURE AND CONTEXT OF SCHOOLING (3 credits)**

An advanced seminar designed to enhance understanding of the cultural and social forces, trends, and issues that influence the delivery and effectiveness of schooling.

**Prerequisite(s)/Corequisite(s):** Admission to the Department of Educational Administration and Supervision and the Ed.D. Program. Not open to non-degree graduate students.

**EDL 9520 ACHIEVING SCHOOL EXCELLENCE (3 credits)**

An advanced seminar on the pursuit of improvement in education and the role of administration in guiding positive school change through influence, persuasion, power, ethics, and research.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Degree program or admission to another University of Nebraska doctoral program. Not open to non-degree graduate students.

**EDL 9530 PARADIGMS AND PRACTICES OF SCHOOLING (3 credits)**

This is an advanced seminar to explore leadership and supervisory practices. Particular attention will be given to organizational conceptualizations (paradigms) for addressing current educational problems and issues. Candidates will be encouraged to think outside the traditional frames of education in order to improve student achievement in PK-12 schools. When a paradigm shifts, the way we view the world and what we assume to be true dramatically changes. When faced with shifting circumstances, school leaders can turn change into opportunity and opportunity into success.

**Prerequisite(s)/Corequisite(s):** Admittance to the UNO-UNL Joint Doctorate Program. Not open to non-degree graduate students.

**EDL 9540 SCHOOL LAW (3 credits)**

This course is concerned with laws related to schools. Topics include certification, contract, negligence, student rights, due process, curriculum, and discipline. Each topic is approached through study of most recent court cases.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or instructor permission. Not open to non-degree graduate students.

**EDL 9550 SYMPOSIUM ON SCHOOL LEADERSHIP (3 credits)**

The purpose of this seminar is to relate research, theory, and practice in educational organizations. The course is designed to engage candidates with a systematic examination of school reform, best practices, and the implications for practitioners. The symposium will involve candidates with the changing roles and functions of educational leaders in rapidly changing metropolitan educational environments.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or permission of instructor.

**EDL 9610 STATISTICAL METHODS FOR THE BEHAVIORAL SCIENCES (3 credits)**

This course is designed to help graduate students develop competence in understanding and using statistical methods for the behavioral and social sciences. The course introduces broad historically based topics in statistics such as probability theory, the Law of Large Numbers, and the Central Limit Theorem to develop conceptually based models for hypothesis testing, description of data, and statistical inference. Emphasis is placed on the evaluation of statistical methods used in published research and the development of analytic models in dissertation research.

**Prerequisite(s)/Corequisite(s):** Admission to the Doctor of Education (Ed.D.) program in Educational Leadership or Department/Instructor's permission.

**EDL 9620 APPLIED ADVANCED STATISTICS IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is designed to develop competence in using advanced-level statistics. The course includes parametric and nonparametric inferential statistics and scale development. The statistical analyses include: analyses of variance, regression analyses, factor and reliability analyses, chi-square, Mann-Whitney U, Wilcoxon Signed-Ranks, and Kruskal-Wallis.

**Prerequisite(s)/Corequisite(s):** EDL 9610 and must be admitted to the EdD program, or instructor's permission.

**EDL 9630 QUALITATIVE RESEARCH (3 credits)**

Qualitative Research develops skills and competence in designing, collecting, and analyzing data for studies in educational research.

**Prerequisite(s)/Corequisite(s):** EDL 9610 or equivalent. Not open to non-degree graduate students.

**EDL 9650 PROGRAM EVALUATION FOR EDUCATIONAL ADMINISTRATORS (3 credits)**

This course provides an introduction to program evaluation theory and practice. It will address the range of approaches within education human service program evaluation, the standards established by the profession, the "how to" of program evaluation, and the skills needed to conduct program evaluation.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College or instructor's permission.

**EDL 9660 STRATEGIC LEADERSHIP FOR SCHOOL LIBRARIES (3 credits)**

This course will focus on the political, economic and social trends that have shaped school libraries and develop the skills and dispositions required for leaders of 21st Century school library programs.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration or to any other doctoral program in the University of Nebraska, or instructor permission. Not open to non-degree graduate students.

**EDL 9670 INQUIRY AND RESEARCH FOR LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

Inquiry and Research for Leadership in School Librarianship will examine current research in the school library field and focus on action research based on authentic need.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration or to any other doctoral program in the University of Nebraska, or instructor permission. Not open to non-degree graduate students.

**EDL 9980 SUPERINTENDENT INTERNSHIP IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is a guided, field-based internship for candidates seeking the school superintendent endorsement from the Nebraska Department of Education (NDE). The internship will provide candidates with experiences in the various roles and responsibilities of a superintendent.

**Prerequisite(s)/Corequisite(s):** Admittance to the the EdD or EdS in educational administration or departmental permission. Candidates must submit an internship application by April 1 for following fall term.

**EDL 9990 DISSERTATION (1-12 credits)**

The course provides doctoral candidates in Educational Administration and Supervision with a process to complete a dissertation research plan. The course learning activities will focus on the completion of a candidate's dissertation. The course is designed to allow advanced doctoral candidates to demonstrate technical mastery of the discipline and to advance knowledge by completing an investigation.

**Prerequisite(s)/Corequisite(s):** Admittance to the EdD in Educational Administration. Department permit to enroll required. Not open to non-degree graduate students.

## Educational Leadership, MS

Department of Educational Leadership, College of Education, Health, and Human Sciences

### Vision Statement

The mission of the Department of Educational Leadership is to develop effective visionary, intellectual, and moral leaders who can cause positive change in education to promote the success of all students. The department's degree and endorsement programs have a distinctive metropolitan education orientation. The Department of Educational Leadership offers a master of science degree (MS) as well as non-degree administration endorsement programs for students who have completed a master's degree.

### Program Contact Information

Kay Keiser, EdD, Graduate Program Chair (GPC)  
312 Roskens Hall (RH)  
402.554.2721  
kkeiser@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-education/educational-leadership/>)

### Other Program Related Information

To be considered for financial aid students must be admitted to the MS in educational leadership. Unclassified and non-degree admission students are not eligible for financial aid consideration.

Students who have earned a previous master's degree in the education field should apply as unclassified in educational administration.

Students needing fewer than 12 credits for re-certification or professional advancement may apply as non-degree. Note that non-degree students will need to speak with the department to enroll in required classes.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum scores for this program are:
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** 1-2 pages that addresses such topics as why you want to become a school administrator; interests; experiences; and career goals
- **Resume**
- **Letters of Recommendation:** Two letters are required
- Copy of Teaching Certificate
- Professional Fitness Statement (formally Rule 20/21)
- Evidence that the candidate has met the State of Nebraska's Special Education and Human Resources requirements. Most candidates will probably have satisfied this requirement while earning their teaching endorsements; if not, they will be required to complete relevant coursework.

**Unclassified Admission:** Those educators with a master's degree in education may apply as unclassified and complete the required and concentration hours needed for principal or special education director state certification. The application requirements are the same as the master's degree listed above.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
TED 8010 or EDL 8010	INTRODUCTION TO RESEARCH INTRODUCTORY RESEARCH METHODS	3
EDL 8030	INTRODUCTION TO EDUCATIONAL LEADERSHIP	3

EDL 8050	SCHOOL-COMMUNITY CONNECTIONS	3
EDL 8020	EDUCATIONAL POLICY AND LEADERSHIP	1
EDL 8490	INSTRUCTIONAL LEADERSHIP	3
EDL 8740	PROFESSIONAL DEVELOPMENT FOR SCHOOL LEADERSHIP	1
EDL 8710	INTERPERSONAL RELATIONSHIPS IN EDUCATIONAL LEADERSHIP	3
EDL 8730	COMMUNICATION AND CULTURE IN EDUCATIONAL HUMAN RESOURCES	1
EDL 8780	EDUCATIONAL LEADERSHIP SUMMIT	2
EDL 8750	FUNDAMENTALS OF HUMAN RESOURCES IN EDUCATION	1

**Concentration**

Select one of the following concentrations: 12

School Administrator Concentration

Teacher Leader Concentration

**Electives**

Select 3 hours of electives from the following in consultation with your advisor: 3

EDL 8800 SCHOOL LEADERSHIP ACADEMY

EDL 8400 ELEMENTARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP

EDL 8410 SECONDARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP

EDL 8560 SCHOOL FINANCE

EDL 8620 SCHOOL PLANTS AND EQUIPMENT

EDL 8310 ISSUES IN TECHNOLOGY FOR SCHOOL LEADERS

EDL 8350 ISSUES IN MANAGEMENT FOR SCHOOL LEADERS

EDL 9310 ISSUES IN STRATEGIC PLANNING FOR SCHOOL LEADERS

EDL 9320 LEGAL ISSUES IN SPECIAL EDUCATION

EDL 8320 ESSENTIALS OF DATA ANALYSIS AND PRESENTATION

EDL 9550 SYMPOSIUM ON SCHOOL LEADERSHIP

**Total Credits** 36**Exit Requirements**

Comprehensive Examination

**Concentrations****School Administrator**

Code	Title	Credits
EDL 9540	SCHOOL LAW	3.00
EDL 8800	SCHOOL LEADERSHIP ACADEMY <sup>1</sup>	3
EDL 8470	ADMINISTRATION AND SUPERVISION IN SCHOOLS	3
EDL 8400	ELEMENTARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP	3
or EDL 8410	SECONDARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> Or completion of three one hour courses, select from: EDL 8310, EDL 8320, EDL 8350, EDL 9310, EDL 9320, EDL 9330

**Teacher Leadership**

Code	Title	Credits
	Teacher leadership concentration can be curriculum based, not leading to state administrative certification. If seeking Special Education Director state certification, the teacher leadership concentration is the correct selection—then contact the department for class requirements.	12

**Total Credits** 12**Educational Administration & Supervision, EdS****Department of Educational Leadership, College of Education, Health, and Human Sciences****Vision Statement**

The mission of the Department of Educational Leadership is to develop effective visionary, intellectual, and moral leaders who can cause positive change in education to promote the success of all students. The department's degree and endorsement programs have a distinctive metropolitan education orientation.

**Program Contact Information**

Kay Keiser, EdD, Graduate Program Chair (GPC)  
312 Roskens Hall (RH)  
402.554.2721  
kkeiser@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-education/educational-leadership/>)

**Admissions**

General Application Requirements and Admission Criteria (p. 945)

**Program-Specific Requirements****Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Fall: June 1
- Spring: October 1
- Summer: February 1

**Other Requirements**

An applicant for admission to the Specialist in Education degree in the Department of Educational Leadership must have earned at least a master's degree from an accredited institution and an administrative endorsement. This is a terminal degree and if an EdD is planned at any time in the future, advising to the best degree path should take place before application.

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum scores for this program are:
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- **Statement of Purpose:** A 1-2 page document describing relevant professional roles and experience as well as career goals for the EdS
- **Writing Sample:** Three samples, including one with a reference section (or thesis/specialist field project)
- **Resume**
- **Letters of Recommendation:** Three required letters; one letter must be from current supervisor confirming applicant's school administrative role.
- Administration certificate

Together with previous graduate work, the candidate's course of study must total a minimum of 69 graduate semester hours with 30 hours meeting the time limit requirement for graduate degrees. The program of study must be approved

by the department and the dean for Graduate Studies, and include a minimum of 15 semester hours after admission to the EdS program.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
EDL 8560	SCHOOL FINANCE	1
EDL 8620	SCHOOL PLANTS AND EQUIPMENT	3
EDL 9310	ISSUES IN STRATEGIC PLANNING FOR SCHOOL LEADERS	1
EDL 9320	LEGAL ISSUES IN SPECIAL EDUCATION	1
EDL 9330	ISSUES IN SCHOOL OPERATIONS	1
EDL 9550	SYMPOSIUM ON SCHOOL LEADERSHIP	3
EDL 9650	PROGRAM EVALUATION FOR EDUCATIONAL ADMINISTRATORS	3
EDL 9980	SUPERINTENDENT INTERNSHIP IN EDUCATIONAL ADMINISTRATION	3
EDL 9200	ADVANCED PRACTICUM IN EDUCATIONAL ADMINISTRATION	3
EDL 9110	FIELD PROJECT IN EDUCATIONAL ADMINISTRATION	3
<b>Elective Courses</b>		
EDL 8000	SPECIAL STUDIES IN EDUCATIONAL LEADERSHIP	3
EDL 8100	INDEPENDENT STUDY IN EDUCATIONAL LEADERSHIP	3-6
EDL 8400	ELEMENTARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP	3
or EDL 8410	SECONDARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP	
EDL 8800	SCHOOL LEADERSHIP ACADEMY	3

## Educational Administration, EdD

Department of Educational Leadership, College of Education, Health, and Human Sciences

### Vision Statement

The mission of the Department of Educational Leadership is to develop effective visionary, intellectual, and moral leaders who can cause positive change in education to promote the success of all students. The department's degree and endorsement programs have a distinctive metropolitan education orientation. The Department of Educational Leadership offers a doctoral degree in education (EdD).

## Program Contact Information

Kay Keiser, EdD, Graduate Program Chair (GPC)  
312 Roskens Hall (RH)  
402.554.2721  
kkeiser@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-education/educational-leadership/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 1
- Spring: October 1 (limited)
- Summer: February 1

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** A 1-2 page document describing the applicant's prior education, relevant professional experience, career goals and specific relationship to the EdD degree, with regard to the achievement of these goals.
- **Writing Sample:** Three samples, including one with a reference section (or thesis/specialist field project)
- **Resume**
- **Letters of Recommendation:** Three letters are required
- Administrative Certificate or Educational Specialist Degree or UNO MS Educational Leadership required courses

## Degree Requirements

Code	Title	Credits
The program requires a total of 96 hours of coursework.		
At least 45 hours of new coursework must be completed after admission to the doctoral program.		
<b>Required Seminar Courses</b>		
EDL 9510	SEMINAR IN CULTURE AND CONTEXT OF SCHOOLING	3
EDL 9520	ACHIEVING SCHOOL EXCELLENCE	3
EDL 9530	PARADIGMS AND PRACTICES OF SCHOOLING	3
<b>Required Research Tools/Methods</b>		
EDL 9000	SEMINAR IN RESEARCH DESIGN	3
EDL 9610	STATISTICAL METHODS FOR THE BEHAVIORAL SCIENCES	3
EDL 9620	APPLIED ADVANCED STATISTICS IN EDUCATIONAL ADMINISTRATION	3
or EDL 9630	QUALITATIVE RESEARCH	
Select one of the following:		3

EDL 9650	PROGRAM EVALUATION FOR EDUCATIONAL ADMINISTRATORS	
EDL 9010	ADVANCED SEMINAR IN EDUCATIONAL RESEARCH	
EDL 8000/ TED 8010 or EDL 8010	SPECIAL STUDIES IN EDUCATIONAL LEADERSHIP INTRODUCTORY RESEARCH METHODS	
<b>Electives <sup>1</sup></b>		<b>12</b>
EDL 8310	ISSUES IN TECHNOLOGY FOR SCHOOL LEADERS	
EDL 8320	ESSENTIALS OF DATA ANALYSIS AND PRESENTATION	
EDL 8560	SCHOOL FINANCE	
EDL 8620	SCHOOL PLANTS AND EQUIPMENT	
EDL 9310	ISSUES IN STRATEGIC PLANNING FOR SCHOOL LEADERS	
EDL 9320	LEGAL ISSUES IN SPECIAL EDUCATION	
EDL 9330	ISSUES IN SCHOOL OPERATIONS	
EDL 9550	SYMPOSIUM ON SCHOOL LEADERSHIP	
EDL 9980	SUPERINTENDENT INTERNSHIP IN EDUCATIONAL ADMINISTRATION	
<b>Exit Requirement</b>		
EDL 9990	DISSERTATION	12
<b>Total Credits</b>		<b>45</b>

<sup>1</sup> NOTE: These courses are for Superintendent Certification. If the applicant is not pursuing Superintendent Certification, then 12 hours of additional coursework will be determined with the applicant's advisor.

## Exit Requirements

- Comprehensive Examination
- Dissertation EDL 9990

# Elementary Education, MS

Department of Teacher Education, College of Education, Health, and Human Sciences

## Vision Statement

The master's degree in elementary education will:

- Extend 21st century teaching skills and technology applications.
- Enhance the ability to design engaging, authentic instruction for today's students.
- Emphasize diversity and culturally responsive teaching.
- Expand professional connections with educators from Midwestern and metro school districts with diverse perspectives.
- Encourage engagement with the community.
- Enable graduate students to make course selections that best fit their individual learning needs in a flexible program.

## Program Contact Information

Amanda Steiner, EdD, Advisor  
406 Roskens Hall (RH)  
402.554.2527  
alsteiner@unomaha.edu

Chris Wilcoxon, EdD, Graduate Program Chair (GPC)  
308 Roskens Hall (RH)  
402.554.2119  
cwilcoxon@unomaha.edu (rpasco@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-education/teacher-education/graduate/elementary-education.php>)

## Other Program-Related Information

The master's degree in elementary education does not lead to initial teacher certification.

## Unclassified Students

Students who are not planning to pursue a program leading to a graduate certificate or a master's degree can be admitted to the elementary education program as unclassified students. Candidates holding a previous master's degree in education who are seeking additional teaching endorsements may wish to choose an unclassified status. Unclassified students are allowed to take courses for which they meet the prerequisite. Successful completion of graduate courses as an unclassified student does not obligate the department to accept those courses for credit toward the fulfillment of degree requirements. Formal advisement in an endorsement area is required.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: August 1
- Spring: December 1
- Summer: June 1

## Other Requirements

- A minimum undergraduate GPA of 3.0 (on a 4.0 scale)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- A valid teaching certificate (if applicable) **or** application to a concentration that leads to certification (e.g. Accelerated Certification for Teachers concentration).
- UNO College of Education, Health, and Human Science's Personal and Professional Fitness Form.
- International students who do not intend to teach in the United States **may** be eligible for admission.

## Degree Requirements

Code	Title	Credits
<b>Required Courses <sup>1</sup></b>		<b>9-12</b>
<b>Concentrations</b>		<b>12-21</b>
Elementary Education, MS Concentrations <sup>2</sup>		
<b>Electives - As approved by advisor.</b>		<b>0-12</b>

Courses to be determined in consultation with program advisor

TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Must receive a grade of B or better for program completion. This class is intended to be the last class in the program. )	3
----------	---	---

- <sup>1</sup> A diversity course must be taken within the first 12 hours of graduate work.
- <sup>2</sup> Each student will include in their plan of study an area of concentration in a special field that provides depth in an area of their interest. Courses within the concentrations will be decided upon in conference with the student's advisor. Possible concentrations include: Accelerated Certification for Teachers Concentration (EACT), Bilingual Education, Early Childhood Education, English as a Second Language (ESL), Equity and Social Justice in Education, Improvement of Instruction, Instructional Technology Leadership, School Library, Literacy, and Science, Technology, Engineering and Mathematics (STEM).

## Exit Requirements:

Capstone TED 8700 The professional project completed in this course takes the place of the comprehensive exam. Registration for the course is by permission only. This course is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Concentrations

### Accelerated Certification for Teachers Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	3
TED 8540	DIGITAL CITIZENSHIP	3
<b>Area of Concentration</b>		
TED 8650	CHILDREN'S LITERATURE AND EDUCATION	3
TED 8310	HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING	3
Choose 6 hours from the following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Electives</b>		
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	3

TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
TED 8390	CLASSROOM MANAGEMENT IN PRACTICE	3
TED 8470	TEACHING THE LANGUAGE ARTS	3

**Total Credits** **36**

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last class in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Bilingual Education Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
Choose 3 hours from following courses:		3
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Area of Concentration:</b>		
TED 8130	LANGUAGE, CULTURE, AND POWER	3
or ENGL 8676	SOCIOLINGUISTICS	
Choose 3 hours from the following courses:		3
TED 8120	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	
SPAN 8076	HISPANIC BILINGUALISM	
SPAN 8126	HISPANIC SOCIOLINGUISTICS	
SPAN 8136	SPANISH IN THE UNITED STATES	
SPAN 8226	THE STRUCTURE OF SPANISH	
SPAN 8086	INTRODUCTION TO HISPANIC LINGUISTICS	
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY	
FLNG 8050	THEORY AND METHODS IN THE TEACHING OF HERITAGE LANGUAGES	
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
TED 8480	FOUNDATIONS OF BILINGUAL EDUCATION	3
TED 8490	SPANISH LANGUAGE ARTS	3
TED 8695	LITERACY AND LEARNING	3
TED 8980	PRACTICUM: VARIOUS CONTENT AREAS	3
Choose 3 hours from the following courses:		3
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last class in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.
- TED 8490, TED 8695, and TED 8480: These courses are taught in Spanish.
- TED 8980: (Dual Language Practicum - deadline to apply is September 15; this course is offered in Spring only).
- For an added endorsement in Bilingual Education, consult your advisor.
- The Nebraska Department of Education requires the ESL endorsement before you can apply for the Bilingual Education endorsement.
- Minimum of 12 credit hours must be current UNO credits.
- Spanish proficiency required (evaluated during first 3 hours).

## Early Childhood Education Concentration

Code	Title	Credits
<b>Required Courses</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Choose 3 hours from the following courses:		
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Area of Concentration:</b>		
TED 8170	DEVELOPMENTAL ASSESSMENT OF THE YOUNG CHILD	3
TED 8200	SOCIAL WORLDS OF THE YOUNG CHILD	3
TED 8220	PLAY AS A LEARNING MEDIUM IN EARLY CHILDHOOD EDUCATION	3
TED 8240	FAMILY, SCHOOL, AND COMMUNITY PARTNERS	3
TED 8260	ADVANCED CURRICULUM IN EARLY CHILDHOOD	3
Choose 3 hours from the following courses:		
TED 8230	LITERATURE FOR THE YOUNG CHILD	
TED 8810	STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH	

<b>Electives: As approved by advisor</b>	<b>6</b>
<b>Total Credits</b>	<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last class in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## English as a Second Language (ESL) Concentration

At least 6 credits in the concentration must have a TED prefix.

Code	Title	Credits
<b>Required Courses</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
<b>Area of Concentration:</b>		
TED 8120	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
Choose 3 hours from the following courses:		
TED 8130	LANGUAGE, CULTURE, AND POWER	
ENGL 8676	SOCIOLINGUISTICS	
TED 8006	SPECIAL METHODS IN THE CONTENT AREA (ESL: 25 hour field experience requirement)	3
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	3
Choose 3 hours from the following courses:		
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
<b>Elective Course: As approved by advisor.</b>		
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.
- For an added endorsement in ESL, consult with your advisor. You must have a valid teaching certificate in either Elementary or Secondary Education to add this endorsement.

## Improvement of Instruction Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3

TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
<b>Area of Concentration:</b>		
TED 8180	CULTURALLY RESPONSIVE TEACHING	3
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
Choose 3 hours from the following courses:		3
TED 8300	EFFECTIVE TEACHING PRACTICES	
TED 8640	OPEN EDUCATIONAL RESOURCES FOR P-12 TEACHERS	
Choose 3 hours from the following courses:		3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS	
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	
Choose 3 hours from the following courses:		3
TED 8320	STRENGTHENING LEADERSHIP CAPACITY THROUGH RESEARCH AND COMMUNITY COLLABORATION	
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
<b>Electives: As approved by advisor.</b>		<b>9</b>
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Instructional Technology Leadership Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3

TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
<b>Area of Concentration:</b>		
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	3
TED 8540	DIGITAL CITIZENSHIP	3
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	3
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
TED 8580	ONLINE TEACHING AND LEARNING	3
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
Choose 3 hours from the following courses:		3
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Electives: As approved by advisor.</b>		<b>6</b>
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Literacy Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	

TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Area of Concentration:</b>		
TED 9100	THEORIES, MODELS, AND PRACTICES OF LITERACY	3
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	3
Choose 3 hours from the following courses:		3
TED 8470	TEACHING THE LANGUAGE ARTS	
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM	
Choose 3 hours from the following courses:		3
TED 8320	STRENGTHENING LEADERSHIP CAPACITY THROUGH RESEARCH AND COMMUNITY COLLABORATION	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
Choose 3 hours from the following courses:		3
TED 8230	LITERATURE FOR THE YOUNG CHILD	
TED 8650	CHILDREN'S LITERATURE AND EDUCATION	
TED 8660	YOUNG ADULT LITERATURE	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
<b>Electives: As approved by advisor.</b>		<b>9</b>
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## School Library Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better.)	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Choose 3 hours from the following courses:		3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	

TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Area of Concentration:</b>		
TED 8520	SCHOOL LIBRARY CAPSTONE	3
TED 8540	DIGITAL CITIZENSHIP	3
TED 8650	CHILDREN'S LITERATURE AND EDUCATION	3
TED 8660	YOUNG ADULT LITERATURE	3
TED 8710	RESEARCH AND INQUIRY	3
TED 8740	ORGANIZATION OF INFORMATION	3
TED 8760	MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES	3
TED 8830	LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES	3
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Science, Technology, Engineering, and Mathematics (STEM) Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better. )	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
<b>Area of Concentration:</b>		
TED 8420	TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION	3
TED 8430	SCHOOL CURRICULUM PLANNING	3
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
Choose 3 hours from the following courses:		3
TED 8030	SEMINAR IN EDUCATION: SPECIAL TOPICS	

TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	
Choose 3 hours from the following courses:		3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS	
TED 8810	STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH	
Choose 3 hours from the following courses:		3
TED 8320	STRENGTHENING LEADERSHIP CAPACITY THROUGH RESEARCH AND COMMUNITY COLLABORATION	
TED 8640	OPEN EDUCATIONAL RESOURCES FOR P-12 TEACHERS	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
TED 8860	INVENTION & INNOVATION IN ENGINEERING EDUCATION	
<b>Electives: As approved by advisor.</b>		<b>6</b>
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Equity and Social Justice in Education Concentration

Code	Title	Credits
<b>Required Classes:</b>		
TED 8700	ELEMENTARY EDUCATION CAPSTONE COURSE (Exit Requirement-Must receive a grade of B or better. )	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8290	TRAUMA INFORMED EDUCATION	
Choose 3 hours from following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Area of Concentration:</b>		
Choose 3 hours from the following courses:		3
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
TED 8180	CULTURALLY RESPONSIVE TEACHING	3
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	3
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	3
Choose 3 hours from the following courses:		3

TED 8320	STRENGTHENING LEADERSHIP CAPACITY THROUGH RESEARCH AND COMMUNITY COLLABORATION	
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
<b>Electives: As approved by advisor.</b>		<b>9</b>
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8700 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

### TED 8000 SPECIAL STUDIES (1-3 credits)

A series of intensive studies especially for in-service teachers scheduled as regular seminars or classes, according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate status

### TED 8006 SPECIAL METHODS IN THE CONTENT AREA (3 credits)

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 4000).

### TED 8010 INTRODUCTION TO RESEARCH (3 credits)

This course will introduce advanced degree candidates to: A) An understanding of the scientific method as applied to behavioral research B) Assessment, evaluation, descriptive, causal-comparative, experimental and historical data gathering procedures and analytical strategies C) Sampling theory, techniques, distribution and hypothesis testing D) Specific designs, methods, and tools of research E) Search and retrieval of published research, both American and international (global), in the library and over the Internet F) Critical evaluation of research studies G) Basic statistics, both descriptive and inferential, and H) Preparation of a research proposal containing three chapters: Problem, Review of Related Research and Methodology.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### TED 8030 SEMINAR IN EDUCATION: SPECIAL TOPICS (1-3 credits)

This is a variable content course focusing on topics of current relevance to PK-12 teachers.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### TED 8040 SEMINAR ON STUDENT TEACHING/NEW TEACHER INDUCTION (3 credits)

The seminar is designed for experienced teachers who are, or may be, serving as cooperating teachers for student teachers or as mentor teachers for beginning teachers. Participants will study the purposes, techniques, and trends involved in serving as a cooperating teacher or as a mentor.

**Prerequisite(s)/Corequisite(s):** Successful teaching experience is required for this course.

**TED 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with STEM 8050).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8055 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context. As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 3050).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

**TED 8060 CURRENT ISSUES AND TRENDS IN EDUCATION (3 credits)**

The course is an advanced study of current issues and trends which have substantial impact on PK-12 education. The graduate candidates who take this class will read, analyze, and evaluate relevant research in order to become conversant in those issues.

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8070 TEACHING MULTIPLE INTELLIGENCE (3 credits)**

This course focuses on the utilization of the multiple intelligences (MI) theory by teachers to enhance children's understanding of various disciplines. Graduate candidates will have the opportunity to explore, evaluate, and develop various methodologies that foster understanding.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8080 STORYTELLING AND EDUCATION (3 credits)**

This course is designed to consider the importance of storytelling, to provide teacher candidates with the background materials for storytelling, to study resource material for storytelling from a variety of cultures, and to develop techniques for storytelling. Actual experience in storytelling and opportunities for evaluating storytelling experiences will be provided.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8100 RESEARCH PROJECT (1-3 credits)**

This course is designed for individual or group study and analysis of specific problems in schools dealing with curriculum and instruction in areas which have a broad scope of application rather than a specific level.

**Prerequisite(s)/Corequisite(s):** Approval of Advisor.

**TED 8120 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

TED 8120 is designed to enhance graduate candidates' knowledge of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs). As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will learn strategies for designing and promoting effective multicultural and multilingual learning environments. This course includes an in-school, guided practicum through which graduate candidates must demonstrate competencies related to standards related to teaching ELs in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education's ESL teaching endorsement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 8130 LANGUAGE, CULTURE, AND POWER (3 credits)**

This course will focus on the intersection of language, culture, and power in the schools. This seminar will research how each component impacts the students and teachers in the classroom.

**TED 8150 ANTI-RACISM EDUCATION: PRINCIPLES AND PRACTICES (3 credits)**

This course provides a theoretical analysis of race, racism and the implications for anti-racist education. In addition to exploring the key features of anti-racism education, the course also addresses other axes of oppression, namely, class and gender, with a critical focus on racialized power and privilege, and how such features function in the broader U.S. context as well as the schooling environment. Of equal importance is a critical interrogation of the historical, ideological, and political processes that produce and maintain racism. Course participants explore pedagogies, curriculum, and school leadership strategies as mechanisms for instituting anti-racism work in schools and community.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8160 ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS (3 credits)**

This course is designed to enhance graduate candidates' knowledge of PK-12 English as a Second Language (ESL) pedagogical and assessment strategies that address the needs of English Language Learners (ELs) in content area classrooms. As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will be able to explore evidence-based pedagogical and assessment strategies to use in educational contexts serving ELs.

**Prerequisite(s)/Corequisite(s):** Graduate candidate status. Not open to non-degree graduate students.

**TED 8170 DEVELOPMENTAL ASSESSMENT OF THE YOUNG CHILD (3 credits)**

This course is designed as a survey of developmental assessment in early childhood education (ages birth to eight years). Selection of assessment tools and strategies, implementation, data collection, analysis of results, and teaching impact are addressed in context of key assessment purposes in the early childhood field.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8180 CULTURALLY RESPONSIVE TEACHING (3 credits)**

This course includes an introductory analysis of the societal and institutional processes and problems which have bearing upon the education of children in urban settings. In addition, the course will focus on knowledge, skills and dispositions related to instructional strategies and classroom management needed for effective teaching in an urban environment.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8190 CONTEMPORARY ISSUES IN URBAN EDUCATION (3 credits)**

This course is designed for candidates who wish to keep abreast of contemporary issues which confront the educational institution and teaching profession within the urban milieu.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8200 SOCIAL WORLDS OF THE YOUNG CHILD (3 credits)**

This course will explore theoretical and cultural perspectives on the social and emotional development of young children. This course will also examine the relationship between social emotional development, guidance practices, democratic life skills, and school readiness.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8210 THE PRINCIPLES OF MULTICULTURAL EDUCATION (3 credits)**

This course will develop practicing teachers' awareness of and skill in meeting the needs of P-12 students with regards to the areas of human understanding, acceptance and value. Candidates will examine existing attitudes towards various minority groups such as racial, ethnic, gender, exceptionality, etc. School materials and attitudes will also be examined in determining the effect they have on PK-12 students.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8220 PLAY AS A LEARNING MEDIUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides an in-depth examination of young children's play and its curricular role in the early childhood classroom. The origins, developmental outcomes, assessment, curricular implementation, and evaluation of play will be covered, with an emphasis on play as a major component of developmentally appropriate practice with young children. The focus is on teachers learning to help children become partners in the operation of the learning environment.

**TED 8230 LITERATURE FOR THE YOUNG CHILD (3 credits)**

Literature for the young child is examined through the lens of developmentally appropriate practice for informing educators' interactions with children and also for developing high-quality, literature-related projects of study across the early childhood (birth-through-age-eight) continuum.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8240 FAMILY, SCHOOL, AND COMMUNITY PARTNERS (3 credits)**

This course will examine the purposes and methods for developing family, school, and community partnerships. Candidates will explore characteristics of diverse families and develop the skills necessary for planning, design, implementation, and evaluation of effective partnerships in early childhood settings.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8250 ASSESSMENT FOR CLASSROOM TEACHER (3 credits)**

This course studies assessment principles, effective practices, and classroom assessment processes throughout the curriculum. The research regarding assessment for learning is studied and application is made to classroom practices.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8260 ADVANCED CURRICULUM IN EARLY CHILDHOOD (3 credits)**

This course is designed to provide an in-depth examination of the processes used in selecting and implementing appropriate curricular content in programs for children ages three to eight years. Particular emphasis is on the role of the teacher as a dedicated practitioner and reflective scholar in the early learning environment.

**TED 8270 TRENDS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides a context for examining socio-political and research-based influences underlying trends in early childhood education at the local, national and international levels.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8280 INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION (3 credits)**

The course examines the intersection of human rights and P-12 education and prepares individuals to effectively work with and advocate for children and adolescents in educational settings. Students completing the course will be able to 1) demonstrate an increased understanding of fundamental human rights with a specific emphasis on education rights and the human rights of children and adolescents 2) create learning environments that elevate human rights in educational settings and 3) design developmentally appropriate instruction for children and adolescents on varied human rights topics.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8300 EFFECTIVE TEACHING PRACTICES (3 credits)**

This course focuses on specific characteristics and behaviors of effective teachers. Course content will be derived from research on teaching and learning.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8310 HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING (3 credits)**

This course examines human growth and learning from birth through late adolescence. It is designed to prepare teachers to synthesize information regarding developmental theory and subsequently apply this to lesson design and effective content-area pedagogy. Candidates will examine multiple frameworks related to the cognitive, social/emotional, and physical development of children and use those to analyze current educational practices in PK-12 schools. Cultural influences impacting human development and implications for educational practices will also be examined. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Admission into a Teacher Education Department graduate program.

**TED 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with STEM 8370).

**TED 8376 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 4370).

**TED 8390 CLASSROOM MANAGEMENT IN PRACTICE (3 credits)**

This course will provide graduate students with a survey of general classroom management methods for classrooms. Candidates will enhance their understanding of three basic components of effective pedagogy: 1) proactive classroom management, 2) high-impact instructional strategies that impact student engagement and learning, 3) behavior management techniques that incorporate practice, feedback, research, and reflection.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**TED 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with STEM 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with STEM 8420).

**TED 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with STEM 8430).

**TED 8470 TEACHING THE LANGUAGE ARTS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading, writing, listening, and speaking. Candidates will learn about research supported appropriate language arts instruction strategies and assessments. This course will inform graduate students as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**TED 8480 FOUNDATIONS OF BILINGUAL EDUCATION (3 credits)**

This course is designed to give future and current teachers a thorough understanding of the theoretical, political, historical, and practical foundations of bilingual/multicultural education in the United States. As dedicated practitioners, reflective scholars, and responsible citizens, graduate students will have knowledge of factors that contribute to effective multilingual and multicultural learning environments that promote individual and societal bilingualism. Advanced Spanish language proficiency required.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8490 SPANISH LANGUAGE ARTS (3 credits)**

This course is designed to reinforce first and second language acquisition theory as it relates to dual immersion settings. Best practices for developing and reinforcing bilingualism and biliteracy are presented and used for planning and delivering instruction. Spanish fluency is required for the course.

**Prerequisite(s)/Corequisite(s):** Graduate status required for graduate students pursuing the bilingual education endorsement and concentration (does not lead to a Nebraska Department of Education teaching endorsement). Advanced Spanish language proficiency required.

**TED 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with AVN 8510, STEM 8510).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8520 SCHOOL LIBRARY CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their schools and communities.

**Prerequisite(s)/Corequisite(s):** There are no course prereqs for the Capstone Practicum but candidates must be in the final 2 semesters of their library media program & must complete an application for the Practicum the semester prior to their practicum. Not open to non-degree grads.

**TED 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with STEM 8530).

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**TED 8540 DIGITAL CITIZENSHIP (3 credits)**

The course explores key concepts of Digital Citizenship pertaining to digital law, digital ethics, digital interaction, digital literacy, and cyber-security. The course addresses an educator's role as technology leader in both policy and practice to establish a responsible and robust digital learning community in P-12 schools.

**Prerequisite(s)/Corequisite(s):** Graduate Standing/Status

**TED 8550 TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING (3 credits)**

Technology for Creativity and Critical Thinking investigates the use of visual media tools in P-12 digital learning environments. This course provides candidates an opportunity to develop leadership skills and dispositions relevant to advocacy initiatives addressing policy and best practice in the use of technology in P-12 schools.

**TED 8560 TECHNOLOGY FOR DIVERSE LEARNERS (3 credits)**

This course will engage candidates that facilitate the use of instructional technology, pedagogy, and strategies to better meet the needs of diverse learners. Candidates will explore categories of diverse learners relevant and specific to their own organizations and learning environments to ensure candidates can effectively research and implement assistive technology, instructional technology, and applications to enhance learning opportunities for children and youth.

**TED 8570 INTERNET IN THE LEARNING PROCESS (3 credits)**

This course is designed to help educators actively explore instructional implementations of Internet use appropriate for use in K-12 classrooms, successful diffusion of Internet innovations in educational environments, and emerging multicultural "breaking down the walls of the classroom" concepts available to educators through Internet use.

**TED 8580 ONLINE TEACHING AND LEARNING (3 credits)**

Online Teaching and Learning is a course for education professionals that investigates the use of online tools for planning, preparing and assessing student learning in a digital environment. The course will prepare candidates to provide leadership for digital initiatives within learning organizations. The course encourages educators to explore methods of virtual lesson delivery and online assessment through direct instruction and online study.

**Prerequisite(s)/Corequisite(s):** Graduate Admissions status

**TED 8590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course is an introduction to future-ready information and instructional technologies for use with children and youth. Course will cover a diverse array of technical literacies that serve as content and skill goals for today's children and youth in P-12 schools and other learning organizations.

**TED 8610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing genres extend throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8620 ADVANCED SUPPORT OF INSTRUCTIONAL TECHNOLOGY ENVIRONMENTS (3 credits)**

This course is designed for P-12 educators who wish to become better advocates of technology integration or become technology coordinators or school technicians. Course enrollees will evaluate and implement advanced strategies to keep technology up to date, effectively use technology, and properly manage technology in a school setting.

**TED 8650 CHILDREN'S LITERATURE AND EDUCATION (3 credits)**

Candidates in this graduate course will explore story, poetry, drama, and informational materials for elementary students with an emphasis on methods for including literature in school curricula with an awareness of diverse children's lives, discourses, and understandings. Examines current issues, recent materials, and the theoretical and research base of this field to develop meaningful and creative learning, literacy, and library experiences for children.

**TED 8660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8695 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 3690).

**TED 8700 ELEMENTARY EDUCATION CAPSTONE COURSE (3 credits)**

This course is designed as a required, final capstone course for Elementary Education graduate students to be taken in the last nine hours of the Master of Science program. A grade of B or better must be received in TED 8700 to show satisfactory completion of the course and for program completion.

**Prerequisite(s)/Corequisite(s):** Permission of the Elementary Education Program Chair. Not open to non-degree graduate students.

**TED 8710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 8720 INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION (3 credits)**

This course examines the prominent coaching models used in PK-12 schools (i.e. teacher-centered coaching, student-centered coaching, cognitive coaching, transformational coaching). Candidates completing this course will be able to: develop an understanding of best practices in coaching, create a common lexicon for the role of an instructional coach, engage in the coaching cycle, and create a personal vision for their work as a coach. Candidates will engage in a field based experience to apply their learning.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8726 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 4720).

**TED 8740 ORGANIZATION OF INFORMATION (3 credits)**

This course addresses current theory and best practice in descriptive and subject cataloging and classification of information resources that align with school library standards and guidelines. Candidates will demonstrate the ability to integrate the legal and ethical standards of their discipline in ensuring access to information and ideas for a diverse array of learners in schools and communities.

**TED 8746 ORGANIZATION OF INFORMATION (3 credits)**

Candidates will demonstrate a basic understanding of the theories, concepts and activities of descriptive and subject cataloging and classification procedures of information resources in 21st Century libraries and information agencies.

**TED 8760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 8770 INTEGRATING TECHNOLOGY INTO INSTRUCTIONAL DESIGN (3 credits)**

The purpose of this course is to introduce participants to effective methods for the integration of educational media into instructional design and provides participants (1) knowledge of broad instructional design theories and models with a concentration on constructivism, (2) experience in designing instruction that effectively integrates technology into the teaching-learning process, and (3) experience in producing instructional media. The course is intended to provide fundamentals in the selection, evaluation, production, application and utilization of educational media. This course is designed for in-service library media or instructional technology specialists as well as regular classroom teachers.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8800 MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH (3 credits)**

This is designed as a graduate-level course dealing with utilization of literary materials representing authors and content from multiple perspectives, particularly authors whose cultural and ethnic backgrounds differ from the mainstream.

**TED 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with STEM 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8816 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 4810).

**TED 8820 CAPSTONE IN STEM EDUCATION (3 credits)**

This course will prepare graduate students for the integration, articulation, and differentiation of curriculum and instruction in and between the STEM core areas of Science, Technology, Engineering, and Mathematics. Special emphasis will be on using the STEM core content to help provide applications and context to existing science and mathematics curriculum and instruction and on providing leadership in developing curriculum for mathematics and science dependent courses in engineering and technology.

**Prerequisite(s)/Corequisite(s):** The student must be enrolled in one of the following concentrations: STEM, mathematics, science, technology; and be enrolled in the last six hours of their program of study. Not open to non-degree graduate students.

**TED 8830 LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES (3 credits)**

The course explores best practice for effective leadership and management of 21st Century school libraries. Candidates will gain a comprehensive knowledge of the theories, policies and processes involved in directing a school library in support of the personal and academic success of P-12 students. Candidates will explore and employ ethical codes of conduct in their profession to ensure school libraries meet the needs of their diverse array of patrons.

**TED 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with STEM 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**TED 8850 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with SPED 8980).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**TED 8856 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 4850).

**TED 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with STEM 8860).

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8880 LEADERSHIP IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course seeks to prepare candidates with leadership skills in the early childhood field that will empower them to initiate and implement changes in programs serving young children and families. Candidates will explore and apply frameworks of leadership and analyze policy, governance, and power structures that can impact change. Candidates will also learn effective advocacy skills to positively influence policies and practices in program and governance structures. Lastly, candidates will examine approaches for developing new leaders in early childhood education through reflective supervision and mentorship.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8900 SECONDARY EDUCATION GRADUATE CAPSTONE (3 credits)**

The Secondary Education Graduate Capstone course provides candidates with an opportunity to apply the knowledge, skills, and dispositions acquired during their program to content specific synthesis activities in their respective disciplines. Candidates will demonstrate their ability to integrate information from program coursework in the design, development and presentation of a final capstone project related to teaching and learning in 21st Century educational environments.

**Prerequisite(s)/Corequisite(s):** 30 credit hours towards degree completion; Permission required by Program Advisor. Not open to non-degree graduate students.

**TED 8970 INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of Department and Graduate Faculty member.

**TED 8980 PRACTICUM: VARIOUS CONTENT AREAS (1-6 credits)**

This course is designed to provide school professionals with a guided, supervised, field experience that will develop and enhance the knowledge, skills, and dispositions requisite of a successful educational practitioner.

**Prerequisite(s)/Corequisite(s):** Prerequisites for the course will vary, depending on the content/discipline area. See syllabus for specific discipline area.

**TED 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option.

**Prerequisite(s)/Corequisite(s):** Completion of Selective Retention and approval of advisor. Not open to non-degree graduate students.

**TED 9100 THEORIES, MODELS, AND PRACTICES OF LITERACY (3 credits)**

This course develops a framework about the theories, models, practices, processes, and related research associated with literacy. The content looks across grade levels and student populations, and across social and cultural contexts in an examination of factors that impact theories and processes of literacy.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 9110 PRINCIPLES AND PRACTICES FOR TEACHING READERS (3 credits)**

This graduate course for both elementary and secondary teachers is open to any candidate who has graduate standing in education. The purpose of the course is to develop a broad understanding of the reading process as well as materials and instructional strategies that support students who are emerging, developing, and maturing as readers in all areas of the curriculum.

**TED 9130 ASSESSMENTS AND INTERVENTIONS - ELEMENTARY (3 credits)**

This course is designed for graduate candidates enrolled in the Literacy Masters or Reading Specialist endorsement program. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches that support reading development. This knowledge is applied through a practicum experience with elementary students in which candidates integrate knowledge and practices related to assessment and evaluation of readers' strengths and needs.

**TED 9140 ASSESSMENT AND INTERVENTION - SECONDARY (3 credits)**

This course is designed for graduate candidates in literacy endorsement and Master's programs. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches as they relate to reading difficulties among middle and high school students. Included in this course is knowledge about the role and responsibility of a literacy leader as it relates to coaching, mentoring, supervision, and evaluation of a reading program. Application of this information is demonstrated through a practicum experience with middle and high school students.

**Prerequisite(s)/Corequisite(s):** TED 9100; TED 9110 concurrent with, or prior to TED 9140.

**TED 9180 LITERACY RESEARCH SEMINAR (3 credits)**

This course will develop advanced degree candidates' understanding and ability to critically examine current literacy research through work with (1) scientific methods of quantitative and qualitative research (2) discussion of historical trends in literacy research, (3) designs, methods, and tools of research, and (4) reviewing and critically examining current research studies in literacy. These examinations will be conducted from the perspectives of knowledge about literacy processes, classroom practice, and influence of previous research results. Teacher candidates will apply these issues in an action research project they design.

**TED 9190 LITERACY GRADUATE CAPSTONE (3 credits)**

This course is designed to help Literacy Masters students synthesize the knowledge gained from the program in order to serve as literacy leaders within the complex organizations of classrooms, schools, and school districts. In this course students will integrate their learning across the program in order to organize their future activities in teaching, leadership, advocacy, and engagement opportunities in ways that honor the interrelationships among classroom, school, sociocultural and economic contexts. They will prepare to engage with all literacy education stakeholders in cutting edge, innovative ways that advance both the learning of PK-12 students and the literacy education field.

**Prerequisite(s)/Corequisite(s):** This course is designed as a capstone event. Accordingly, students must have no more than 6 additional remaining credit hours of coursework. Permit to enroll required.

**TED 9200 CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE (3 credits)**

This course examines ways in which ideology, power, and culture intersect in P-12 educational settings. Undemocratic, inequitable, and oppressive structures are identified. Possibilities for democratic, equitable transformations are proposed.

**Prerequisite(s)/Corequisite(s):** Graduate status

**STEM 8030 EVOLUTION: FROM GENOMES TO ECOSYSTEMS (3 credits)**

This course will prepare students to evaluate and discuss evolution as an underlying concept in all of biology. Further, it will provide a comprehensive overview of evolutionary processes related to the evolution of genomes, development, physiology, morphology, behavior, and ecosystems. (Cross-listed with BIOL 8030).

**Prerequisite(s)/Corequisite(s):** Courses for graduate admission or equivalent, or with permission of instructor.

**STEM 8040 TOPICS IN MATHEMATICAL COMPUTING (3 credits)**

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. (Cross-listed with MTCH 8040)

**Prerequisite(s)/Corequisite(s):** MATH 2200 or equivalent or approval of instructor.

**STEM 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with TED 8050).

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**STEM 8170 ECOSYSTEM ANALYSIS FOR EDUCATORS (3 credits)**

This course is designed for education graduate students who wish to take a field-based biology course that uses an interdisciplinary approach to understanding the ecosystem of the tallgrass prairie. This course engages graduate students in methods reflecting multidisciplinary STEM strategies (e.g. scientific inquiry, modeling, geographic information system mapping, etc.) associated with research taking place at the Glacier Creek Preserve. Graduate students completing this course will develop advanced knowledge of ecology, restoration ecology, and monitoring of prairie habitat restoration. Graduate students will focus on the technical, biogeochemical, ecological and cultural aspects of analyzing and restoring the prairie ecosystem and its various habitats. (Cross-listed with BIOL 8170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**STEM 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with TED 8370).

**STEM 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with TED 8410).

**STEM 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with TED 8420).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with TED 8430).

**STEM 8450 BIOLOGY EDUCATION RESEARCH METHODS (3 credits)**

In this course, students will learn the methods of conducting pedagogical research in Biology, understand how people learn the concepts, practices, and ways of thinking in science and engineering; understand the nature and development of expertise in a discipline; help identify and measure appropriate learning objectives and instructional approaches that advance students toward those objectives; contribute to the knowledge base in a way that can guide the translation of statistical findings to classroom practice; and identify approaches to make science and engineering education broad and inclusive. Students will work with live data sets to evaluate effective pedagogical approaches in the biology classroom of various audiences (K-16).

**STEM 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with TED 8510, AVN 8510)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with TED 8530)

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**STEM 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with TED 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**STEM 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with TED 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**STEM 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with TED 8860)

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**STEM 8910 CAPSTONE IN CS EDUCATION (3 credits)**

This course will allow graduate students, as an individual or as part of a group, to study and analyze specific problems related to teaching computing in schools. Projects will be concerned with the curriculum and/or instruction of computing and should address a broad scope of application rather than a specific level. (Cross-listed with CSTE 8910).

**Prerequisite(s)/Corequisite(s):** Student must have completed 21 hours in the Masters of CS Education program.

## English

### Degree Programs Offered

- English, MA (p. 1173)

### Certificates Offered

- Advanced Writing Certificate (p. 1174)
- Literature and Culture Certificate (p. 1176)
- Teaching English to Speakers of Other Languages Certificate (p. 1177)
- Technical Communication Certificate (p. 1178)

**ENGL 8010 SEMINAR: TEXT-BASED RESEARCH METHODS FOR ENGLISH STUDIES (3 credits)**

An overview of the theories, methods and practices for conducting text-based research in English and related disciplines; graduate students gain experience conducting textual analysis and interpretation using relevant theories and methods, and reporting findings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in English or permission of instructor.

**ENGL 8020 SEMINAR: COLLEGE WRITING INSTRUCTION (5 credits)**

The seminar in college writing instruction prepares Graduate Teaching Assistants to fulfill their responsibilities as teachers of first-year composition.

**Prerequisite(s)/Corequisite(s):** Graduate status and a teaching assistantship. Not open to non-degree graduate students.

**ENGL 8026 AMERICAN POETRY TO 1900 (3 credits)**

A comprehensive survey of the American poetic tradition from the 17th to the end of the 19th century. (Cross-listed with ENGL 4020).

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or ENGL 8030 recommended.

**ENGL 8030 FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES (3 credits)**

An overview of resources and methods for conducting qualitative, field-based research in English and related disciplines; students gain experience collecting data and analyzing data and reporting findings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in English or permission of instructor. Not open to non-degree graduate students.

**ENGL 8036 AMERICAN POETRY SINCE 1900 (3 credits)**

A survey of the American poetic tradition from the turn of the twentieth-century to the present, focusing on various "schools" such as Imagism, High Modernism, the Harlem Renaissance, Confessional, Beats, and New Formalism. (Cross-listed with ENGL 4030).

**Prerequisite(s)/Corequisite(s):** Graduate Standing; ENGL 8010 or ENGL 8030 recommended

**ENGL 8040 WRITING FOR PUBLICATION (3 credits)**

In this seminar, students will study and practice methods for transforming their scholarly research and/or creative nonfiction into publishable articles and essays, as well as conference papers and other modes of sharing that work publicly. Students will edit and revise previously drafted work with the guidance of instructor feedback, advice from faculty mentors in their fields, and peer review. They will also research the larger structures and expectations of professional publishing in their fields.

**Prerequisite(s)/Corequisite(s):** Graduate standing and instructor permission.

**ENGL 8066 THE AMERICAN NOVEL (3 credits)**

A comprehensive survey of the evolution of the American Novel from the 1780s to the present day. Special emphasis will be placed on how a broad range of authors have responded to changing cultural and historical circumstances, and on how they have expressed widely varying viewpoints depending on their own gender, race, geographic region, and/or ethnicity. (Cross-listed with ENGL 4060).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8070 SEMINAR: WALT WHITMAN AND EMILY DICKINSON (3 credits)**

A comprehensive examination of the poetry of Walt Whitman and Emily Dickinson.

**Prerequisite(s)/Corequisite(s):** Graduate Program admission. ENGL 8010 or ENGL 8030 recommended.

**ENGL 8100 SEMINAR: TOPICS IN AMERICAN LITERATURE (3 credits)**

This course involves the investigation of a particular topic (genre, author or group of authors, time period, subject area) in American literature. (The course may be repeated for additional credits under different topics.) Formerly ENGL 8060.

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or 8030 recommended

**ENGL 8146 AMERICAN LITERARY REALISM AND NATURALISM (3 credits)**

In the late nineteenth and early twentieth century two major literary genres - Realism and Naturalism - emerged in the United States not only to challenge the primacy of Romanticism and its generally optimistic view of life but also to actively engage with the modern America created after the Civil War. This course examines a wide range of realist and naturalist works, written between 1865 and 1914, by an extremely diverse group of male and female authors from different races, ethnicities, regions, religions, and socioeconomic classes. Emphasis will be placed on how various cultural, economic, political, and social factors influenced the construction and reception of these works. (Cross-listed with ENGL 4140).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8160 SEMINAR: POSTMODERN FICTION OF THE UNITED STATES (3 credits)**

A seminar in American Fiction from the second half of the twentieth century into the twenty-first century which presents and discusses some of the major trends and issues associated with postmodern culture in America.

**ENGL 8166 TOPICS IN AMERICAN REGIONALISM (3 credits)**

A study of major topics in American literary regionalism, with special emphasis on particular social, cultural, and geographical contexts. Focus will be determined by instructor, but may include particular historical periods, geographic regions, authors, or literary themes. (Cross-listed with ENGL 4160).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8190 BOOK-SMART: EDUCATION IN LITERATURES AND CULTURES (3 credits)**

The purpose of this course is to enable a critical consideration of how education is tied inextricably to issues of class, gender, religion, culture, and politics as well as an examination of how literature responds to and represents the theme of education, often also powerfully making the case for outsiders excluded by systems of privilege.

**ENGL 8236 LATINO LITERATURE (3 credits)**

A study of representative works of Mexican-American, Spanish-American, and American writers, along with their cultural and historical antecedents. Formerly ENGL 4180/8186 Chicano Literature and Culture. (Cross-listed with ENGL 4230).

**Prerequisite(s)/Corequisite(s):** Graduate, permission.

**ENGL 8246 TEACHING LATINO LITERATURE (3 credits)**

This course is designed specifically for current or future teachers of high school students. It introduces pedagogical approaches of contemporary literature by Latinos/as in the United States. The course provides an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from mid-19th Century to the present and complement that with social, cultural, historical and other approaches to developing teaching strategies. (Cross-listed with ENGL 4240)

**ENGL 8256 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 4250, WGST 4250).

**ENGL 8266 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms about a womanist perspective. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on white, male literary experiences and criteria. (Cross-listed with ENGL 4260).

**Prerequisite(s)/Corequisite(s):** Graduate English major or permission of instructor for 8266

**ENGL 8276 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 4270, WGST 4270).

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or ENGL 8030 recommended.

**ENGL 8286 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 4280, WGST 3160).

**Prerequisite(s)/Corequisite(s):** ENGL 8010 or ENGL 8030 recommended

**ENGL 8300 SEMINAR: SHAKESPEARE (3 credits)**

Critical analysis of ten tragedies, ten histories, or ten comedies of Shakespeare. Formerly ENGL 9120.

**ENGL 8306 ANGLO-SAXON LITERATURE (3 credits)**

From the sixth to the eleventh centuries, a people known collectively as the Anglo-Saxons ruled Britain, giving it a new name and establishing the roots of the modern English language. Anglo-Saxon culture continues to haunt the modern imagination. We study the historic, artistic and intellectual environment that produced this influential literary tradition. We also place these people, their language, and their writings within the context of the broader early medieval world. Finally, we engage with some of the foremost modern scholars of this fascinating culture. (Cross-listed with ENGL 4300).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENGL 8310 ECOLOGICAL WRITING AND ANALYSIS (3 credits)**

This course provides students with the opportunity to develop expertise in a wide range of foundational works and key techniques of ecological writing and theory in English. By engaging mindfully with these works and techniques, students will develop advanced skills in ecologically oriented critical analysis and creative thinking. This course supports the Writing and Critical Reflection and the Health and the Environment concentrations in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8310)

**ENGL 8326 CHAUCER (3 credits)**

A literary, linguistic, and historical study of the works of Geoffrey Chaucer: his dream visions, Troilus and Criseyde, and the Canterbury Tales. (Cross-listed with ENGL 4320).

**ENGL 8336 RENAISSANCE SATIRE (3 credits)**

Satirical traditions and the literature of critique and invective as inherited from medieval and classical forms. Considerations will include satire as an aesthetic, philosophical, and political mode of expression; topicality as it relates to and portrays cultural history; and self-representation through humanist learning and response. (Cross-listed with ENGL 4330).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8346 SHAKESPEARE (3 credits)**

A critical study of selected plays and poetry from Shakespeare's works, in the context of the historical and cultural moment of the English Renaissance and as a set of texts inherited and reinvented by modernity. (Cross-listed with ENGL 4340).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**ENGL 8376 RESTORATION AND EIGHTEENTH CENTURY LITERATURE (3 credits)**

Poetry, prose (exclusive of the novel), and drama of England in the Restoration and 18th century (1660-1800), with emphasis on Swift and Johnson. Formerly ENGL 4620/8626. (Cross-listed with ENGL 4370).

**ENGL 8396 MEDIEVAL CELTIC LITERATURE (3 credits)**

This course examines the literature and culture of the Celtic civilizations. The course examines the archeological record and texts about the Celts by Greek and Roman authors, as well as later medieval tales from the Irish, Welsh, and Breton traditions. All texts are in translation with guided reference to the original languages. (Cross-listed with ENGL 4390).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420 and one ENGL course above 3299, or instructor permission; ENGL 2310 recommended. Not open to non-degree graduate students.

**ENGL 8400 SEMINAR: ENGLISH RENAISSANCE (3 credits)**

A seminar in a few significant literary figures of the English Renaissance. Formerly ENGL 8080.

**ENGL 8410 IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE (3 credits)**

This seminar in literature and some film analyzes the depictions in non-fiction and fiction of displacement as a result of immigration, migration, refugee status, or any other considered movement, intentional or imposed. It will focus largely on the U.S. experiences of those displaced from all locales. (Cross-listed with CACT 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENGL 8416 LITERATURE OF THE ROMANTIC PERIOD (3 credits)**

Poetry and prose (excluding the novel) of England from 1798 to 1830. Formerly ENGL 4810/8816. (Cross-listed with ENGL 4410).

**ENGL 8426 NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES (3 credits)**

English and Anglophone poetry and prose (excluding the novel) in the nineteenth century. (Cross-listed with ENGL 4420).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8436 THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY) (3 credits)**

Introduction to the British and Anglophone novel in the nineteenth and twentieth century. (Cross-listed with ENGL 4430).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8496 GREAT WORKS OF BRITISH LITERATURE (3 credits)**

This course pursues a trans-historical approach to literary study while interrogating what makes a literary work "great" within the field of British Literature. It allows students to engage with great works of British literature from across the ages - starting with the foundations of British literary history in the medieval period and extending to the present. Attending to formal, thematic, and historical dimensions of a wide array of literary texts, we will increase our appreciation of the many ways texts make meaning while developing a deep understanding of the British literary tradition. Reading literature with a sense of purpose and comparatively across time will allow us not only to appreciate great works but also to enhance the impact they have on us. Furthermore, we will recognize how culture and politics inform what literary works become deemed "great," thereby developing a critical understanding of the process of canon formation. (Cross-listed with ENGL 4490).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8610 PROFESSIONAL AND TECHNICAL WRITING (3 credits)**

This course will introduce students to the theory, research, and practices of professional and technical writing. Through readings, discussions, and assignments, students will gain an understanding of the types and circumstances of communication challenges encountered in the workplace. The course will also consider the roles of persuasion and ethics in written communication. (Cross-listed with CACT 8610).

**ENGL 8615 INTRODUCTION TO LINGUISTICS (3 credits)**

An introduction to the concepts and methodology of the scientific study of language; includes language description, history, theory, variation, and semantics as well as first and second language acquisition. (Cross-listed with ENGL 3610).

**ENGL 8620 SEMINAR: JANE AUSTEN (3 credits)**

This seminar examines Jane Austen's oeuvre from her juvenilia to her posthumous fragments, giving particular emphasis to her six great novels, *Northanger Abbey*, *Sense and Sensibility*, *Pride and Prejudice*, *Mansfield Park*, *Emma*, and *Persuasion*. Austen biography and scholarship provide the framework for studying her literary career.

**ENGL 8626 HISTORY OF ENGLISH (3 credits)**

A critical study of both the internal and external histories of English. Includes historical development of English phonology, morphology, graphics, syntax, diction, dialects, and semantics. (Cross-listed with ENGL 4620).

**ENGL 8630 DIGITAL RHETORIC (3 credits)**

This course provides students with the opportunity to develop expertise in the theory and practice of digital rhetoric by considering technology's deep impact on how we define and engage in writing. Students examine contemporary writing practices as part of a rich rhetorical tradition while they design and create effective multimodal compositions and analyze foundational works in digital rhetoric. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8630).

**ENGL 8640 CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS (3 credits)**

Students in this course will study creative nonfiction in digital environments, analyze rhetorical situations created in digital environments, and create individual creative nonfiction blogs-which might include, in addition to other modalities, sounds, animations, and hypertext. The course will also focus on the study and analysis of craft-elements of creative nonfiction: narrative persona, tone, rhythm and style, scenic construction, among others. Students taking this course will learn to read with interpretative and analytical proficiency a broad range of creative nonfiction in digital environments. (Cross-listed with CACT 8640).

**ENGL 8646 APPLIED LINGUISTICS (3 credits)**

This course is designed to develop knowledge and skills for second language instructors and others interested in second language learning and instruction. Content covers relevant second language acquisition (SLA) theory and second language pedagogy. (Cross-listed with ENGL 4640)

**Prerequisite(s)/Corequisite(s):** ENGL 3610 and Junior standing or with permission from instructor.

**ENGL 8650 WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY (3 credits)**

This course provides students a theoretical foundation for understanding how language is used in various types of discourses and texts as a means of convincing others of a given viewpoint or idea. Students will apply this theory to real-world writing scenarios in their scholarly areas of interest, to advocacy and social issues movements, or to address workplace needs and goals. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8650).

**ENGL 8656 STRUCTURE OF ENGLISH (3 credits)**

A study of grammar as it has been conceived through history, including traditional prescriptive and descriptive approaches as well as transformational- generative grammar. (Cross-listed with ENGL 4650).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 / ENGL 8615 or permission

**ENGL 8676 SOCIOLINGUISTICS (3 credits)**

An exploration of interconnections between language, culture, and communicative meaning, stressing interactional, situational, and social functions of language as they take place and are created within social contexts. (Cross-listed with ENGL 4670).

**Prerequisite(s)/Corequisite(s):** ENGL 3610/ENGL 8615, or permission.

**ENGL 8696 TOPICS IN LINGUISTICS (3 credits)**

Studies in a selected subfield or problem area of linguistics such as sociolinguistics, generative semantics, applied linguistics, descriptive linguistics, teaching English as a foreign language, etc. Formerly ENGL 4960/8966. (Cross-listed with ENGL 4690).

**Prerequisite(s)/Corequisite(s):** ENGL 4610/ENGL 8616, or permission.

**ENGL 8736 RHETORIC (3 credits)**

A study of contemporary theories of invention, form, and style and their application in written discourse. Formerly ENGL 4530/8536. (Cross-listed with ENGL 4730).

**ENGL 8740 SEMINAR: DISCOURSE, CULTURE, AND POWER (3 credits)**

A graduate-level introduction to theories and methodologies of analyzing spoken and written discourse. Students will employ various methods to collect natural language data, including field research, and analyze the data using appropriate theoretical orientations to discourse analysis.

**ENGL 8750 OXBOW WRITING PROJECT (3 credits)**

Oxbow Writing Project summer institute immerses K-16 educators in writing pedagogy via their own writing, presentations about writing and pedagogy, reading and discussing professional literature, designing and implementing an in-depth inquiry project, and developing leadership strengths. Oxbow is a National Writing Project Site.

**Prerequisite(s)/Corequisite(s):** Acceptance into Oxbow Writing Project Summer Institute

**ENGL 8756 COMPOSITION THEORY & PEDAGOGY (3 credits)**

This course is an overview of composition theories and pedagogies since 1968 and focuses on how historical movements in education and theoretical frameworks (rhetorical, expressivist, socio-cognitivist, collaborative, social constructionist, critical pedagogy, cultural studies, feminist, technological, and linguistic theories) both enrich and complicate the teaching of composition. (Cross-listed with ENGL 4750).

**ENGL 8760 SEMINAR IN POPULAR CULTURE, MASS MEDIA AND VISUAL RHETORIC (3 credits)**

This course studies how discursive meaning is made through established and emerging visual technologies and the impact visual symbol systems are having upon the field of rhetoric in general. Students will investigate how visual technologies, discourse theory, and semiotic theory has intersected with and expanded contemporary rhetorical theories, and they will apply these theories to visual texts. (Cross-listed with COMM 8200).

**ENGL 8770 L2 COMPOSITION PEDAGOGY (3 credits)**

This course helps prepare students to teach writing to Language Learners. Students will review principles of Second Language Acquisition Theory, study theories of teaching writing, and learn tenets of curriculum design. Students who complete the course will be able to design curricula, courses, syllabi, and lesson plans.

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**ENGL 8775 WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH (3 credits)**

This course is an introduction to writing center theory, pedagogy, research, and history. The course is designed for undergraduate and graduate students interested in or already working in a writing center. Throughout the course we will explore a wide range of models for writing center work and the often problematic metaphors associated with those models. The overall aim in this course will be to help students develop multiple strategies for teaching writing one-to-one, for conducting research in writing centers, and for understanding writing center administration. (Cross-listed with ENGL 3770).

**ENGL 8796 ENGLISH CAREER PREPARATION (1 credit)**

This course will prepare students for an internship or a career, addressing topics such as finding and applying for internships, workplace and industry, resume and cover letters, interviewing techniques, developing a professional portfolio, and statement of goals. Taking this course prior to an internship is highly recommended. (Cross-listed with ENGL 4790).

**Prerequisite(s)/Corequisite(s):** The course is restricted to undergraduate Majors and graduate students in English.

**ENGL 8800 SEMINAR: TOPICS IN ENGLISH LANGUAGE AND LITERATURE (3 credits)**

An intensive study of one or more authors, genres in literature and language not covered by regular courses.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8806 ENGLISH INTERNSHIP (1-3 credits)**

Supervised internship in a professional setting with a local employer or nonprofit organization. Hands-on experience. Work hours, activities, and responsibilities must be specified in a written agreement between the employer and the student in consultation with the internship director. Some internships will be paid and some will not. (Cross-listed with ENGL 4800).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, an ENGL 4000-level writing course, and permission of internship director.

**ENGL 8816 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, JMC 8816, JMC 4810).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or permission of instructor

**ENGL 8826 AUTOBIOGRAPHY (3 credits)**

In this creative nonfiction writing course, students will craft, workshop, and revise original works of autobiographical nonfiction. Students will read, discuss and critically analyze writing techniques found in diverse autobiographical prose by published authors and student peers. A final project will invite students to research and summarize a book-length autobiography of their own. (Cross-listed with ENGL 4820).

**Prerequisite(s)/Corequisite(s):** graduate standing

**ENGL 8836 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, JMC 4830, JMC 8836).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8846 TRAVEL WRITING (3 credits)**

Travel Writing is a course in professional writing. Although the course includes critical examinations of texts, the primary focus is on the composition of various kinds of travel essays. (Cross-listed with ENGL 4840).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8850 SEMINAR: SPIRITUAL NONFICTION (3 credits)**

Spiritual Nonfiction is a creative nonfiction writing seminar where students study and practice various forms and styles of spiritual nonfiction. The comparative study of spirituality and religion is not the focus of this course. Writing is the focus. Discussion of the characteristics of spiritual experiences and ideas will be limited to their formalistic treatment within individual works.

**Prerequisite(s)/Corequisite(s):** Graduate Standing. At least one creative nonfiction writing course at 4000/8000 level.

**ENGL 8856 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, JMC 4850, JMC 8856).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8866 THE MODERN FAMILIAR ESSAY (3 credits)**

Students in this course will read as well as write the Modern Familiar Essay, a sub-genre of Creative Nonfiction, with an emphasis on writing the informal essay. Essays will represent a wide scope of perspectives and issues, including gender, social class, education, politics, culture, sexuality, health, race, and ethnicity, and will range from the the sixteenth century "inventor" of the modern essay to twenty-first century practitioners of the form. This course will also cover a wide range of sub-genres and stylistic forms, such as memoir, autobiography, flash, experimental, and more. (Cross-listed with ENGL 4860).

**Prerequisite(s)/Corequisite(s):** Graduate standing and/or admittance to the Advanced Writing program

**ENGL 8870 SEMINAR: PUBLISHING NON-FICTION (3 credits)**

A seminar in the process leading to publication of essays in one or more of the following genres: scholarly essay, personal essay, travel essay, pedagogical essay, autobiographical essay.

**Prerequisite(s)/Corequisite(s):** Graduate standing and 6 hours of graduate credit.

**ENGL 8876 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, JMC 4870, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**ENGL 8880 ADVANCED PLACEMENT INSTITUTE: LANGUAGE & COMPOSITION (3 credits)**

An intensive Advanced Placement Summer Institute focusing on curricular and pedagogical questions, paired with independent specialized research into various topics related to the planning, organization, implementation, and improvement of Advanced Placement English Language and Composition instruction and learning at the secondary educational level. Course may be repeated if the APSI topic is different.

**Prerequisite(s)/Corequisite(s):** Must register for and successfully complete the UNO Advanced Placement Summer Institute for English Language and Composition.

**ENGL 8890 SEMINAR: EXPERIMENTS IN CREATIVE NONFICTION (3 credits)**

This is a graduate seminar in creative nonfiction. This course explores, through an intensive engagement with long and short forms of creative nonfiction, the ways in which contemporary practitioners of the genre have experimented with form and meaning. Students will attempt their own experiments in writing.

**Prerequisite(s)/Corequisite(s):** Graduate Standing, Two graduate-level creative nonfiction courses from ENGL 8846, ENGL 8866, ENGL 8870, or ENGL 8800, when topic is appropriate.

**ENGL 8896 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, JMC 8896, JMC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or language, carried out under the supervision of a member of the graduate faculty. Designed primarily for the student who has need of work not currently available in the departmental offering and who has demonstrated capability of working independently.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of instructor, and no "incompletes" outstanding.

**ENGL 8910 SEMINAR: CRITICAL THEORY (3 credits)**

Seminar in critical theory with readings in New Criticism, semiotics, structuralism, deconstruction, New Historicism, feminist and gender theory, cultural materialism, psychoanalytic theory, queer theory, postcolonial theory, New Formalism, and other more recent theoretical developments in literary study.

**Prerequisite(s)/Corequisite(s):** ENGL 8010 recommended.

**ENGL 8936 NARRATIVE NONFICTION (3 credits)**

Students will read, discuss, and write critical analyses of narrative nonfiction by published and student writers. They will craft, workshop, and revise original works of narrative nonfiction. (Cross-listed with ENGL 4930).

**Prerequisite(s)/Corequisite(s):** One creative nonfiction course or permission from the instructor

**ENGL 8956 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 4950, MEDH 4950).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8966 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

This course introduces students to a specialized subject matter in the discipline of English Studies not covered in existing courses. This course may be repeated for different topics. (Cross-listed with ENGL 4960).

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**ENGL 8976 WRITING ABOUT SICKNESS AND HEALTH (3 credits)**

Students will explore many themes of the human experience in healthcare through reading and discussion of selected poems, short stories, excerpts from fiction, and essays and creative nonfiction. To help students generate their own poems, stories, and essays, the class will incorporate the work of community writing programs and projects. (Cross-listed with ENGL 4970).

**ENGL 8990 THESIS (3-6 credits)**

Independent research or creative project written under the supervision of a director.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of thesis director. Not open to non-degree graduate students.

## English, MA

Department of English, College of Arts & Sciences

### Vision Statement

The Department of English reflects the centrality of language to human endeavors and its effectiveness in achieving awareness of the human complexities that are part of us, our relationships, and our roles in the world.

### Program Contact Information

Ramón Guerra, PhD, Graduate Program Chair (GPC)  
192D Arts & Science Hall (ASH)  
402.554.2096  
rguerra@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- To be admitted to graduate study in English, a student should have completed at least 18 credit hours in undergraduate English courses above the freshman level with an average grade of "B" (3.0/4.0) or higher.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country

on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- **Statement of Purpose:** The statement (of about 500-1000 words) should convey the applicant's previous study in the field of English, any relevant work or life experience, the applicant's philosophy of learning and reason for pursuing a master's degree in English, and anything else that might help convey the applicant's personality, spirit, or intellectual character.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Teaching Assistantship

The application for a graduate assistantship requires the following additional materials, which should all be sent directly to Dr. Ramón Guerra, Graduate Program Chair, Department of English, ASH 192D, University of Nebraska at Omaha, 6001 Dodge St., Omaha, NE 68182-0175.

- **Application coversheet** (available online ([https://www.unomaha.edu/college-of-arts-and-sciences/english/\\_files/engl-ta-application%202017.pdf](https://www.unomaha.edu/college-of-arts-and-sciences/english/_files/engl-ta-application%202017.pdf)))
- **Statement of Purpose:** 500-1000 words detailing the applicant's ambitions in the graduate program and his or her motivation for pursuing an assistantship. In addition, this statement should convey some sense of the applicant's identity and philosophy of learning.
- **Writing Sample or Samples** of academic or creative non-fiction prose by the applicant totaling 10-20 pages in length. The sample(s) should reflect the applicant's best writing, demonstrating a cohesive argument and/or sustained thematic focus and excellent control of syntax and style.
- **Three Letters of Recommendation** from past teachers or anyone else reasonably able to offer an objective assessment of the applicant's writing, critical reasoning skills, and promise as a teacher. These letters should be sent to the above address directly by the recommenders, along with waiver forms.

## Degree Requirements

### Option 1: Thesis

(24 hours of coursework; 6 hours of thesis)

- For this option at least 12 hours of coursework must be seminar-level.

Code	Title	Credits
<b>Required Courses for both Thesis and Non-Thesis Options, Select Two</b>		<b>6</b>

ENGL 8010	SEMINAR: TEXT-BASED RESEARCH METHODS FOR ENGLISH STUDIES	
ENGL 8030	FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES	
ENGL 8040	WRITING FOR PUBLICATION	
<b>Electives</b>		
Select 18 hours for the Thesis Option, 6 hours of which must be seminars (see below).		18
<b>Thesis Requirement</b>		
ENGL 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

### Option 2: Non-Thesis

(36 hours of coursework)

- For this option at least 18 hours of coursework must be seminar-level.

Code	Title	Credits
<b>Required Courses for both Thesis and Non-Thesis Options, Select Two</b>		<b>6</b>
ENGL 8010	SEMINAR: TEXT-BASED RESEARCH METHODS FOR ENGLISH STUDIES	
ENGL 8030	FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES	
ENGL 8040	WRITING FOR PUBLICATION	
<b>Electives</b>		
Select 30 hours for the Non-Thesis Option, 12 hours of which must be seminars. Seminars end in a zero (0) (see below).		30
<b>Total Credits</b>		<b>36</b>

## Electives for Both Thesis and Non-Thesis Options

Any ENGL Graduate Course 8000 or above

### Coursework Outside English

With the approval of the student's advisor and the English graduate program committee, a student may include a minor or coursework from another related discipline or disciplines as part of the plan of study. For both the thesis and non-thesis options, a minor is nine hours (3 courses). The maximum amount of coursework that may be applied from another discipline or disciplines is the same as that for a minor in both options (nine hours).

### Exit Requirement

#### Option 1 Thesis:

- ENGL 8990 Thesis six hours
- Comprehensive Examination

#### Option 2 Non-Thesis:

- Comprehensive Examination

## Advanced Writing Certificate

Department of English, College of Arts & Sciences

### Vision Statement

The graduate certificate in advanced writing is designed for students interested in becoming more expressive, powerful writers of nonfiction prose. Students interested in securing publication of their writing are mentored in the publication process by the faculty.

The advanced writing certificate is designed for the following students:

- Writers interested in developing and publishing their creative nonfiction;
- Graduate students in English and related fields;
- Educators seeking writing-specific training and credentials;
- Working professionals who either are currently employed or will be seeking employment as experts in written communication;
- Individuals who work in community service organizations;
- Individuals dedicated to cultural activities in the community.

to complete an evaluation, or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.

- **\*Note:** If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Program Contact Information

John Price, PhD, Director  
204B Arts & Science Hall (ASH)  
402.554.3325  
jtprice@unomaha.edu

Ramón Guerra, PhD, Graduate Program Chair (GPC)  
192D Arts & Science Hall (ASH)  
402.554.2096  
rguerra@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/#aw>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

## Other Requirements

- Applicants must have completed a baccalaureate degree in English, or a related degree, with at least a 3.0 (on a 4.0 scale) GPA
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- **Statement of Purpose** (letter of intent): The statement (of about 500-1000 words) should convey the applicant's interest in creative nonfiction, previous study in the field of English, any relevant work or life experience, reason for pursuing a graduate certificate in Advanced Writing, and anything else that might help convey the applicant's personality, spirit, or intellectual character.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the applicant's transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable

## Degree Requirements

Code	Title	Credits
<b>Required Core Courses</b>		
Select three of the following (note: "Topics" courses must be approved by the advanced writing certificate director):		9
ENGL/CACT 8640	CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS	
ENGL 8800	SEMINAR: TOPICS IN ENGLISH LANGUAGE AND LITERATURE <sup>1</sup>	
ENGL 8826	AUTOBIOGRAPHY	
ENGL 8846	TRAVEL WRITING	
ENGL 8866	THE MODERN FAMILIAR ESSAY	
ENGL 8936	NARRATIVE NONFICTION	
ENGL 8966	TOPICS IN LANGUAGE AND LITERATURE <sup>2</sup>	
ENGL 8976	WRITING ABOUT SICKNESS AND HEALTH	
ENGL 8850	SEM: SPIRITUAL NONFICTION	
ENGL 8890	SEM: EXPERIMENTS IN CREATIVE NONFICTION	
ENGL 8040	WRITING FOR PUBLICATION	
<b>Electives</b>		
Select two of the following (note: "Topics" courses must be approved by the advanced writing certificate director):		6
ENGL 8100	SEMINAR: TOPICS IN AMERICAN LITERATURE <sup>3</sup>	
ENGL 8750	OXBOW WRITING PROJECT	
ENGL 8806	ENGLISH INTERNSHIP	
ENGL 8816	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 8836	TECHNICAL COMMUNICATION	
ENGL/JMC 8856	INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS	
ENGL/JMC 8876	TECHNICAL EDITING	
TED 8410	IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS	
PA 8520	SEMINAR IN GRANT WRITING	
<b>Total Credits</b>		<b>15</b>

- <sup>1</sup> If registering for ENGL 8800; the topics must be related to advanced writing such as rhetoric and memory, nature writing, etc.
- <sup>2</sup> If registering for ENGL 8966; the topics must be related to advanced writing such as narrative nonfiction, graphic memoir, food writing, writing women's lives, etc.
- <sup>3</sup> If registering for ENGL 8100; the topic must be Native American Nonfiction.

## Exit Requirements:

### Portfolio Requirement

Students will assemble a portfolio representing their achievement in the five courses (15 hours) applied toward the advanced writing certificate. The portfolio will contain at least one writing sample from each course and

will be reviewed by the student's advisor and one other graduate faculty member involved in offering courses approved for the advanced writing certificate. As part of the portfolio requirement, each student will make an oral presentation to the reviewing professors. During that discussion, special attention will be given to each student's professional goals for their writing. Please see the website (<http://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/>) for the advanced writing graduate certificate for a more detailed description of the portfolio requirement and the deadlines for submission.

## Literature and Culture Certificate

Department of English, College of Arts & Sciences

### Vision Statement

The graduate certificate in literature and culture offers an education in the intersection between literature written in English—either originally or in translation—with human culture broadly considered. The certificate will give high school teachers the credential to teach preparatory coursework worthy of college credit at UNO and other universities. And it is also designed as a continuing education option for anyone wishing to study literature at a post-baccalaureate level for personal enrichment. The certificate can be earned as part of the larger MA in English at UNO, and it can also be applied toward completion of that larger program retroactively.

The certificate will teach:

- literature of every period, from ancient to modern, in a variety of thematic and historical contexts;
- cultural encounters captured imaginatively on the pages of the literary text;
- the relationship of a culture to the literature produced within it, both harmonious and discordant;
- theories of literary effects on the course of human culture and history; and
- literature as a celebrated artifact of human hope, critique, and beauty.

Although applicants need no formal training in literature to enroll, they should expect to be immersed in a professional discipline of literary study with a research component. One especially designated course required for the certificate will provide training for students in the methodology of literary research.

### Program Contact Information

Ramón Guerra, PhD, Graduate Program Chair (GPC)  
192D Arts & Science Hall (ASH)  
402.554.2096  
[rguerra@unomaha.edu](mailto:rguerra@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

## Other Requirements

- Applicants must have completed a baccalaureate degree with at least a 3.0 (on a 4.0 scale) GPA. Undergraduate study of literature is required. Students who do not bring 18 hours of undergraduate study in English, however, would be obligated to enroll in ENGL 8010 as their *first* course of study in the certificate.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation, or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>3</b>
ENGL 8010/	SEMINAR: TEXT-BASED RESEARCH METHODS FOR ENGLISH STUDIES	
ENGL 8030	FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES	
<b>Electives</b>		<b>15</b>
ENGL 8026	AMERICAN POETRY TO 1900	
ENGL 8036	AMERICAN POETRY SINCE 1900	
ENGL 8070	SEMINAR: WALT WHITMAN AND EMILY DICKINSON	
ENGL 8190	BOOK-SMART: EDUCATION IN LITERATURES AND CULTURES	
ENGL 8216	THE HARLEM RENAISSANCE	
ENGL 8286	QUEER AMERICAN WESTS	
ENGL 8336	RENAISSANCE SATIRE	
TED 8660	YOUNG ADULT LITERATURE	
ENGL 8956	BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
ENGL 8066	THE AMERICAN NOVEL	
ENGL 8100	SEMINAR: TOPICS IN AMERICAN LITERATURE	

ENGL 8146	AMERICAN LITERARY REALISM AND NATURALISM
ENGL 8160	SEMINAR: POSTMODERN FICTION OF THE UNITED STATES
ENGL 8166	TOPICS IN AMERICAN REGIONALISM
ENGL 8236	LATINO LITERATURE
ENGL 8246	TEACHING LATINO LITERATURE
ENGL 8256	WOMEN'S STUDIES IN LITERATURE
ENGL 8266	WOMEN OF COLOR WRITERS
ENGL 8276	WOMEN WRITERS OF THE NORTH AMERICAN WEST
ENGL 8300	SEMINAR: SHAKESPEARE
ENGL 8306	ANGLO-SAXON LITERATURE
ENGL 8326	CHAUCE
ENGL 8346	SHAKESPEARE
ENGL 8376	RESTORATION AND EIGHTEENTH-CENTURY LITERATURE
ENGL 8396	MEDIEVAL CELTIC LITERATURE
ENGL 8410	IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE
ENGL 8416	LITERATURE OF THE ROMANTIC PERIOD
ENGL 8426	NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES
ENGL 8436	THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY)
ENGL 8486	
ENGL 8620	SEMINAR: JANE AUSTEN

**Total Credits****18**

## Teaching English to Speakers of Other Languages Certificate

Department of English, College of Arts & Sciences

### Vision Statement

In the United States, the need for well-prepared language teachers is constant. Teachers are more likely than ever to have the opportunity to teach students who come from a variety of cultural and linguistic backgrounds.

The Department of English offers students the opportunity to obtain a certificate in teaching English to speakers of other languages (TESOL). This is a rigorous 12-hour/4-course graduate certificate. Normally, students are able to complete the certificate requirements within three semesters.

The graduate TESOL certificate is a rigorous academic credential that includes a focus on the structure of the English language, theories of second language learning, and approaches to classroom pedagogy. All teachers will eventually work with nonnative speakers, so all teaching concentrations—like math, history, science, and social studies—are welcome.

A TESOL certificate does not certify a graduate to teach in Nebraska public schools. Instead, it is an academic credential meant for teachers already certified in other areas, for people who plan to teach in venues other than public schools, and for anyone who works in some capacity with non-native speakers of English.

Students in teacher education or in speech/language pathology should contact the TESOL director prior to applying to this program.

### Program Contact Information

Dr. Sarah Osborn, TESOL Director  
189S Arts & Science Hall (ASH)  
402.554.2955  
srfosborn ()@unomaha.edu (rguerra@unomaha.edu)

Ramón Guerra, PhD, Graduate Program Chair (GPC)  
192D Arts & Science Hall (ASH)  
402.554.2096  
rguerra@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/>)

### Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- An Introduction to Linguistics course is required. Equivalent course(s) from other institutions will be considered.
- Students in the College of Education, Health, and Human Sciences should meet with the TESOL director to plan a program of study.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Course</b>		
ENGL 8656	STRUCTURE OF ENGLISH	3
Select one of the following:		3
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY	
ENGL 8740	SEMINAR: DISCOURSE, CULTURE, AND POWER	
FLNG 8020	SEMINAR: FL/TESOL RESEARCH	
Select one of the following:		3
FLNG 8040	SEMINAR: ASSESSMENT & CURRICULUM DESIGN	
ENGL 8770	L2 COMPOSITION PEDAGOGY	
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	
ENGL 8646	APPLIED LINGUISTICS	
Select one of the following:		3
ENGL 8020	SEMINAR: COLLEGE WRITING INSTRUCTION	
ENGL 8676	SOCIOLINGUISTICS	
ENGL 8756	COMPOSITION THEORY & PEDAGOGY	
ENGL 8775	WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH	
ENGL 8806	ENGLISH INTERNSHIP <sup>1</sup>	
<b>Substitutions</b>		
Under special circumstances, the TESOL certificate director may approve up to six hours of substitutions.		
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> With a TESOL focus

Students are encouraged to take more than the minimum number of required courses and may not repeat any courses already taken at the undergraduate level. The linguistics faculty strongly recommends that all TESOL certificate students achieve an oral and written proficiency in a language other than English.

## Technical Communication Certificate

Department of English, College of Arts & Sciences, and School of Communication, College of Communication, Fine Arts and Media

### Vision Statement

The graduate certificate in technical communication is designed for graduate students and industry professionals seeking a foundation in the theory and practice of technical communication. This foundation provides students with the kinds of competencies expected from technical communication professionals, including writing, editing, design, and software applications.

The technical communication certificate is designed for the following students:

- Part- and full-time UNO students pursuing graduate degrees, who are seeking a cognate area outside, but relevant to, their primary program of study;

- Industry professionals seeking to develop the knowledge and skills for a career in technical communication; and
- Business or technical professionals seeking to enhance their employment opportunities through a professional development program.

### Program Contact Information

Tracy Bridgeford, PhD, Director  
192A Arts & Science Hall (ASH)  
402.554.3312  
tbridgeford@unomaha.edu

Ramón Guerra, PhD, Graduate Program Chair (GPC)  
192D Arts & Science Hall (ASH)  
402.554.2096  
rguerra@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/english/academics/graduate-programs/>)

### Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- Applicants must have completed a baccalaureate degree in English or a related degree with at least a 3.0 (on a 4.0 scale) GPA.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- Statement of Purpose:** The statement, about 500-1000 words, should articulate the applicant's career goals regarding interest in technical communication, any relevant work or life experience, reason for pursuing a graduate certificate in technical communication, and anything else that might help convey the applicant's personality, spirit, or intellectual character.
- Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant

will be notified by the individual program if an external course-by-course evaluation is required.

- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
ENGL/JMC 8816	DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS	3
ENGL/JMC 8836	TECHNICAL COMMUNICATION	3
ENGL/JMC 8856	INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS	3
Or other approved courses in consultation with the director.		
<b>Electives</b>		
Select 6 hours from the following:		6
ENGL 8806	ENGLISH INTERNSHIP	1-3
ENGL/JMC 8876	TECHNICAL EDITING	3
ENGL/JMC 8896	CAPSTONE COURSE IN TECHNICAL COMMUNICATION	3
ENGL/CACT 8610	PROFESSIONAL AND TECHNICAL WRITING	3
CMST 8156	CORPORATE TRAINING AND DEVELOPMENT	3
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	3
CMST 8536	INTERCULTURAL COMMUNICATION-US	3
Some courses from English or the School of Communication may be substituted with the director's approval.		
<b>Total Credits</b>		<b>15</b>

## Exit Requirements

Students will assemble a final portfolio representing their achievement in the five courses (15 hours). The portfolio will contain at least one writing sample/project from each course and will be reviewed by the technical communication program director and one other member of the graduate faculty from the Department of English or the School of Communication. Faculty teaching these courses will be aware of this portfolio requirement and will assign work that can be used as part of the portfolio (e.g., a report, user's manual, website, etc.).

## Biomechanics and Kinesiology, PhD

**School of Health and Kinesiology, Department of Biomechanics, College of Education, Health, and Human Sciences**

### Vision Statement

The doctoral degree in biomechanics and kinesiology at the University of Nebraska at Omaha (UNO) is a joint program between the Department of Biomechanics and the School of Health and Kinesiology. The degree is based on the physiology, biochemistry, biophysics, motor control and development, and psychology of human movement. The program is aimed at developing researchers who are working to improve movement function and physical activity using evidence-based approaches through interdisciplinary clinical and translational research. A problem-solving approach is used across the age and health spectrum for disease prevention, health enhancement, physical rehabilitation, and motivation for physical activity. The program offers four areas of concentration in biomechanics, physiology of exercise, motor development and control, and physical activity.

## Program Contact Information

Danae Dinkel, PhD, Doctoral Program Chair (DPC)  
207 School of Health and Kinesiology (H&K)  
402.554.2670  
dmdinkel@unomaha.edu

## Program Email Address (unohk@unomaha.edu)

Laura Rotert, Administrative Coordinator  
100 Biomechanics Research Building (BRB)  
402.554.3228  
lecampbell@unomaha.edu

Ryan Klatt, Administrative Assistant for Graduate Programs  
207 School of Health and Kinesiology (H&K)  
402.554.2910  
ryanklatt@unomaha.edu (eeitzmann@unomaha.edu)

**Program Website** (<https://www.unomaha.edu/college-of-education-health-and-human-sciences/biomechanics-core-facility/academic-programs/graduate-programs.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework. To receive full consideration for departmental assistantships, applications must be received by January 31st.

## Other Requirements

- GPA of 3.2 in master's program or in the last 30 hours of previous graduate work
- Master's degree, or minimum of 30 graduate hours in a related field, e.g., health, physical therapy
- Entrance Exam:** Graduate Record Exam (GRE) with a total score (verbal and quantitative) of at least 297. Exam scores must have been taken within the last three (3) years.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53 with a score of at least 20 in all categories (listening, reading, writing, and speaking), Duolingo: 105
- Statement of Purpose:** Needs to state goals and objectives for seeking the degree. Students will identify their intended area of focus and the name of the faculty advisor with whom they wish to work (maximum 500 words).
- Writing Sample:** Provide a writing sample which could include: first-author scientific paper, thesis proposal, research paper, or similar example showcasing the student's aptitude for writing.
- Resume/CV**
- Letters of Recommendation:** Three are required

- **Undergraduate Course Deficiencies:** these courses are determined by the student's mentor in collaboration with their supervisory committee. Each student's individual deficiency courses will be approved in their program of study.
- **Identification and confirmation** by a faculty member willing to act as advisor and mentor to the student (see program-related information). The applicant is expected to contact a potential advisor to determine if a suitable match in interests exists. This assures that the student will be able to develop a program of study that meets the specific goals intended. Please note that assistantship funding is a separate process and should be discussed with your faculty mentor.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluations (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. Applicants will be notified by the individual program if an external course-by-course evaluation is required.
  - **Note:** If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>21</b>
BMKI 9001 or BMKI 9031	RESEARCH IN HEALTH & KINESIOLOGY BIOSTATISTICS IN BIOMECHANICS I	
BMKI 9041 or BMKI 9040	ADVANCED STATISTICS BIOSTATISTICS IN BIOMECHANICS II	
BMKI 9000	GRANT WRITING FOR THE BIOMEDICAL SCIENCES	
BMKI 9010	PRINCIPLES AND PRACTICE OF BIOMEDICAL RESEARCH	
Take the following course for a minimum of 9 credit hours:		
BMKI 9910	DOCTORAL SEMINAR	
<b>Concentrations</b>		
See Biomechanics and Kinesiology, PhD Concentrations		24
BMKI 9990	DISSERTATION	15
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> If required courses have previously been taken, additional research core courses must be taken in order to meet the 21-hour requirement.

- <sup>2</sup> This seminar is designed to enhance success in academia and maximize the student's research experiences. The student will be required to register for at least 9 credit hours (typically 3 hours per semester following their first year in the program). In these credit hours the student will attend formal reading clubs with the advisor where he/she will be engaged in reviewing the related literature via journal articles, conducting research projects, reviews of literature, meta-analyses, etc. In addition, the student will be taught how to write successful grants and develop a successful line of research. Each semester for a graded outcome, the student will have to produce material such as a manuscript based on data acquired in the laboratory from the ideas developed in the seminar, a grant that will support the research ideas developed, or significant progress on a research-related project. Students will co-develop these graded outcomes each semester and submit them for approval to the doctoral program committee.

## Exit Requirements

- Comprehensive Examination
- Dissertation

## Program-Related Information

### Advisor

- Preliminary contact is made with a potential advisor prior to applying to the program. Prior to being admitted, a student must confirm mentorship with an advisor based on mutual interests and willingness of the advisor to take on the student.

### Program of Study (must have 45 hours remaining after approval)

- The student and his/her advisor will determine the program of study, including the required courses, deficiency courses, and general area of research for the dissertation. The program of study must be completed by the end of the first year and approved by the faculty mentor and one additional faculty member from their respective school or department (considered the program committee) as well as the Doctoral Program Committee chair. After this approval, the student will submit the program of study form with course information to the Office of Graduate. Please note, no more than six independent study/research credit hours are recommended; however, the program of study is determined by the student, faculty mentor, and an additional faculty member in the school or department.

### Comprehensive Exam

- The required comprehensive exam will be taken towards the end of the student's coursework. The supervisory committee, in conjunction with the student will determine the nature of the exam; the exam could include a take-home exam followed by an oral defense, or writing an NIH-type grant followed by an oral exam. The supervisory committee will evaluate the exam. Once a student passes their comprehensive exam they are considered a doctoral candidate.

### Dissertation Committee

- In the first semester of a students' third year, the student must form a dissertation committee. It should consist of at least four biomechanics and kinesiology-affiliated faculty members, three of whom must be graduate faculty within the NU system and one of whom must be from a department different than that of the dissertation advisor. The dean for Graduate Studies at UNO will appoint the committee upon recommendation of the advisor. The committee will be responsible for approving the comprehensive exam, dissertation proposal, dissertation and its oral defense. Please note that if the potential objectives of a dissertation topic changes, the dissertation committee can be altered at any time.

## Dissertation Proposal Form

- Within one year of successfully completing the comprehensive exam and being admitted to candidacy, a formal research proposal for the dissertation topic should be presented to the supervisory committee. The format of the proposal is subject to approval by the advisor and the supervisory committee. The proposal could include a formal written proposal with an oral defense or oral presentation of the proposed research project.

## Dissertation

- After successfully completing the comprehensive exam and being admitted to degree candidacy, the student must register for at least one credit hour of dissertation for each semester until completion of the degree. A minimum of 15 hours of dissertation credit must be completed within the course of the degree.
- It is expected that the dissertation will result in manuscript submissions in referred journals in the discipline.
- Upon completion of the dissertation, an updated CV must be submitted to the Doctoral Program Committee chair.

## Residency

- The residency will be reasonably compact, continuous, and coherent, and a substantial portion done at and under close supervision of the university. Most of the students in the program will be full-time and continuously enrolled.

# Concentrations

## Physiology of Exercise Concentration

Code	Title	Credits
<b>Required Courses</b>		
BMKI 9951	ADVANCED EXERCISE PHYSIOLOGY	3.00
BMKI 9960	ADVANCED EXERCISE PHYSIOLOGY II	3
BMKI 9851	EXERCISE FOR SPECIAL POPULATIONS	3
KINS 8076	OPTIMIZING SPORTS PERFORMANCE	3
KINS 8086	CLINICAL EXERCISE PHYSIOLOGY	3
<b>Electives</b>		
Select 9 hours from the following:		9
BMKI 9451	ADVANCED BIOMECHANICS	
BMKI 9460	ADVANCED BIOMECHANICS II	
BMKI 9810	HIGHER EDUCATION TEACHING SEMINAR	
BMKI 9411	MOTOR CONTROL I	
BMKI 9510	MOTOR CONTROL II	
BIOL 8146	CELLULAR BIOLOGY	
BIOL/CHEM 8654	BIOCHEMISTRY I LABORATORY	
BIOL/CHEM 8664	BIOCHEMISTRY II LABORATORY	
KINS 8120	CURRENT TOPICS IN WEIGHT MANAGEMENT	
BMKI 9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS	
BMKI 9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH	
KINS 8206	PLANNING WORKSITE WELLNESS PROGRAMS	
KINS 8240	SPORT IN AMERICAN CULTURE	
KINS 8280	CURRICULUM IN PHYSICAL EDUCATION	
KINS 8506	BEHAVIORAL ASPECTS OF COACHING	
KINS 8800	RISK MANAGEMENT FOR HEALTH FITNESS PROFESSIONALS	
KINS 8856	CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION	

KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY
KINS 8910	INTERNSHIP IN EXERCISE SCIENCE
KINS 8966	TOPICS IN SPORTS MEDICINE
BMKI 9820	SERVICE EXPERIENCE IN HIGHER EDUCATION
BMKI 9401	MOTOR LEARNING I
BMKI 9421	MOTOR DEVELOPMENT
BMKI 9500	MOTOR LEARNING II
HEKI 8000	SPECIAL STUDIES
HEKI 8220	PROBLEMS & ISSUES IN HPER
HEKI 8100	RESEARCH PROJECT
HEKI 8300	ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT
HEKI 8500	QUALITATIVE RESEARCH METHODS
BIOC 827	Metabolic Regulatory Mechanisms

### Total Credits

24

## Biomechanics Concentration

Code	Title	Credits
<b>Required Courses</b>		<b>15</b>
BMKI 9451	ADVANCED BIOMECHANICS	
BMKI 9460	ADVANCED BIOMECHANICS II	
BMKI 9401	MOTOR LEARNING I	
or BMKI 9411	MOTOR CONTROL I	
or BMKI 9421	MOTOR DEVELOPMENT	
BMKI 9500	MOTOR LEARNING II	
or BMKI 9510	MOTOR CONTROL II	
or BMKI 9520	MOTOR DEVELOPMENT II	
PHYS 8455	CLASSICAL MECHANICS	
<b>Electives</b>		
Select 9 hours from the following:		9
BMCH 8106	BIOINSPIRED ROBOTICS	
BMCH 8206	METHODS IN BIOMECHANICS I	
BMCH 8216	METHODS IN BIOMECHANICS II	
BMCH 8646	ORTHOPEDIC BIOMECHANICS	
BMKI 9421	MOTOR DEVELOPMENT	
BMKI 9520	MOTOR DEVELOPMENT II	
BMKI 9411	MOTOR CONTROL I	
BMKI 9510	MOTOR CONTROL II	
BMKI 9101	NONLINEAR ANALYSIS FOR MOVEMENT STUDIES	
BMKI 9911	INDEPENDENT STUDY IN BIOMECHANICS	
BMKI 9201	MATLAB FOR MOVEMENT SCIENCES	
BMKI 9870	MUSCULOSKELETAL SIMULATION	
BSEN 814	Medical Imaging Systems	
BSEN 912	Advanced Diagnostic Ultrasound Imaging	
CEEN 8336	Microprocessor System Design	
CEEN 8366	Embedded Microcontroller Design	
CIP 814	Scientific Writing	
CIP 817	Applied Scientific Writing	
CSCI 8325	DATA STRUCTURES	
CSCI 8400	ADVANCED COMPUTER GRAPHICS	
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
CSCI 8476	PATTERN RECOGNITION	

CSCI/MATH 8500	NUMERICAL LINEAR ALGEBRA
CSCI/MATH 8510	NUMERICAL DIFFERENTIAL EQUATIONS
CSCI 8626	COMPUTER GRAPHICS
CSCI 8256	HUMAN COMPUTER INTERACTION
ELEC 8606	Labview Programming
ELEC 8636	Digital Signal Processing
ELEC 9150	Adaptive Signal Processing
ENGL 8610	PROFESSIONAL AND TECHNICAL WRITING
GCBA 812	Human Neuratomy
GERO/PHHB 8556	HEALTH ASPECTS OF AGING
GERO 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR
HEKI 8300	ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT
HEKI 8500	QUALITATIVE RESEARCH METHODS
ITIN 8006	SPECIAL TOPICS IN IT INNOVATION
BMKI 9851	EXERCISE FOR SPECIAL POPULATIONS
MATH 8250	PARTIAL DIFFERENTIAL EQUATIONS
MATH 8336	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS
MATH 8356	ORDINARY DIFFERENTIAL EQUATIONS
MATH 8080	DESIGN AND ANALYSIS OF ALGORITHMS
MATH/CSCI 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS
MATH 8400	DYNAMICAL SYSTEMS AND CHAOS
MATH/CSCI 8766	TOPICS IN APPLIED MATHEMATICS
MATH 9110	ADVANCED TOPICS IN APPLIED MATHEMATICS
MENG 8386	MECHANICS OF BIOMATERIALS
NEUR 8006	SYSTEMS NEUROSCIENCE
KINS 8086	CLINICAL EXERCISE PHYSIOLOGY
BMKI 9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS
BMKI 9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH
KINS 8856	CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION
BMKI 9951	ADVANCED EXERCISE PHYSIOLOGY
BMKI 9960	ADVANCED EXERCISE PHYSIOLOGY II
PHYS 8505	ELEMENTS OF ELECTRONICS
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY

**Total Credits** **24**

## Motor Development and Control Concentration

Code	Title	Credits
<b>Required Courses</b>		<b>15</b>
BMKI 9421	MOTOR DEVELOPMENT	
BMKI 9460	ADVANCED BIOMECHANICS II	
BMKI 9500	MOTOR LEARNING II	
BMKI 9510	MOTOR CONTROL II	

BMKI 9101	NONLINEAR ANALYSIS FOR MOVEMENT STUDIES
<b>Electives</b>	
Select 9 hours from the following:	
BMCH 8206	METHODS IN BIOMECHANICS I
BMCH 8216	METHODS IN BIOMECHANICS II
BMKI 9401	MOTOR LEARNING I
BMKI 9411	MOTOR CONTROL I
BMKI 9520	MOTOR DEVELOPMENT II
BMKI 9201	MATLAB FOR MOVEMENT SCIENCES
BMKI 9451	ADVANCED BIOMECHANICS
BMKI 9911	INDEPENDENT STUDY IN BIOMECHANICS
BMKI 9870	MUSCULOSKELETAL SIMULATION
CSCI 8626	COMPUTER GRAPHICS
CSCI 8256	HUMAN COMPUTER INTERACTION
ELEC 8606	Labview Programming
ELEC 8636	Digital Signal Processing
ELEC 9150	Adaptive Signal Processing
ENGL 8610	PROFESSIONAL AND TECHNICAL WRITING
GERO/PHHB 8556	HEALTH ASPECTS OF AGING
GERO 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR
NEUR 8006	SYSTEMS NEUROSCIENCE
KINS 8086	CLINICAL EXERCISE PHYSIOLOGY
KINS 8130/9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS
BMKI 9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH
KINS 8856	CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION
KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY
BMKI 9810	HIGHER EDUCATION TEACHING SEMINAR
BMKI 9820	SERVICE EXPERIENCE IN HIGHER EDUCATION
BMKI 9951	ADVANCED EXERCISE PHYSIOLOGY
BMKI 9960	ADVANCED EXERCISE PHYSIOLOGY II
HEKI 8300	ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT
HEKI 8500	QUALITATIVE RESEARCH METHODS
BMKI 9851/HEKI 8850	EXERCISE FOR SPECIAL POPULATIONS
MATH 8400	DYNAMICAL SYSTEMS AND CHAOS
MATH 9110	ADVANCED TOPICS IN APPLIED MATHEMATICS
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY
UNMC: GCBA 812, PEDS 913, PHYT 942	

**Total Credits** **24**

## Physical Activity Concentration

Code	Title	Credits
<b>Required Courses</b>		<b>15</b>
BMKI 9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS	
BMKI 9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH	
BMKI 9701/ KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY	
BMKI 9851/ HEKI 8850	EXERCISE FOR SPECIAL POPULATIONS	
BMKI 9050	PHYSICAL ACTIVITY EPIDEMIOLOGY	
<b>Electives</b>		
Select 9 hours from the following:		9
KINS 8120	CURRENT TOPICS IN WEIGHT MANAGEMENT	
KINS 8856	CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION	
BMKI 9951	ADVANCED EXERCISE PHYSIOLOGY	
BMKI 9810	HIGHER EDUCATION TEACHING SEMINAR	
BMKI 9820	SERVICE EXPERIENCE IN HIGHER EDUCATION	
BMKI 9401	MOTOR LEARNING I	
BMKI 9411	MOTOR CONTROL I	
BMKI 9421	MOTOR DEVELOPMENT	
BMKI 9451	ADVANCED BIOMECHANICS	
BMKI 9460	ADVANCED BIOMECHANICS II	
BMKI 9500	MOTOR LEARNING II	
BMKI 9510	MOTOR CONTROL II	
BMKI 9520	MOTOR DEVELOPMENT II	
KINS 8206	PLANNING WORKSITE WELLNESS PROGRAMS	
KINS 8800	RISK MANAGEMENT FOR HEALTH FITNESS PROFESSIONALS	
KINS 8910	INTERNSHIP IN EXERCISE SCIENCE	
KINS 8966	TOPICS IN SPORTS MEDICINE	
HEKI 8000	SPECIAL STUDIES	
HEKI 8100	RESEARCH PROJECT	
HEKI 8220	PROBLEMS & ISSUES IN HPER	
HEKI 8300	ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT	
HEKI 8500	QUALITATIVE RESEARCH METHODS	
PHHB 8450	EPIDEMIOLOGY & PREVENTION OF DISEASE	
PHHB/SOC 8706	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	
PHHB 8750	PROGRAM EVALUATION AND INSTRUMENTATION	
PHHB 8850	HEALTH ASPECTS OF STRESS MANAGEMENT	
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	
GEOG 8666	GEOGRAPHIC INFORMATION SYSTEMS II	
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS	
MATH/CSCI 8766	TOPICS IN APPLIED MATHEMATICS	
PA 8740	HEALTH CARE POLICY	
PSYC 8646	PERSONNEL PSYCHOLOGY	

PSYC 9430	PROSEMINAR: PERSONALITY
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY
PSYC 9500	SOCIOEMOTIONAL DEVELOPMENT
PSYC 9550	PSYCHOSOCIAL DEVELOPMENT
SOC 8200	HEALTH & SOCIETY
UNMC: BIOS 823, BIOS 825, BIOS 810, EPI 821, EPI 835, EPI 845, HPRO 902, HPRO 910, HPRO 998.	
<b>Total Credits</b>	<b>24</b>

### BMCH 8000 SEMINAR IN BIOMECHANICS (0 credits)

Required non-credit course for graduate students in biomechanics. Intended to familiarize the graduate student with current ongoing biomechanical research at UNO and other institutions. The seminar will additionally include topics focusing on professional development, job and educational opportunities, and biomechanical methodologies.

**Prerequisite(s)/Corequisite(s):** Must be a student in BMCH graduate program. Not open to non-degree graduate students.

### BMCH 8006 BIOMATERIALS (3 credits)

Students will learn the classification, properties, characterization methods, body interactions, applications, and design principles of biomaterials. (Cross-listed with BMCH 4000).

### BMCH 8030 BIOSTATISTICS IN BIOMECHANICS I (3 credits)

The focus of the course is to prepare students to understand and apply research and biostatistical methods needed in the design and analysis of biomechanical investigations. The major topics to be covered include research design and multiple linear regression. (Cross-listed with BMKI 9031)

**Prerequisite(s)/Corequisite(s):** Graduate Standing in Biomechanics program or Department Permission.

### BMCH 8100 NONLINEAR ANALYSIS FOR MOVEMENT STUDIES (3 credits)

This course is to introduce different nonlinear methods for the analysis of biological and movement time series. Emphasis will be given on understanding the algorithms behind each nonlinear method. (Cross-listed with BMKI 9101).

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

### BMCH 8106 BIOINSPIRED ROBOTICS (3 credits)

The goal of the course is to involve students in an interdisciplinary vision of biomechanics, biology, engineering and architecture by learning how humans and other animals function in their environment. These design principles from nature can be translated into novel devices, structures, and robots. (Cross-listed with BMCH 4100).

### BMCH 8200 MATLAB FOR MOVEMENT SCIENCES (3 credits)

Introduction to Matlab software, plotting data, spectral analysis and the Fourier transform, data smoothing, and image analysis of movement related data. All topics will be implemented using Matlab. (Cross-listed with BMKI 9201).

**Prerequisite(s)/Corequisite(s):** Instructor permission.

### BMCH 8206 METHODS IN BIOMECHANICS I (3 credits)

In this course students learn about the methods and equipment used in biomechanics as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. (Cross-listed with BMCH 4200).

**Prerequisite(s)/Corequisite(s):** Department Permission

### BMCH 8216 METHODS IN BIOMECHANICS II (3 credits)

In this course students learn about advanced methods and equipment used in biomechanics, as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. This course builds on the experience gained in BMCH 4200/8206, Methods in Biomechanics I. (Cross-listed with BMCH 4210).

**Prerequisite(s)/Corequisite(s):** BMCH 8206 or Department Permission

**BMCH 8400 MOTOR LEARNING I (3 credits)**

Discussion and analysis of scientific principles related to the learning of motor skills; review related literature and research in motor learning. The focus of the course is on recent theories of how movements are acquired and performed, and on factors that have implications for motor learning throughout the life span. (Cross-listed with BMKI 9401).

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 8410 MOTOR CONTROL I (3 credits)**

The focus of the course is to explore the study of the conditions and factors that influence the control and performance of motor skills from both neurophysiological and psychobiological perspectives. (Cross-listed with BMKI 9411).

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

**BMCH 8420 MOTOR DEVELOPMENT (3 credits)**

This course focuses on the study of motor development, the processes that underlie this development and the factors that influence it. Students will gain an understanding of the major theoretical perspectives of motor development across the life span with special emphasis given in child development. (Cross-listed with BMKI 9421).

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMCH 8450 ADVANCED BIOMECHANICS (3 credits)**

The course will address the biomechanical basis of human performance including mechanical analysis of human gait, fundamental movement patterns and techniques used for collecting biomechanical data. (Cross-listed with BMKI 9451).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 (Biomechanics) [previously PE 4630] or Instructor Permission.

**BMCH 8646 ORTHOPEDIC BIOMECHANICS (3 credits)**

Orthopedic Biomechanics focuses on the use of biomechanical principles and scientific methods to address clinical questions that are of particular interest to professionals such as orthopedic surgeons, physical therapists, rehabilitation specialists, and others. (Cross-listed with BMCH 4640).

**Prerequisite(s)/Corequisite(s):** Department Permission

**BMCH 8666 CLINICAL IMMERSION FOR RESEARCH AND DESIGN (3 credits)**

This course will involve exposure to current clinical practices, identification of unmet clinical needs, and information regarding future career options. In this course, students will be matched with local clinical sites to provide a unique opportunity for innovative and interdisciplinary approaches to problem solving subject to practical constraints. Concepts in clinical rehabilitation, integrated assessments, regulation of medical devices in health care will be covered. This course will review the latest research efforts for rehabilitation in the context of device design and implementation. (Cross-listed with BMCH 4660).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BMCH 8676 INTRODUCTION TO MECHANICS OF BIOMATERIALS (3 credits)**

In this course students will learn how to analyze the stresses and strains in different structures under complex loading conditions with extensive examples from biomaterials and materials generally used in the medical device field. (Cross-listed with BMCH 4670).

**Prerequisite(s)/Corequisite(s):** BMCH 3000 or Department Permission

**BMCH 8686 SPORTS BIOMECHANICS (3 credits)**

This course is intended to provide students with a foundational knowledge on how to analyze sport movements through biomechanical analytical methods. Students will utilize foundational biomechanical principles and apply them to a variety of sports and associated movements. (Cross-listed with BMCH 4680).

**Prerequisite(s)/Corequisite(s):** BMCH 4630

**BMCH 8900 INDEPENDENT RESEARCH IN BIOMECHANICS (1-6 credits)**

In this course individuals or groups will conduct research projects for the study and analysis of biomechanical topics.

**Prerequisite(s)/Corequisite(s):** Permission of the Department and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8910 INDEPENDENT STUDY IN BIOMECHANICS (1-6 credits)**

This is a variable credit course designed for graduate students in Biomechanics who would benefit from independent reading assignments and problems. Independent study enables individual students or a small group of students to focus on topics typically not explored in other offerings or to explore topics currently offered in further depth. (Cross-listed with BMKI 9911).

**Prerequisite(s)/Corequisite(s):** Graduate student in BMCH and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8990 THESIS IN BIOMECHANICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's advisory committee. In this project the student will develop skills in research design, research conduct, data analysis, and reporting. The final product of this course will be an original thesis of independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

## Geography

### Degree Programs Offered

- Geography, M (p. 1187)S (p. 1187)

### Certificates Offered

- Geographic Information Science Certificate (p. 1189)

**GEOG 8000 HISTORY AND PHILOSOPHY OF GEOGRAPHY (3 credits)**

Introduction to history of geography. Emphasis on significant concepts, methodologies, and philosophies in geography from classical Greeks to the present.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8016 CONSERVATION OF NATURAL RESOURCES (3 credits)**

This course provides a diverse overview of the principles and contemporary issues related to ecology and management of wildlife, fisheries, forests, soil, rangeland, minerals, and water. It includes the philosophical, economic and social aspects of resource management. Current local, regional, and global issues are examined. (Cross-listed with GEOG 4010).

**Prerequisite(s)/Corequisite(s):** Three hours of geography

**GEOG 8026 SPATIAL ANALYSIS IN GEOGRAPHY (3 credits)**

An introduction to spatial analysis with a focus on spatial statistics. Emphasis will be placed on the nature of geographic data, spatial data handling, modeling logic, sampling theory, and design. Both descriptive and spatial statistics methods are covered. Students will receive hands-on experience working with statistical data sets, software, and scientific visualization of research results. (Cross-listed with GEOG 4020).

**Prerequisite(s)/Corequisite(s):** STAT 1530 or STAT 3000 and GEOG 4050 or permission

**GEOG 8036 COMPUTER MAPPING AND VISUALIZATION (3 credits)**

Computer techniques in the mapping and visualization of spatial data. Various forms of spatial data manipulation and computer graphic output techniques are examined. Particular attention is given to the the creation of maps for the internet and the incorporation of interaction and animation in their display. (Cross-listed with GEOG 4030).

**Prerequisite(s)/Corequisite(s):** GEOG 1090 or permission of instructor. Background in programming, particularly JavaScript, highly recommended.

**GEOG 8040 SEMINAR IN EDUCATION GEOGRAPHY (3 credits)**

This seminar surveys the goals, methods, and content associated with teaching geography in elementary, secondary, and in higher education. It is designed to aid current and future teachers in teaching geography.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8046 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOL 4040, GEOG 4040).

**GEOG 8056 GEOGRAPHIC INFORMATION SYSTEMS I (4 credits)**

An introduction to the concepts and principles of geographic information systems (GIS). Emphasis will be placed on geographic data inputs, manipulation, analysis, and output functions. Exercises introduce students to GIS software and applications. Usually offered Fall, Spring, Summer. (Cross-listed with GEOG 4050).

**Prerequisite(s)/Corequisite(s):** 3 hours in Geography or by permission

**GEOG 8106 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOL 4100, BIOL 8106, GEOG 8106, GEOG 4100).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior

**GEOG 8126 URBAN GEOGRAPHY (3 credits)**

This course is designed to serve as an introduction to the complex and dynamic urban system, including the physical, economic, political, cultural, social, and environmental forces that shape the form and function of cities, as well as how individuals and groups experience urban life. We make ample use of geographic information systems (GIS) to analyze cities and better understand crucial urban concepts such as urban growth and development, patterns of urban form, segregation and neighborhood change, economic specialization and agglomeration, urban sprawl, and environmental justice. (Cross-listed with GEOG 4120).

**GEOG 8130 SEMINAR IN ECONOMIC GEOGRAPHY (3 credits)**

This seminar course investigates the development of current world economic systems through the elements of primary, secondary, tertiary, quaternary and quinary production on a micro and macro scale. Exchange and transactional systems, consumption linkages, resource management, economic health on global and local scales, and location decision-making are major topics.

**Prerequisite(s)/Corequisite(s):** Graduate in geography and permission of instructor

**GEOG 8156 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with WGST 4150, GEOG 4150, ENTR 4150, ENTR 8156, WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**GEOG 8166 URBAN SUSTAINABILITY (3 credits)**

Using sustainability as a conceptual framework, students in this course will investigate a variety of social, economic, and environmental challenges facing cities of the 21st century. Topics and issues explored include urban growth and expansion, livability, equity & gentrification, energy use & production, urban farming, poverty, automobility & transportation, water security, urban pollution, and the role of cities in climate change. (Cross-listed with GEOG 4160)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**GEOG 8176 ADVANCED CULTURAL GEOGRAPHY (3 credits)**

This course examines current theoretical debate and research practice in a select topic in Cultural Geography. Emphasis will be on readings and discussion with students engaging in original research. Specific thematic focus will vary from year to year. This course may be taken multiple times as long as topics differ. (Cross-listed with GEOG 4170).

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of the instructor.

**GEOG 8210 SEMINAR IN CULTURAL GEOGRAPHY (3 credits)**

This course explores the different theoretical, methodological and empirical approaches in cultural geography, while also addressing its development, its evolution, its competing schools of thought, and new frontiers.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8236 GREAT PLAINS & NEBRASKA (3 credits)**

This course is a comprehensive examination of the Great Plains region from a geographical perspective. It considers both the physical and human geography of the Plains, with particular attention to our home, Nebraska. Topics to be covered include: the Plains' unique ecosystems, its early human inhabitants, its later settlers, its evolving land-use patterns, and current issues. (Cross-listed with GEOG 4230).

**GEOG 8266 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 4260, GEOL 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOG 8310 GEOGRAPHY OF AGRICULTURE (3 credits)**

A systematic study of the characteristics and patterns of world agriculture. Usually offered on demand.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8326 CLIMATOLOGY (3 credits)**

A study of climatic processes and their effect on shaping the physical landscape. Emphasis on physical and applied aspects of the field. (Cross-listed with GEOG 4320).

**Prerequisite(s)/Corequisite(s):** GEOG 1030, GEOG 1050, GEOG 3510, or permission of instructor.

**GEOG 8336 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOG 4330, GEOL 4330).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOG 8346 WATER RESOURCES (3 credits)**

This course explores the applied principles of hydrology, water systems modeling, river basin development, and water management issues and practices in the United States and other parts of the world. Two local Saturday field trips will be required. (Cross-listed with GEOG 4340).

**Prerequisite(s)/Corequisite(s):** Six hours of Physical Geography or equivalent and graduate standing.

**GEOG 8356 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 4350, ENVN 8356, ENVN 4350).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**GEOG 8500 SPECIAL TOPICS IN GEOGRAPHY (1-3 credits)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Subjects will be offered as sections of GEOG 8500, but will be separate from one another. Students may repeat GEOG 8500 as often as they like as long as no specific subject is duplicated. Course to be offered with approval of Graduate Program Committee and Dean for Graduate Studies.

**Prerequisite(s)/Corequisite(s):** Variable

**GEOG 8535 CARTOGRAPHY AND DATA VISUALIZATION (4 credits)**

An introduction to the concepts and techniques of map construction and visual data communication. Topics include map scale, map projections, thematic cartography, history of cartography, computer mapping, and global positioning systems. Particular attention is given to designing both paper and Internet distributed maps. This course is offered in both the Fall and Spring semesters. (Cross-listed with GEOG 3530).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 and GEOG 1030 or GEOG 1050

**GEOG 8536 HISTORICAL GEOGRAPHY OF THE UNITED STATES (3 credits)**

This course examines the geography, physical and human, real, perceived, or theoretical, of the United States' historical development. It considers the ways history has and has not been affected by geography. It will also cover the field of historical geography, its theories and practices. (Cross-listed with GEOG 4530).

**GEOG 8545 CARTOGRAPHY & GIS LAB (2 credits)**

An introduction to the methods and techniques of map construction using both graphic design and geographic information system software. Topics include map design for both general reference and thematic maps. Particular attention is given to the processing, compilation, data classification, and symbolization of various types of spatial data. This course is the lab component of GEOG 8535.

**Prerequisite(s)/Corequisite(s):** Concurrent or previous registration in GEOG 8535.

**GEOG 8556 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 4550, CACT 8116).

**Prerequisite(s)/Corequisite(s):** Graduate status.

**GEOG 8600 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course, where students undertake and complete a focused independent project under faculty supervision, exploring an aspect of geography in greater depth.

**Prerequisite(s)/Corequisite(s):** Completed independent research contract between faculty and student and permission of adviser or the Graduate Studies Coordinator.

**GEOG 8616 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOG 4610, GEOL 4610, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOG 8626 GEOGRAPHICAL FIELD STUDIES (3 credits)**

Field experience course based on variable topics and themes. Students must attend the multiple day field trip that will require overnight stays. (Cross-listed with GEOG 4620).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**GEOG 8636 ENVIRONMENTAL REMOTE SENSING (4 credits)**

An introduction to remote sensing science and technology. Emphasis will be placed on multispectral data, matter/energy interactions, sensor system characteristics, photogrammetry, image interpretation, digital image processing, and environmental applications. Formal laboratory instruction will provide students with problem-solving skills and hands-on experience with remote sensing and GIS software. (Cross-listed with GEOG 4630).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 or GEOG 1070 or GEOL 1170. Introductory statistics highly recommended.

**GEOG 8640 REMOTE SENSING ADVANCED CONCEPTS AND APPLICATIONS (3 credits)**

Designed for the graduate student desiring to do advanced work in remote sensing. The emphasis of the course is on non-photographic sensors and especially digital processing of multispectral satellite data. The applications are multidisciplinary in nature. Usually offered on demand.

**Prerequisite(s)/Corequisite(s):** GEOG 4630 / GEOG 8636

**GEOG 8646 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 4640, GEOL 4640)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOG 8650 LAND USE (3 credits)**

A field course designed to understand, by actual field investigation, land use patterns in urban areas through the comprehension of social, physical and economic factors which tend to shape the land use of a given place. The major emphasis will be placed upon field investigations in the urban area, with the functional region receiving the major consideration.

**Prerequisite(s)/Corequisite(s):** GEOG 4120/ GEOG 8126

**GEOG 8666 GEOGRAPHIC INFORMATION SYSTEMS II (4 credits)**

An introduction to advanced geographic information systems (GIS) topics. Emphasis will be placed on algorithms and analysis for information extraction. Topics include spatial interpolation, remote sensing GIS integration, software development, spatial analysis, GIS modeling, and future advances in GIS. Formal laboratory instruction will provide students with GIS experience to solve application problems. Usually offered in Fall. (Cross-listed with GEOG 4660).

**Prerequisite(s)/Corequisite(s):** GEOG 4050/ GEOG 8056

**GEOG 8670 CARTOGRAPHIC METHODS (3 credits)**

An applied graduate seminar in cartography and geospatial science. The course examines advanced methods for the representation of spatial data. Emphasis is placed on the design of interactive Internet-based maps. Projects will be directed toward the creation of map-based web pages.

**Prerequisite(s)/Corequisite(s):** A junior/senior course in cartography, GIS, computer mapping, or visualization.

**GEOG 8680 SEMINAR IN GEOSPATIAL SCIENCE (3 credits)**

Seminar in Geospatial Science examines the origins, development and prospects of spatial information technology to understand people, places, and processes of the earth. The overall approach is to examine the three main components of geospatial science: 1) Geographic Information Systems (GIS), the software, hardware, outputs, personnel, and practices that together facilitate the analysis and mapping of geographic entities and phenomena; 2) Remote Sensing, the use and processing of aerial photographs and satellite imagery; and 3) Cartography, the general processing and display of geographic information for both analysis and communication.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Prior coursework in geographic information systems, remote sensing or cartography.

**GEOG 8700 RESEARCH METHODS (3 credits)**

The course provides students with an overview of research approaches and methods used by geographers. Students are expected to put these methods into practice by drafting a full thesis proposal by semester's end.

**GEOG 8800 INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING (1-6 credits)**

(repeatable up to six hours) Internship with local planning agencies enabling students to gain knowledge and experience in comprehensive regional or environmental planning. Usually offered Fall, Spring, and Summer.

**Prerequisite(s)/Corequisite(s):** Permission and 12 graduate hours in geography.

**GEOG 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 4820, PA 8826).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**GEOG 8830 SEMINAR IN URBAN STUDIES (3 credits)**

This course provides an interdisciplinary overview of the forces influencing and influenced by urbanization and urbanism. (Cross-listed with UBNS 8000)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GEOG 8840 DIRECTED RESEARCH IN URBAN STUDIES (3 credits)**

The course is intended for advanced graduate students in urban studies or geography. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of urban studies rather than additional classroom courses. (Cross-listed with UBNS 8940).

**Prerequisite(s)/Corequisite(s):** Completed 9 graduate hours in Urban Studies. Permission from the School. For Geography students, GEOG 8126 (Urban Geography) or permission from the School.

**GEOG 8990 THESIS (1-6 credits)**

Independent research project conducted under the supervision of an adviser and thesis committee.

**Prerequisite(s)/Corequisite(s):** Graduate student in geography who has successfully presented and defended their thesis proposal.

## Geography, MS

Department of Geography & Geology, College of Arts & Sciences

### Vision Statement

The mission of the geography graduate program is to provide quality graduate education in physical geography, human geography and spatial analysis (GIS, cartography and remote sensing). The department offers a rich learning environment for students with close interaction between faculty and students, technology-enhanced instruction, and opportunities for fieldwork. Courses enhance student's perception and appreciation of the earth's human and physical environments as well as geography's essential role in both understanding and navigating our increasingly interconnected world. The department, an active participant in its community, has ties throughout the city and state, leading to a wide variety of internship opportunities. The department is committed to providing students with the essential knowledge and skills needed to succeed, be it in professional employment or further graduate education.

### Program Contact Information

Bradley Bereitschaft, PhD, Graduate Program Chair (GPC)  
263 Durham Science Center (DSC)  
402.554.2674  
bbereitschaft@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/geography/>)

### Other Program Related Information

#### Fast Track Program

The Department of Geography/Geology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BA/BS in Geography desiring to pursue an MS in Geography.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must have a graduate faculty member in the department of Geography/Geology provide a short letter of support for their application to Fast Track as a faculty sponsor/mentor.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.

- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 for graduate coursework is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived; the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

The Department of Geography/Geology offers graduate assistantships. Applications should be directed to the department and are due April 1 for the Fall Semester and November 1 for the Spring Semester. The assistantship requires 20 hours per week of teaching or similar duties. Applications received after the deadline will be considered for the next available opening.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: May 1

### Other Requirements

- Applicants must have a GPA in geography of at least a 3.0 on a 4.0 scale
- Present as a prerequisite a minimum of 15 undergraduate semester hours of geography including physical and human geography and cartography, plus at least three hours in spatial analysis, quantitative methods or statistics;
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose**
- **Resume**
- **Letters of Recommendation:** Two are required

## Degree Requirements

### Thesis Option

Code	Title	Credits
<b>Required Courses</b>		
GEOG 8000	HISTORY AND PHILOSOPHY OF GEOGRAPHY	3
GEOG 8700	RESEARCH METHODS	3
An approved physical geography course		3
An approved human geography course		3

An approved techniques course		3
<b>Electives</b>		
May be completed in consultation with the graduate program chair or an area of concentration by be selected from the options below.		9
<b>Concentrations</b>		
See Geography, MS Concentrations.		
GEOG 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

### Non-Thesis Option

Code	Title	Credits
<b>Required Courses</b>		
GEOG 8000	HISTORY AND PHILOSOPHY OF GEOGRAPHY	3
GEOG 8700	RESEARCH METHODS	3
GEOG 8026	SPATIAL ANALYSIS IN GEOGRAPHY <sup>1</sup>	3
An approved physical geography course		3
An approved human geography course		3
<b>Electives</b>		
May be completed in consultation with the graduate program chair.		21
<b>Concentrations</b>		
See Geography, MS Concentrations.		
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> GEOG 8026: or an approved graduate level statistics course from another department

### Exit Requirements:

- Thesis Option- 6 hours GEOG 8990
- Non-Thesis Option - Comprehensive Examination or Professional Conference
  - As an alternative to the oral and written non-thesis exams, a student pursuing the non-thesis option can instead present a paper or a poster at a professional conference. Poster or paper must be based on the student's original research. Student must create a three-person committee and defend a research proposal first. The committee must be approved by the graduate studies coordinator. Once their research is complete, their paper and poster or Powerpoint must be reviewed and approved by their committee. Once approved, the presentation or poster must be presented to the department before the conference and the Poster/ Presentation Non-Thesis Option form completed. Student must then present at the conference and write up a one-page reflection of their experience presenting, giving the form and the reflection to the graduate studies coordinator.

## Geography, MS Concentrations

Select an area of concentration (9 hours)

Courses offered through GEOG 8500 and GEOG 8600 will be submitted for inclusion in a concentration accompanied by a letter from the student's advisor or from the graduate program chair with the course title and specifying the concentration to which it applies.

### Human Geography Concentration

Code	Title	Credits
GEOG 8126	URBAN GEOGRAPHY	3
GEOG 8130	SEMINAR IN ECONOMIC GEOGRAPHY	3

GEOG/WGST 8156	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP	3
GEOG 8210	SEMINAR IN CULTURAL GEOGRAPHY	3
GEOG 8500	SPECIAL TOPICS IN GEOGRAPHY	1-3
GEOG 8600	INDEPENDENT RESEARCH	1-3
GEOG 8650	LAND USE	3
GEOG 8800	INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING	1-6

### Physical/Environmental Geography Concentration

Code	Title	Credits
GEOG 8016	CONSERVATION OF NATURAL RESOURCES	3
GEOG/BIOG/GEOL 8106	BIOGEOGRAPHY	3
GEOG 8266	PROCESS GEOMORPHOLOGY	4
GEOG 8326	CLIMATOLOGY	3
GEOG 8336	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	4
GEOG 8346	WATER RESOURCES	3
GEOG 8500	SPECIAL TOPICS IN GEOGRAPHY	1-3
GEOG 8600	INDEPENDENT RESEARCH	1-3

### Geographic Information Science and Technology Concentration

Code	Title	Credits
GEOG 8036	COMPUTER MAPPING AND VISUALIZATION	3
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 8500	SPECIAL TOPICS IN GEOGRAPHY	1-3
GEOG 8600	INDEPENDENT RESEARCH	1-3
GEOG 8636	ENVIRONMENTAL REMOTE SENSING	4
GEOG 8640	REMOTE SENSING ADVANCED CONCEPTS AND APPLICATIONS	3
GEOG 8666	GEOGRAPHIC INFORMATION SYSTEMS II	4
GEOG 8670	CARTOGRAPHIC METHODS	3

### Geospatial Database Concentration

Code	Title	Credits
<b>Required Courses</b>		
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 8666	GEOGRAPHIC INFORMATION SYSTEMS II	4

#### Required Depending on Experience

Fall/Spring:

ISQA 8050	DATA ORGANIZATION AND STORAGE (non-credit course)	3
-----------	---	---

#### Required Courses in ISQA

Fall:

ISQA 8306	DATABASE ADMINISTRATION	3
-----------	-------------------------	---

Spring:

ISQA 8410	DATA MANAGEMENT	3
ISQA 8736	DECISION SUPPORT SYSTEMS	3
or ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	

Fall/Spring:

ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
-----------	-------------------------------------	---

Fall/Summer:

ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
-----------	---	---

## Geographic Information Science Certificate

Department of Geography, College of Arts & Sciences

### Vision Statement

The mission of the geography graduate program is to provide quality graduate education in physical geography, human geography and spatial analysis (GIS, cartography and remote sensing). The department offers a rich learning environment for students with close interaction between faculty and students, technology-enhanced instruction, and opportunities for fieldwork. Courses enhance student's perception and appreciation of the earth's human and physical environments as well as geography's essential role in both understanding and navigating our increasingly interconnected world. The department, an active participant in its community, has ties throughout the city and state, leading to a wide variety of internship opportunities. The department is committed to providing students with the essential knowledge and skills needed to succeed, be it in professional employment or further graduate education.

### Program Contact Information

Rex Cammack, PhD  
272 Durham Science Center (DSC)  
402.554.2282  
rcammack@unomaha.edu

Bradley Bereitschaft, PhD, Graduate Program Chair (GPC)  
263 Durham Science Center (DSC)  
402.554.2674  
bbereitschaft@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/geography/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: May 1

### Other Requirements

- Applicants must have a GPA in geography of at least a 3.0/4.0.
- The student must demonstrate a background in geography, statistics, and computer science.
- Prerequisites would include courses in human and physical geography, statistics, and programming such as the following:

Code	Title	Credits
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY	3
MATH 1530	INTRODUCTION TO APPLIED PROBABILITY AND STATISTICS	3.00

## CIST 1400 INTRODUCTION TO COMPUTER SCIENCE I

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Only required if not admitted to MS in Geography program
  - Two letters of recommendation
  - Statement of Purpose
  - Resume

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	4
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 8666	GEOGRAPHIC INFORMATION SYSTEMS II	4
<b>Elective Courses</b>		
Select 6 hours from the following:		6
GEOG 8016	CONSERVATION OF NATURAL RESOURCES	
GEOG 8036	COMPUTER MAPPING AND VISUALIZATION	
GEOG 8636	ENVIRONMENTAL REMOTE SENSING	
GEOG 8650	LAND USE	
GEOG 8800	INTERNSHIP IN ENVIRONMENTAL/ REGIONAL PLANNING	
<b>Total Credits</b>		<b>18</b>

Students may substitute advanced courses in GIS for required courses already taken. Students will be allowed a maximum of two substitutions for these required courses. Substitution must be approved by the department GIS advisor.

## Gerontology

### Degree Programs Offered

- Gerontology, PhD (p. 1192)
- Gerontology, MA (p. 1193)
- Gerontology Certificate (p. 1194)

#### GERO 8020 INTRODUCTION TO RESEARCH METHODS (3 credits)

An introduction to research methods and statistical procedures in the social and behavioral sciences.

#### 3 GERO 8056 ADVANCED BIOLOGY OF AGING (3 credits)

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 4050, NEUR 4050).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing for undergraduate students or graduate level standing

#### GERO 8106 EDUCATIONAL GERONTOLOGY (3 credits)

An introduction to the field of education for and about the aging. The institutions and processes of education will be analyzed to determine their relationships and value to persons who are now old and those who are aging. (Cross-listed with GERO 4100).

**Prerequisite(s)/Corequisite(s):** Students must have a junior, senior or graduate student status.

#### GERO 8206 VOLUNTEER MANAGEMENT (3 credits)

The purpose of this course is to equip managers of volunteers in aging services to develop, maintain, assess impact and evaluate a sustainable volunteer program that will provide reliable and necessary services to older adults and further to be embraced as a valuable asset by professionals working in the field of aging. (Cross-listed with GERO 4200).

**Prerequisite(s)/Corequisite(s):** Graduate Student

#### GERO 8356 ISSUES IN AGING (3 credits)

This course is intended for students in gerontology and in other fields who are interested in a humanistic approach to understanding significant issues which affect the lives of older people. (Cross-listed with GERO 4350).

#### GERO 8426 RECREATION FOR THE AGING (3 credits)

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with GERO 4420, RLS 4420, RLS 8426).

#### GERO 8466 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with GERO 4460, PSYC 4460)

**Prerequisite(s)/Corequisite(s):** Junior or Senior.

#### GERO 8476 MENTAL HEALTH AND AGING (3 credits)

The goal of this courses is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with GERO 4470, PSYC 4470, PSYC 8476).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

#### GERO 8486 GLOBAL AGING (3 credits)

The study of aging around the world by a comparative method in a cross-cultural and cross-national framework. An explanation of some practical experiences and developments in Europe, Asia and Africa will be examined. (Cross-listed with GERO 4480).

#### GERO 8500 POLITICS IN AGING (3 credits)

The purpose of this course is to provide an understanding of the role of the political process in the emergence of public policy towards older adults in the United States, particularly during the past century.

**GERO 8506 LEGAL ASPECTS OF AGING (3 credits)**

This course centers on the legal concerns likely to arise as people age. We will discuss the American legal system with an emphasis on underlying legal concepts and issues of special importance to older persons. Some of the topics include guardianship, finances in retirement, abuse and neglect, Social Security, and Medicare and Medicaid. Consideration of the legal concerns which are likely to arise as people age. Includes introduction to American legal system, and emphasis on underlying legal concepts and issues of special importance to older persons. (Cross-listed with GERO 4500).

**GERO 8516 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 4510, PA 4510, PA 8516).

**GERO 8526 SENIOR HOUSING (3 credits)**

The senior housing course is designed to provide students with an in-depth understanding of the various housing options available to older adults including aging in place to hospice. At the end of the course students will have a working knowledge of the needs of older adults and how this is used in making decisions about housing. (Cross-listed with GERO 4520.)

**Prerequisite(s)/Corequisite(s):** Graduate student

**GERO 8556 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 4550, PHHB 4550, PHHB 8556, WGST 4550).

**GERO 8566 NUTRITION AND AGING (3 credits)**

The goal of this course is to provide an understanding of the relationship between nutrition and successful or usual aging. This course will review the basics of good nutrition and relate them to the usual food intake of older adults. It will identify the impact of poor nutrition. This course will also look at the role nutrition plays in various disease processes that are associated with aging. It will provide information about support services that are available to assure good nutrition into old age for those living independently. (Cross-listed with GERO 4560).

**GERO 8676 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student a historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 4670, PA 8676).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 8696 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, SOWK 4040, SOWK 8046).

**GERO 8726 BABY BOOMERS AND THE 21ST CENTURY (3 credits)**

Marketing decisions and strategies apply to all businesses and are influenced by the target market. The economic realities and the character of America will change due to shifting demographics of baby boomers. Businesses that understand the power of the baby boomers will succeed; failure to understand that power may lead to economic consequences. Students from many disciplines will benefit from this cross-referenced course blending the realities of gerontology with the predictions of baby boomer behavior and the resulting impact to all businesses. (Cross-listed with GERO 4720).

**Prerequisite(s)/Corequisite(s):** Junior, Senior and Graduate Level Standing.

**GERO 8730 DYING, DEATH & GRIEVING (3 credits)**

An examination of theory and research relevant to interaction with the older, terminally ill person, focusing on communication with widows and other survivors as well as the dying patient. (Cross-listed with PHHB 8730).

**Prerequisite(s)/Corequisite(s):** Graduate Students

**GERO 8756 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with COUN 8756, GERO 4750).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 8800 GRADUATE SEMINAR IN THE AGING BRAIN (3 credits)**

The Graduate Seminar in the Aging Brain is a graduate level gerontology course focused on understanding the changes to the brain due to normal aging and aging-related diseases. This is an elective course for the Gerontology graduate program at UNO. The content matter of this course also makes it a relevant fit for graduate students from disciplines such as biology, psychology, geriatric medicine, nursing, social work, and exercise science. By the end of the course, students should have a thorough understanding of the changes to the brain in healthy aging and aging-related disease that affect cognitive and emotional functioning. (Cross-listed with PSYC 8800).

**Prerequisite(s)/Corequisite(s):** Graduate level standing

**GERO 8810 GRADUATE SEMINAR IN THE BIOLOGY OF AGING (3 credits)**

This course provides an in-depth investigation of key topics in the biology of aging for graduate students. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, neuroscience, and exercise science. Students will learn about theory, primary research, and hypotheses within the biology of aging field. Students will be asked to think critically and apply their knowledge through assignments and class discussions.

**Prerequisite(s)/Corequisite(s):** graduate level standing

**GERO 8856 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, SOWK 4850, SOWK 8856).

**GERO 8920 SPECIAL STUDIES IN GERONTOLOGY (1-3 credits)**

Special studies designed around the interests and needs of the individual student in such areas as the psychology, sociology, economics, biology, or politics of aging, as well as operation of various service systems. This independent study may include a literature review or a field project in which experience is gained in the community, identifying and analyzing needs and services related to older people.

**Prerequisite(s)/Corequisite(s):** Instructor permission

**GERO 8940 GRADUATE PRACTICUM (3 credits)**

This course provides the opportunity to students to share field experiences; to obtain guidance concerning various relationships with agency, staff and clients; and to develop a broadly based perspective of the field of aging.

**Prerequisite(s)/Corequisite(s):** Nine hours in gerontology and permission. Students must be enrolled in the certificate or degree program (MA, PhD) as well as have a minimum GPA of 3.0. Not open to non-degree students.

### **GERO 8956 PALLIATIVE CARE: MENTORING A HEALTHCARE APPROACH OF PATIENT-CENTERED CARE WITH FOCUS ON WELL-BEING (3 credits)**

This course provides a foundation for the recognition of the need to implement palliative medical care. Using current texts and literature, video and podcast lectures by colleagues, and review of cases and topics, a student will understand the definitions, purposes, and benefits of palliative medical care. The student will learn the avenues and ways to implement palliative care to provide care that promotes well-being. (Cross-listed with GERO 4950).

### **GERO 8980 LITERATURE AND AGING (3 credits)**

In this course, we will examine the experience of aging and of being an older person through the world's great literature. We will study this universal experience by reading novels, short stories, poems, plays, and personal narratives from across different eras and cultures. In this way we hope to come to a better understanding of: 1) the older adults we serve as patients and clients; 2) our own aging process and those of our close family members and friends; 3) literary works and their relevance in our everyday lives.

**Prerequisite(s)/Corequisite(s):** Graduate students only.

### **GERO 8986 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with COUN 8986, GERO 4980).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### **GERO 8990 THESIS (1-6 credits)**

Independent research project required of all students working toward the Master of Arts degree. The thesis is written under the supervision of the thesis adviser and the thesis committee.

**Prerequisite(s)/Corequisite(s):** Permission from adviser.

### **GERO 9020 GRADUATE SEMINAR IN STATISTICAL APPLICATIONS (3 credits)**

Provides an introduction to statistical methods and data management used in the social, behavioral and health sciences.

### **GERO 9110 APPLIED SOCIAL GERONTOLOGY (3 credits)**

An overview of social gerontology with an emphasis on the interplay between social, psychological and physical elements in later life. Restricted to graduate students only; required of gerontology students. (Cross-listed with SOC 9110).

**Prerequisite(s)/Corequisite(s):** Graduate.

### **GERO 9460 SEMINAR IN AGING AND HUMAN BEHAVIOR (3 credits)**

This course will examine in detail age-related changes in psychological processes and explore the implications of these changes for behavior. The course is intended primarily for graduate students in psychology and gerontology. (Cross-listed with PSYC 9460).

**Prerequisite(s)/Corequisite(s):** Graduate standing in gerontology or psychology or permission of the instructor.

### **GERO 9990 DISSERTATION (1-6 credits)**

This course provides doctoral students pursuing the PhD in Human Sciences with a specialization in gerontology to complete a dissertation research plan. The course learning activities will focus on the completion of an approved dissertation.

**Prerequisite(s)/Corequisite(s):** Admittance to the PhD in Human Sciences with a specialization in gerontology. Not open to non-degree graduate students.

## **Gerontology, PhD**

**Department of Gerontology, College of Public Affairs & Community Service**

### **Vision Statement**

Our program provides interdisciplinary training, preparing students to be leaders in the field of gerontology. Due to the multidisciplinary nature of the field, our students have much flexibility as we create individualized

programs tailored to each student's research and substantive interests to ensure that their training has enough breadth and depth. Our graduates acquire knowledge through various approaches including symposia, formal classes, directed studies, research projects and workshops. All students develop abilities to understand, analyze and evaluate the challenges and opportunities of an aging population. Finally, through training by our multidisciplinary faculty, students strengthen their research and writing skills to produce quality research suitable for peer-reviewed publication and presentation at national conferences.

### **Program Contact Information**

Julie Blaskewicz Boron, PhD, Doctoral Program Chair (DPC)  
210L College of Public Affairs & Community Service (CPACS)  
402.554.3391  
jboron@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/gerontology/academics/phd-gerontology.php>)

## **Admissions**

General Application Requirements and Admission Criteria (p. 945)

### **Program-Specific Requirements**

#### **Application Deadlines (Doctoral students begin in the Fall semester):**

- Fall: January 15 (Priority deadline if interested in scholarship or graduate assistantship); Applications accepted through April 15

### **Other Requirements**

- Entrance Exam: Graduate Record Exam (GRE)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** This should describe prior education, relevant professional experience, career goals, and the specific relationship of the PhD degree to the achievement of those goals. If there are particular faculty you are interested in working with, or areas of study that you would like to pursue please include in your statement. If you are interested in a graduate assistantship, please indicated your interest and the skills you have to assist the faculty.
- **Writing Sample:** this may be a master's or honors thesis, a published article, or any similar manuscript written in a scholarly style.
- **Resume**
- **Letters of Recommendation:** Three academic letters of recommendation are required
- International applicants who have completed any undergraduate or graduate coursework at international higher education institution(s), for the purpose of having the application reviewed by the Department of Gerontology, may submit a copy of the unofficial transcripts, in addition to all other application materials. Should the department wish to make a recommendation for admission, the applicant will be required to have a course-by-course transcript evaluation completed by WES, ECE, or Educational Perspectives prior to your admission being formally reviewed and processed by the Office of Graduate Studies.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
GERO 8800	GRADUATE SEMINAR IN THE AGING BRAIN <sup>1</sup>	3
or GERO 8056	ADVANCED BIOLOGY OF AGING	
GERO 8500	POLITICS IN AGING	3
GERO 8730	DYING, DEATH & GRIEVING	3
GERO 9110	APPLIED SOCIAL GERONTOLOGY	3
GERO 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR	3
GERO 9020	GRADUATE SEMINAR IN STATISTICAL APPLICATIONS	3
Methodology/Statistics Courses		6
<b>Electives</b>		<b>46</b>
<b>Exit Requirements <sup>2</sup></b>		<b>20</b>
<b>Total Credits</b>		<b>90</b>

<sup>1</sup> Students may take either GERO 8800 or 8056; both courses are not required.

<sup>2</sup> Students may begin work on the dissertation after successful completion of the comprehensive examination. The dissertation topic must be approved by the student's dissertation committee, which consists of a chair and three other members. One Committee member must be a faculty member from outside the Department of Gerontology. The dissertation topic, prospectus, and the dissertation all require the approval of the dissertation committee. A doctoral student will be required to take at least one hour of GERO 9990 Dissertation each fall and spring semester while working toward the completion of the dissertation. A minimum of 20 credit hours of GERO 9990 is required for all doctoral students.

## Comprehensive Examination and Admission to Candidacy

When all or most of the coursework is completed on the plan of study, you must pass a written comprehensive examination. Once these exams are passed the supervisory committee will submit the necessary Application for Candidacy Form for approval by the Office of Graduate Studies.

## Gerontology, MA

Department of Gerontology, College of Public Affairs & Community Service

### Vision Statement

Students pursuing the MA in gerontology are seeking a formalized and in-depth understanding of the aging process by either pursuing a thesis or non-thesis option.

### Program Contact Information

Lindsay Wilkinson, PhD, Graduate Program Chair (GPC)  
210N College of Public Affairs & Community Service (CPACS)  
402.554.6632  
lwilkinson@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/gerontology/academics/>)

### Other Program Related Information

#### Alternative Delivery

Distance courses are available (online) for both the MA and the certificate programs.

#### Dual Degree in Social Gerontology and Law

Prospective students must apply to both UNO and UNL. Please refer to the Gerontology Departmental Handbook for more information. If pursuing the dual social gerontology and law degree the LSAT will be accepted in lieu of the GRE.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The personal statement should be a minimum two-pages
- **Letters of Recommendation:** Two academic letters of recommendation are required.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. You will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If you are admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### Thesis Option

Code	Title	Credits
<b>Required Courses</b>		
GERO/SOC 9110	APPLIED SOCIAL GERONTOLOGY	3
GERO/PSYC 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR	3
GERO 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3
GERO 8020	INTRODUCTION TO RESEARCH METHODS	3
<b>Electives</b>		
Any graduate-level gerontology course can count toward the MA, as well as other courses outside the Department of Gerontology with the advice and consent of the advisor.		18
GERO 8990	THESIS	6
<b>Total Credits</b>		<b>36</b>

### Non-Thesis Option

Code	Title	Credits
<b>Required Courses</b>		
GERO/SOC 9110	APPLIED SOCIAL GERONTOLOGY	3
GERO/PSYC 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR	3
GERO 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3
GERO 8020	INTRODUCTION TO RESEARCH METHODS	3
GERO 8940	GRADUATE PRACTICUM	3
<b>Electives</b>		
Any graduate-level gerontology course can count toward the MA, as well as other courses outside the Department of Gerontology with the advice and consent of the advisor.		21
<b>Total Credits</b>		<b>36</b>

### Exit Requirements

- Thesis Option- GERO 8990 6 hours
- Non-Thesis Option - Comprehensive Examination

## Gerontology Certificate

Department of Gerontology, College of Public Affairs & Community Service

### Vision Statement

Students pursuing the graduate certificate in gerontology are seeking a formalized understanding of the aging process that serves to complement an existing graduate degree such as counseling, business, public administration or social work. Students also pursue the graduate certificate in gerontology to expand their knowledge beyond the undergraduate level.

### Program Contact Information

Lindsay Wilkinson, PhD, Graduate Program Chair  
210N College of Public Affairs & Community Service (CPACS)  
402.554.6632  
lwilkinson@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/gerontology/academics/>)

### Alternative Delivery

Distance courses are available (online) for both the MA and the certificate programs.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The personal statement should be a minimum of two-pages
- **Letters of Recommendation:** Two academic letters of recommendation are required.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
- UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
GERO 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3
GERO 8940	GRADUATE PRACTICUM	3
<b>Electives</b>		<b>12</b>

Select any GERO 8000 or 9000 level course in consultation with your advisor to determine which courses meet your career goals.

**Total Credits** **18**

## Interior Design Concentration

Code	Title	Credits
<b>Required Courses</b>		
GERO 8526	SENIOR HOUSING	3
GERO 8940	GRADUATE PRACTICUM	3
Select nine hours of Interior Design courses in consultation with your advisor.		9
<b>Electives</b>		<b>3</b>
Select any GERO 8000 or 9000 level course in consultation with your advisor to determine which courses meets your career goals.		
<b>Total Credits</b>		<b>18</b>

# Health and Kinesiology, MS Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Applications for this program are accepted on a rolling basis. All materials must be submitted at least one week prior to the first day of the semester in which the student has elected to begin coursework.

## Other Requirements

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Statement of Purpose:** Please address your main areas of interest and what you plan to do with a degree in Health and Kinesiology. You may also address any issues with your application that you would like the admission committee to consider. Please limit your statement to one page double spaced.
- Letters of Recommendation:** Two letters are required

## Degree Requirements

Code	Title	Credits
<b>Thesis Option</b>		
<b>Required Courses</b>		
HEKI 8030	RESEARCH IN HEALTH & KINESIOLOGY	3
KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY	3
PHHB 8360	COMMUNITY HEALTH	3
HEKI 8990	THESIS	6
<b>Concentrations</b>		

Student must select an area of concentration.	21
<b>Total Credits</b>	<b>36</b>

Code	Title	Credits
<b>Non-Thesis Option</b>		
<b>Required Courses</b>		
HEKI 8030	RESEARCH IN HEALTH & KINESIOLOGY	3
KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY	3
PHHB 8360	COMMUNITY HEALTH	3
<b>Concentrations</b>		
Student must select an area of concentration.		27
<b>Total Credits</b>		<b>36</b>

## Exit Requirements

**Thesis Option:** Thesis 6 hours HEKI 8990. All candidates should carefully review the Graduate College requirements for forming the supervisory committee, and submitting the Supervisory Committee and Thesis/Thesis Equivalent Proposal Approval Forms and final approval and submission of the thesis.

**Non-Thesis Option:** Comprehensive Examination.

## Exercise Science Concentration

Code	Title	Credits
<b>Undergraduate deficiencies may include:</b>		
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	
KINS 4940	PHYSIOLOGY OF EXERCISE	
<b>Required Concentration Courses</b>		
KINS 8040/9041	ADVANCED STATISTICS	3
KINS 8950/9951	ADVANCED EXERCISE PHYSIOLOGY	3
BMKI 9960	ADVANCED EXERCISE PHYSIOLOGY II	3
<b>Electives</b>		<b>12-18</b>
Select from the following graduate course prefixes: PHHB, HEKI, KINS, or BMCH. (Others upon approval by advisor and GPC).		
<b>Total Credits</b>		<b>21-27</b>

### Health Behavior Concentration

Code	Title	Credits
<b>Required Concentration Courses</b>		
Undergraduate deficiencies may include: an undergraduate statistics course.		
PHHB 8450	EPIDEMIOLOGY & PREVENTION OF DISEASE	3
PHHB 8500	HEALTH PROGRAM DESIGN	3
PHHB 8600	HEALTH BEHAVIOR	3
PHHB 8950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	3
<b>Electives</b>		<b>9-15</b>
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		
<b>Total Credits</b>		<b>21-27</b>

## Physical Activity in Health Promotion Concentration

Code	Title	Credits
<b>Required Concentration Courses</b>		
KINS 8040/9041	ADVANCED STATISTICS	3

KINS 8120	CURRENT TOPICS IN WEIGHT MANAGEMENT	3
KINS 8130/9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS	3
KINS 8140/9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH	3
<b>Electives</b>		<b>9-15</b>
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		
<b>Total Credits</b>		<b>21-27</b>

## Physical Education Concentration

Code	Title	Credits
<b>Required Concentration Courses</b>		
KINS 8040/9041	ADVANCED STATISTICS	3
PHHB 8500	HEALTH PROGRAM DESIGN	3
KINS 8240	SPORT IN AMERICAN CULTURE	3
<b>Electives</b>		
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		12-18
<b>Total Credits</b>		<b>21-27</b>

## Physical Education Pedagogy Concentration

Code	Title	Credits
<b>Undergraduate deficiencies may include:</b>		
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	
KINS 2800	MOTOR LEARNING	
KINS 4150	ADAPTED PHYSICAL ACTIVITY THEORY AND PRACTICE	
BMCH 4630	BIOMECHANICS	
KINS 4940	PHYSIOLOGY OF EXERCISE	
<b>Required Concentration Courses</b>		
HEKI 8030/9031	RESEARCH IN HEALTH & KINESIOLOGY	3
KINS 8040/9041	ADVANCED STATISTICS	3
KINS 8240	SPORT IN AMERICAN CULTURE	3
KINS 8280	CURRICULUM IN PHYSICAL EDUCATION	3
KINS 8370	ANALYZING PHYSICAL EDUCATION TEACHING & SPORT INSTRUCTION	3
BMCH 8400/9401	MOTOR LEARNING I	3
<b>Electives</b>		
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval). If completing a Thesis, 6 hours of HEKI 8990 are required.		18
<b>Total Credits</b>		<b>36</b>

### ATHT 8110 ATHLETIC TRAINING TECHNIQUES (2 credits)

Overview course including basic components of the athletic training profession including the prevention, recognition, evaluation and immediate care of athletic injuries. Medical terminology, tissue healing, taping procedures, and professional considerations will be covered.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training. Not open to non-degree graduate students.

### ATHT 8120 EMERGENCY MANAGEMENT OF INJURY AND ILLNESS (2 credits)

The purpose of this course is to prepare students to respond to emergent conditions that affect patients involved in physical activity. Students will learn to recognize the signs and symptoms of acute injury and illness, assess patients using evidence-based methods, apply appropriate treatments, make appropriate referral decisions, and implement effective prevention strategies to reduce the risk of injury and illness.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training program. Not open to non-degree graduate students.

### ATHT 8130 THERAPEUTIC INTERVENTIONS I (2 credits)

This course will cover the pathophysiology of musculoskeletal injuries as well as the theory, physiology and application of physical agents used in the treatment of these injuries. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### ATHT 8230 THERAPEUTIC INTERVENTIONS II (2 credits)

This course will introduce students to the use of basic theories and principles of athletic injury rehabilitation including therapeutic exercise. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8130/HEKI 8130. Not open to non-degree graduate students.

### ATHT 8240 ORTHOPEDIC ASSESSMENT I (2 credits)

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the lower extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the foot, ankle, lower leg, knee, thigh and hip. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training Program. Not open to non-degree graduate students.

### ATHT 8250 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (2 credits)

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training program, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Not open to non-degree graduate students.

### ATHT 8330 THERAPEUTIC INTERVENTIONS III (2 credits)

This course will introduce students to the use of basic theories and principles of physical agents and manual therapies. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8230/HEKI 8230. Not open to non-degree graduate students.

### ATHT 8340 ORTHOPEDIC ASSESSMENT II (2 credits)

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the upper extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the shoulder, elbow, wrist, hand and fingers. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8240/HEKI 8240. Not open to non-degree graduate students.

**ATHT 8350 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (2 credits)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8250/HEKI 8250 Clinical Practicum I. Not open to non-degree graduate students.

**ATHT 8360 ADVANCED ORTHOPEDIC & MEDICAL ASPECTS OF ATHLETIC TRAINING (3 credits)**

This course will provide the student with knowledge and skill in the area of orthopedic and medical aspects of athletic training. Students will gain this knowledge through directed observation, experiential learning, literature review, and hands-on experience under the supervision of local medical professionals. The student will be exposed to advanced evaluation of medical conditions, systemic diseases, and other disorders; observe common surgical procedures for orthopedic conditions; and medical management of patients and physically active populations in conjunction with other healthcare providers.

**Prerequisite(s)/Corequisite(s):** Admission to Master of Arts in Athletic Training Program

**ATHT 8410 ATHLETIC TRAINING ADMINISTRATION (2 credits)**

This course will introduce students to administrative topics related to athletic training. Management strategies for financial resources, personnel, facilities, medical records, and third-party reimbursement will be covered. Additionally, legal and ethical professional practice standards will be introduced.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ATHT 8450 INTERNSHIP IN ATHLETIC TRAINING (2 credits)**

This course is designed to provide an immersive athletic training clinical experience for students. The internship is a supervised, educational clinical work experience of at least 300 hours over a minimum of 4-weeks during a single semester. This experience will allow the student the opportunity to take more responsibility for the care, prevention, and rehabilitation of athletic injuries with a particular team or group of patients, as well as help plan and provide daily coverage for practices or clinical appointments.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor or program director. Not open to non-degree graduate students.

**ATHT 8530 THERAPEUTIC INTERVENTIONS IV (2 credits)**

This course will introduce students to the use of basic theories and principles of athletic training related to pharmacology, nutrition and psychosocial wellness. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8330/HEKI 8330. Not open to non-degree graduate students.

**ATHT 8540 ORTHOPEDIC ASSESSMENT III (2 credits)**

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the head, face and spine. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the head, face and spine. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8340/HEKI 8340. Not open to non-degree graduate students.

**ATHT 8550 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (2 credits)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8350/HEKI 8350 Clinical Practicum II. Not open to non-degree graduate students.

**ATHT 8650 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (2 credits)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8550/HEKI 8550 Clinical Practicum III

**HEKI 8000 SPECIAL STUDIES (1-3 credits)**

A series of intensive courses - scheduled as regular seminars or workshops according to purpose.

**Prerequisite(s)/Corequisite(s):** Permission of department.

**HEKI 8030 RESEARCH IN HEALTH & KINESIOLOGY (3 credits)**

The course introduces students to scientific writing, quantitative research design, and statistical methods. Considerable emphasis is placed on evaluation of research in scholarly publications. A research proposal in the form of a grant proposal is written as one of the course requirements. Students will develop the skills necessary to analyze study designs in existing literature and create a research proposal. (Cross-listed with BMKI 9001).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HEKI 8100 RESEARCH PROJECT (1-3 credits)**

Individual or group study and analysis of specific problems in health, physical education or recreation.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**HEKI 8220 PROBLEMS & ISSUES IN HPER (3 credits)**

An examination of current problems and issues in HPER that relate to the general aims and purposes of HPER.

**HEKI 8300 ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT (3 credits)**

Survey of research and literature in Human Movement for the purpose of orienting the candidate to possible areas of research and developing an understanding of and appreciation for writings in the field. The course may be offered focusing on only one specific area in HPER.

**Prerequisite(s)/Corequisite(s):** HPER 8030 or HEKI 8030

**HEKI 8500 QUALITATIVE RESEARCH METHODS (3 credits)**

An examination of qualitative research methods. Emphasis on the broad application of qualitative research in public health, education, and social sciences. Course topics include research design, data collection, data analysis, and reporting.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**HEKI 8850 EXERCISE FOR SPECIAL POPULATIONS (3 credits)**

The course will examine the physiological and medical limitations imposed on people with various common chronic diseases/conditions including arthritis, osteoporosis, exercise-induced asthma, obesity, diabetes, hypertension and pregnancy. Special groups such as children and elders will be discussed. Content will emphasize the etiology and guidelines for exercise testing, prescription, and supervision. (Cross-listed with BMKI 9851).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or PE 8946/KINS 8946

**HEKI 8990 THESIS (1-6 credits)**

The thesis experience is designed to help develop the candidate's ability to execute accepted procedures associated with the research process appropriate to the Master's degree.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**KINS 8040 ADVANCED STATISTICS (3 credits)**

This course will be a study in the statistical methods commonly used in descriptive and experimental research in physical education and exercise science. Application, particularly regarding the purpose, selection, and interpretation of statistical procedures will be emphasized. (Cross-listed with BMKI 9041).

**Prerequisite(s)/Corequisite(s):** HPER 8030/HEKI 8030 or BMKI 9001/HPER 9031/HEKI 9031 or equivalent

**KINS 8056 EXERCISE AND SPORT NUTRITION (3 credits)**

This course presents an overview of the principles of nutrition and the relationship between nutrition and health, fitness, and sports performance. It is designed to provide students with the knowledge and skills necessary to assess nutritional status, improve overall health, and enhance sports performance. (Cross-listed with KINS 4050).

**KINS 8076 OPTIMIZING SPORTS PERFORMANCE (3 credits)**

The course is designed for coaches, athletes and physically active people, and allied health professionals. Course content emphasizes integration of several disciplines in sports medicine aimed at preparing one for optimal sports performance. Topics include peaking, detraining, overuse injury, efficiency, special foods and nutritional requirements, genetics and trainability, and designing of multi-year training schedules. (Cross-listed with KINS 4070).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 8086 CLINICAL EXERCISE PHYSIOLOGY (3 credits)**

This course will offer students the knowledge, skills, and abilities to take the American College of Sports Medicine's health fitness instructor certification exam. This course will emphasize health risk assessment, exercise testing, and exercise prescription for healthy and clinical populations. (Cross-listed with KINS 4080).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 8120 CURRENT TOPICS IN WEIGHT MANAGEMENT (3 credits)**

This course will focus on current issues related to weight management. Students will review and apply the guidelines for physical activity and nutrition, critique current perspectives about weight management in the scientific literature and popular media (e.g., books, podcasts, news articles), and develop a best practice for weight management using what they have learned.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 8130 IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS (3 credits)**

This course will focus on information necessary to assess, design, implement, and evaluate the need for and effectiveness of physical activity interventions in diverse populations, races, and ethnicities. These populations will include: African American, Native American, Hispanic, Asian American, Pacific Islanders, and Caucasian. Additionally, candidates will complete a health and physical activity service learning project in which they will work with diverse populations in the community. (Cross-listed with BMKI 9131).

**KINS 8140 PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH (3 credits)**

This course will cover the broad scope of research on physical activity and public health. Emphasis will be placed on the application of physical activity assessment techniques. (Cross-listed with BMKI 9141).

**KINS 8206 PLANNING WORKSITE WELLNESS PROGRAMS (3 credits)**

This course will focus on the planning of quality worksite wellness programs utilizing standards established by the Association for Worksite Health Promotion. Steps in the planning process such as needs assessment, strategic planning, implementation, and evaluation will be taught with special application to the worksite. Critical issues involving worksite programs also will be addressed such as upper management support, program standards, corporate culture, competencies for worksite health promotion professionals, economic benefits, behavioral theories, legal issues, and the integration of worksite wellness programs and health care. (Cross-listed with KINS 4200).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**KINS 8240 SPORT IN AMERICAN CULTURE (3 credits)**

Sport in American culture is a study of sport from a theoretical perspective. The relationship between sport and sub-cultures (to include disadvantaged American cultures), economics, global influences, and technology will be analyzed.

**KINS 8280 CURRICULUM IN PHYSICAL EDUCATION (3 credits)**

A study of the foundations for curriculum development. Special consideration is given to curriculum change, curriculum patterns and programs in physical education which will meet a culturally diverse, global society.

**KINS 8316 LOWER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the low back, hip, and lower extremities. (Cross-listed with KINS 4310).

**Prerequisite(s)/Corequisite(s):** PE 8326/KINS 8326 and PE 8710/KINS 8710. Not open to non-degree graduate students.

**KINS 8320 EVIDENCE-BASED PRACTICE IN SPORTS MEDICINE (3 credits)**

This course is designed to provide the student with knowledge and skill in the area of developing clinical research questions, assessing research study designs, understanding statistical and epidemiological analyses, interpreting peer-reviewed manuscripts, the incorporation of research into clinical practice, understanding the role of an athletic trainer within the public health system, international classification of function, health literacy, and social determinants of health. Students in this course will learn to understand the role of evidence based /practice in clinical decision making.

**KINS 8326 UPPER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the head, neck, thorax, and upper extremities. (Cross-listed with KINS 4320).

**Prerequisite(s)/Corequisite(s):** PE 8316/KINS 8316, PE 8336/KINS 8336 and PE 8720/KINS 8720. Not open to non-degree graduate students.

**KINS 8336 ATHLETIC THERAPEUTIC MODALITIES (3 credits)**

This course will cover the theory, physiology and application of physical agents used in the treatment of injuries and illness. Students will gain practical experience utilizing selected agents to treat injuries and illnesses. (Cross-listed with KINS 4330).

**Prerequisite(s)/Corequisite(s):** PE 8326/KINS 8326 and PE 8710/KINS 8710. Not open to non-degree graduate students.

**KINS 8356 ORGANIZATION AND ADMINISTRATION OF ATHLETIC TRAINING (3 credits)**

Administration of athletic training programs including the use of records and forms, budgets, facility design and legal concerns. (Cross-listed with KINS 4350).

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4320/KINS 4320

**KINS 8370 ANALYZING PHYSICAL EDUCATION TEACHING & SPORT INSTRUCTION (3 credits)**

This course will examine the teaching and coaching in physical education and sport. It will identify assessment techniques utilized in teaching and coaching behavior research as well as typical prescriptions in an effort to improve one's performance.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**KINS 8506 BEHAVIORAL ASPECTS OF COACHING (3 credits)**

This course is designed to provide the physical education teacher and athletic coach with an overview of the behavioral aspects of coaching athletes. The course will provide information which will enable the coach to enhance as well as orchestrate performance of elementary, junior high, senior high, college, and post-college athletes. (Cross-listed with KINS 4500).

**KINS 8700 PSYCHOLOGY OF PHYSICAL ACTIVITY (3 credits)**

The central purpose of this course is to examine the psychological antecedents and consequences of exercise and physical activity behaviors. The course will focus on traditional theories/principles of psychology as they relate to various physical activity settings. (Cross-listed with BMKI 9701).

**KINS 8710 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (1 credit)**

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training program, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 8326/KINS 8326. Not open to non-degree graduate students.

**KINS 8720 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (1 credit)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admitted to MA in Athletic Training, PE 8710/KINS 8710, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-reqs: PE 8316/KINS 8316 & PE 8336/KINS 8336. Not open to non-degree graduate students.

**KINS 8730 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (1 credit)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admitted to MA in Athletic Training, PE 8720/KINS 8720, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-reqs: PE 8346/KINS 8346 & PE 8356/KINS 8356. Not open to non-degree graduate students.

**KINS 8740 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (1 credit)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training, PE 8730/KINS 8730 instructor permission, and compliance with published Athletic Training Program Technical Standards for Admission. Co-req: PE 8966/KINS 8966. Not open to non-degree graduate students.

**KINS 8800 RISK MANAGEMENT FOR HEALTH FITNESS PROFESSIONALS (3 credits)**

A study of risk management for health fitness professionals with a focus on minimizing liability exposures for health fitness facilities and their personnel. Principles of risk management such as the assessment of liability exposures, the development and implementation of risk management strategies, and the evaluation of these strategies will be explored as well as the law as it pertains to health fitness liability. Candidates will develop the knowledge and skill to manage high quality health fitness programs in various settings.

**Prerequisite(s)/Corequisite(s):** PE 4010/KINS 4010 or PE 8016/KINS 8016

**KINS 8856 CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION (3 credits)**

The purpose of this course is to provide candidates with an introduction to the theories and practices involved in all phases of cardiac rehabilitation. (Cross-listed with KINS 4850).

**Prerequisite(s)/Corequisite(s):** PE 2500/BMCH 2500 with a grade of C- or better or BIOL 2840 with a grade of C- or better, PE 4940/KINS 4940 with a grade of C- or better

**KINS 8865 SCIENTIFIC ASPECTS OF STRENGTH DEVELOPMENT (3 credits)**

This course is designed to explore the nature of muscular strength development, to investigate the physiological basis of physical conditioning, and to provide teachers, coaches and trainers with practical experience in designing specialized conditioning programs for a variety of sports and cultures.

**KINS 8900 MANAGEMENT & LEADERSHIP SKILLS FOR FITNESS WELLNESS MANAGERS (3 credits)**

This course is a study of management and leadership skills necessary for the successful management of fitness and wellness facilities and programs. Candidates will develop knowledge and practical skills in the areas of personnel and financial management, marketing, and operating policies procedures as well as develop a personal leadership philosophy based on sound principles of leaders.

**Prerequisite(s)/Corequisite(s):** PE 4010/KINS 4010 or PE 8016/KINS 8016 or ACSM Health Fitness Certification.

**KINS 8910 INTERNSHIP IN EXERCISE SCIENCE (3 credits)**

This course is an off-campus, supervised, educational work experience of at least 150 clock hours at an approved worksite offering programs and experiences in fitness development or health promotion. Candidates must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** The prerequisites for this course include 90 hours completed, 2.5 GPA, PE 4900/KINS 4900 and permission of instructor.

**KINS 8950 ADVANCED EXERCISE PHYSIOLOGY (3 credits)**

A detailed analysis of selected topics including acute and chronic effects of exercise on metabolic, pulmonary, and cardiovascular function; and sports nutrition. Current research findings and methodology will be emphasized. (Cross-listed with BMKI 9951).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or equivalent

**KINS 8970 TOPICS IN SPORTS MEDICINE (3 credits)**

This course is designed to help students synthesize and apply their knowledge of athletic training and sports medicine to current topics, unique populations, and other areas of exercise, sports medicine and health care. (Cross-listed with KINS 9971).

**KINS 9300 SYSTEMATIC REVIEW AND META-ANALYSIS (3 credits)**

This course is designed to introduce students to the process of completing systematic reviews and meta-analyses. The objective of the course is to provide students with a foundation of the requisite skills necessary to perform a quantitative and qualitative synthesis of the literature within their area of interest.

**Prerequisite(s)/Corequisite(s):** HEKI 8030 or equivalent research methods course.

**KINS 9971 TOPICS IN SPORTS MEDICINE (3 credits)**

This course is designed to help students synthesize and apply their knowledge of athletic training and sports medicine to current topics, unique populations, and other areas of exercise, sports medicine and health care. (Cross-listed with KINS 8970).

**PHHB 8050 APPLIED RESEARCH IN PUBLIC HEALTH (3 credits)**

This course will assist candidates to develop the basic skills to conduct applied research to address contemporary problems in public health. The course will emphasize proposal writing, data collection, research design, statistical analysis, computer application, and writing of research reports.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PHHB 8080 TOPICS IN HEALTH EDUCATION (3 credits)**

This course will explore important current issues in Health Education. Candidates will explore economic, political, ethical and technological developments that affect the practice of Health Education. There is no limit to the number of times a candidate may enroll in HED 8080 as long as a different topic is offered each time.

**Prerequisite(s)/Corequisite(s):** Graduate.

**PHHB 8206 A PUBLIC HEALTH APPROACH TO MENTAL HEALTH (3 credits)**

This public health course will help students think critically about the prevention, identification, and treatment of mental illness in the United States. Students will be introduced to concepts from the disciplines of public health, psychology and sociology to understand mental health disorders and their impact on population health. Students will explore health disparities through the lens of cultural, social, behavioral, psychological, and economic factors. Students will recognize that mental health exists on a continuum and develop skills to address environmental influences on behavior. (Cross-listed with PHHB 4200).

**PHHB 8250 HUMAN SEXUALITY (3 credits)**

This graduate-level course is aimed at providing an overview of the current scientific knowledge concerning human sexuality. The course is designed to be interdisciplinary in nature, providing the biological, behavioral and cultural aspects of human sexuality. Priority will be given to candidates from the helping professions. Qualified candidates from other related disciplines must have permission of instructor.

**Prerequisite(s)/Corequisite(s):** Undergraduate Anatomy and Physiology

**PHHB 8270 INTERVENTIONS IN HEALTH EDUCATION (3 credits)**

This course will provide health behavior candidates with an opportunity to investigate, contrast, develop, implement and evaluate a variety of intervention activities, to be applied in different settings. Theories regarding methods to enhance behavior change and teaching strategies to meet the health needs of a diverse population will be explored.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**PHHB 8330 ALCOHOL EDUCATION (3 credits)**

A study of the problems associated with alcohol use, misuse and abuse. The patterns and trends of use, theories of dependence, pharmacological aspects and health consequences are explored. Emphasis is given to the identification of people with alcohol related problems and the role of the private and public sectors in prevention, education, intervention, and referral. Methods of assessing needs, prescribing, implementing, and evaluating alcohol education programs will be explored.

**PHHB 8360 COMMUNITY HEALTH (3 credits)**

An in-depth examination of community health and determinants of community health issues. The epidemiology, statistical sciences, environmental health, political influences on health, and behavioral social sciences for community health are examined. Students are expected to be able to apply concepts addressed in class to contemporary health issues.

**PHHB 8400 HEALTH PROMOTION PROGRAM PLANNING (3 credits)**

An in-depth application of the health promotion program planning process utilizing a choice of planning models. Students develop a comprehensive plan in response to an actual grant announcement and follow appropriate guidelines.

**PHHB 8450 EPIDEMIOLOGY & PREVENTION OF DISEASE (3 credits)**

The course is designed for health behavior graduate students and others who are interested in public health. The causes, prevention, treatment and control of prevalent communicable and non-communicable disease in a culturally diverse and global society will be emphasized. Special emphasis will be given to diseases and health problems that can be prevented or controlled through education and advocacy. Students will apply skills to contemporary issues.

**PHHB 8500 HEALTH PROGRAM DESIGN (3 credits)**

This course will provide students the skills to design an education/advocacy health initiative based on health behavior theory and models. They will develop a plan that includes a detailed needs assessment, a carefully crafted set of SMART (Specific, Measurable, Achievable, Relevant, Time-Bound) objectives for all levels of program outcome, an implementation strategy using health behavior models, and a thorough and systematic evaluation framework (formative and summative).

**PHHB 8556 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with PHHB 4550, GERO 4550, GERO 8556, WGST 4550).

**PHHB 8600 HEALTH BEHAVIOR (3 credits)**

The purpose of this course is to study the theoretical foundations of health behavior. Candidates will develop an understanding of the determinants of health behavior, the models and theories that provide a framework for predicting health behavior, and the strategies employed to bring about behavioral changes for health and disease prevention in individuals and groups.

**PHHB 8706 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with PHHB 4700, SOC 4700, SOC 8706).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**PHHB 8730 DYING, DEATH & GRIEVING (3 credits)**

An examination of theory and research relevant to interaction with the older, terminally ill person, focusing on communication with widows and other survivors as well as the dying patient. (Cross-listed with GERO 8730).

**Prerequisite(s)/Corequisite(s):** Graduate Students

**PHHB 8750 PROGRAM EVALUATION AND INSTRUMENTATION (3 credits)**

This course will build skills for selection, development and analysis of various types of instruments and techniques for conducting process, impact, and outcome evaluations in health promotion, education, and behavior. Evaluation of health behavior change and its antecedents, changes in community services programs, and community health status will be discussed. Candidates will learn methods for developing choosing psychometric tools, choosing appropriate evaluation designs, procedures for data collection, and describing evaluation results. Emphasis will be placed on political, statistical, and theoretical aspects of instrumentation and evaluation practices.

**Prerequisite(s)/Corequisite(s):** HED 8270/PHHB 8270 or permission of instructor.

**PHHB 8850 HEALTH ASPECTS OF STRESS MANAGEMENT (3 credits)**

The health-related aspects of stress management and control will be the focus of this course. Selected techniques for self-regulating stress will be demonstrated, practiced and analyzed. Candidates will be introduced to current scientific research in human stress.

**Prerequisite(s)/Corequisite(s):** Graduate.

**PHHB 8950 PUBLIC HEALTH LEADERSHIP AND ADVOCACY (3 credits)**

This course incorporates public health leadership theory and practices that are grounded in biomedical and social science and sanctioned by public law. Also included is the politics of communities and organizations. Advocacy is emphasized as a key tool to secure funding and to help assure that local, state, and federal policy-makers will adopt, implement, and maintain important public health regulations, policies and programs.

**Prerequisite(s)/Corequisite(s):** Fifteen (15) health education graduate credits. Not open to non-degree graduate students.

**PHHB 8980 HEALTH EDUCATION PRACTICUM (1-3 credits)**

This course offers graduate candidates in health education an opportunity to gain practical, on-the-job training in health education in local schools, businesses, hospitals, clinics, voluntary health agencies or governmental health agencies.

**Prerequisite(s)/Corequisite(s):** Candidates must have completed 21 credit hours at the undergraduate or graduate level (3.0 GPA or above) in health education prior to enrolling in this course. Not open to non-degree graduate students.

## Health and Kinesiology, MS

**School of Health and Kinesiology, College of Education, Health, and Human Sciences**

### Vision Statement

The School of Health and Kinesiology (H&K's) graduate program prepares students for careers in health, physical education, exercise science, athletic training, and physical activity. By fostering the development of evidence-based work, we train students to be lifelong learners who can perform leadership roles as educators, practitioners and researchers.

### Program Contact Information

Dustin Slivka, PhD, Graduate Program Chair (GPC)  
207R Health and Kinesiology (H&K)  
402.554.3224  
dslivka@unomaha.edu

Ryan Klatt, Graduate Programs Office Assistant  
207 Health and Kinesiology (H&K)  
402.554.2910  
ryanklatt@unomaha.edu (:ryanklatt@unomaha.edu)

Program Email Address ([unohk@unomaha.edu](mailto:unohk@unomaha.edu))

Program Website (<https://www.unomaha.edu/college-of-education-health-and-human-sciences/health-kinesiology/graduate/>)

### Fast Track Public Health/Health Behavior Integrated Undergraduate/Graduate Program (IUG)

The School of Health and Kinesiology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BS in Public Health major desiring to pursue a MS in Health & Kinesiology with a Health Behavior concentration, or those pursuing a BS in Kinesiology major desiring to pursue a MS in Health & Kinesiology with an Exercise Science concentration.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Applications for this program are accepted on a rolling basis. All materials must be submitted at least one week prior to the first day of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency->

- %20International.pdf), must meet the minimum language proficiency score requirement in order to be considered for admission.
- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
  - **Statement of Purpose:** Please address your main areas of interest and what you plan to do with a degree in Health and Kinesiology. You may also address any issues with your application that you would like the admission committee to consider. Please limit your statement to one page double spaced.
  - **Letters of Recommendation:** Two letters are required

Degree Requirements

Code	Title	Credits
Thesis Option		
Required Courses		
HEKI 8030	RESEARCH IN HEALTH & KINESIOLOGY	3
KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY	3
PHHB 8360	COMMUNITY HEALTH	3
HEKI 8990	THESIS	6
Concentrations		
Student must select an area of concentration.		21
Total Credits		36

Code	Title	Credits
Non-Thesis Option		
Required Courses		
HEKI 8030	RESEARCH IN HEALTH & KINESIOLOGY	3
KINS 8700	PSYCHOLOGY OF PHYSICAL ACTIVITY	3
PHHB 8360	COMMUNITY HEALTH	3
Concentrations		
Student must select an area of concentration.		27
Total Credits		36

Exit Requirements

Thesis Option: Thesis 6 hours HEKI 8990. All candidates should carefully review the Graduate College requirements for forming the supervisory committee, and submitting the Supervisory Committee and Thesis/Thesis Equivalent Proposal Approval Forms and final approval and submission of the thesis.

Non-Thesis Option: Comprehensive Examination.

Concentrations

Health Behavior Concentration

Code	Title	Credits
Required Concentration Courses		
Undergraduate deficiencies may include: an undergraduate statistics course.		
PHHB 8450	EPIDEMIOLOGY & PREVENTION OF DISEASE	3
PHHB 8500	HEALTH PROGRAM DESIGN	3
PHHB 8600	HEALTH BEHAVIOR	3
PHHB 8950	PUBLIC HEALTH LEADERSHIP AND ADVOCACY	3
Electives		9-15
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		
Total Credits		21-27

Physical Education Concentration

Code	Title	Credits
Required Concentration Courses		
KINS 8040/9041	ADVANCED STATISTICS	3
PHHB 8500	HEALTH PROGRAM DESIGN	3
KINS 8240	SPORT IN AMERICAN CULTURE	3
Electives		
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		12-18
Total Credits		21-27

Exercise Science Concentration

Code	Title	Credits
Undergraduate deficiencies may include:		
BMCH 2400	HUMAN PHYSIOLOGY & ANATOMY I	
KINS 4940	PHYSIOLOGY OF EXERCISE	
Required Concentration Courses		
KINS 8040/9041	ADVANCED STATISTICS	3
KINS 8950/9951	ADVANCED EXERCISE PHYSIOLOGY	3
BMKI 9960	ADVANCED EXERCISE PHYSIOLOGY II	3
Electives		12-18
Select from the following graduate course prefixes: PHHB, HEKI, KINS, or BMCH. (Others upon approval by advisor and GPC).		
Total Credits		21-27

Physical Activity in Health Promotion Concentration

Code	Title	Credits
Required Concentration Courses		
KINS 8040/9041	ADVANCED STATISTICS	3
KINS 8120	CURRENT TOPICS IN WEIGHT MANAGEMENT	3
KINS 8130/9131	IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS	3
KINS 8140/9141	PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH	3
Electives		9-15
Select from the following graduate course prefixes: PHHB, HEKI, KINS. (Others upon approval by advisor and GPC).		
Total Credits		21-27

History

Degree Programs Offered

- History, MA (p. 1205)
  - History Certificate (p. 1207)
- HIST 8010 RESEARCH DIRECTED READINGS PROJECT (1-3 credits)**  
Special research problems and or directed readings arranged individually with students on topics not explored in other graduate offerings. If students do not complete all the readings during the semester in which they enroll in the course, they must complete all the readings within one academic year of their enrollment.
- Prerequisite(s)/Corequisite(s):** Minimum of nine graduate hours in history completed. Permission of history Graduate Program Chair. Open only to students enrolled in the History MA program. Not open to non-degree graduate students.

**HIST 8016 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 4010, RELI 4050).

**Prerequisite(s)/Corequisite(s):** Must be a graduate student enrolled in History MA program. Not open to non-degree graduate students.

**HIST 8020 GRADUATE INTERNSHIP (1-3 credits)**

The graduate student is supervised by a member of the faculty in a project involving part-time employment or service with a museum, historic site, historical society or other institution. Work hours, activities, reporting requirements, and responsibilities must be specified in written agreement between employer, student, Graduate Program Chair, and/or supervising faculty member. Normally taken for 3 hours. If a hosting institution cannot commit to a supervised workload which the departmental advisor and/or Graduate Program Chair believe to be equivalent to 3 hours, course may be taken for fewer hours. In such circumstances, student may repeat course up to a total of 3 hours.

**Prerequisite(s)/Corequisite(s):** Student must be enrolled in the History MA program and have completed at least 6 hours of graduate credit. Student must have approval of Graduate Program Chair (GPC) and/or supervising faculty before enrolling. Not open to non-degree graduate students.

**HIST 8030 GRADUATE HISTORICAL METHODOLOGY (3 credits)**

This course will examine various historical methodologies which have been employed by historians to provide structural interpretations of the past. Although exact content may vary, examples of methodologies include the Whig Interpretation, Marxism, Structuralism, Postmodernism, and the New Social History.

**Prerequisite(s)/Corequisite(s):** Students must be enrolled in the MA program in history. Not open to non-degree graduate students.

**HIST 8046 HOMESCAPES: THE MATERIAL CULTURE OF EVERYDAY LIFE IN AMERICA, 1600-1860 (3 credits)**

This course examines the culture and technologies of house forms and work landscapes in North America, 1600-1860. (Cross-listed with HIST 4040).

**Prerequisite(s)/Corequisite(s):** Graduate student in history, or permission of the graduate chair.

**HIST 8056 HISTORY OF WOMEN IN AMERICA TO 1875 (3 credits)**

This course examines the history of women in what is now the United States from the seventeenth century to 1875. Topics include law, work, sexuality and reproduction, slavery, cross-cultural encounters, religion, political activism, and the transformation of gender by the market and industrial revolutions. (Cross-listed with HIST 4050).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HIST 8066 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1992 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with HIST 4060, WGST 4060, WGST 8066).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HIST 8076 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with HIST 4070, BLST 4650, BLST 8656, LLS 8656).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8146 COLONIAL AMERICAN HISTORY (3 credits)**

This course provides a study of the settlement and development of North America to c. 1763 with an emphasis on the British colonies. (Cross-listed with HIST 4140).

**HIST 8156 THE AMERICAN REVOLUTIONARY ERA, 1763-89 (3 credits)**

This course examines the period of the American Revolution beginning with the changed circumstances in the British North American colonies following the end of the French and Indian War and concluding with the ratification of the United States Constitution. The course analyses social, political, and military themes from this period. (Cross-listed with HIST 4150).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8166 THE EARLY AMERICAN REPUBLIC: FROM THE CONSTITUTION TO THE SECOND PARTY SYSTEM (3 credits)**

This course covers an important period of American history beginning with the first federal government and ending with an analysis of the consolidation of the Second American Party system. Topics to be covered include the earliest debates over the nature of the federal government, foreign relations, the emergence of political parties, and the rise of the Jacksonian democracy. (Cross-listed with HIST 4160).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8176 HISTORY OF THE AMERICAN WEST (3 credits)**

An examination of the unique aspects of the region of the United States known as "the west." Students will learn about the multiple peoples, cultures, and environments which combined to form this region. Content will also include an examination of how the myths of the west were created. (Cross-listed with HIST 4170).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8186 THE AMERICAN CIVIL WAR PERIOD: FROM THE TEXAS REVOLUTION THROUGH RECONSTRUCTION (3 credits)**

This course focuses on the period of the American Civil War. It will begin with the background to, and events of the Texas Revolution. It will then consider the growing national tensions over slavery, particularly as a consequence of the Mexican-American War before examining the immediate causes of the civil war. The course will then examine the war itself before concluding with analysis of Reconstruction. (Cross-listed with HIST 4180).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8246 EMERGENCE OF MODERN AMERICA (3 credits)**

This course examines American history from the end of Reconstruction to the end of World War II. Among the topics covered are western expansion, industrialization, immigration, and the expanding international footprint of the United States. (Cross-listed with HIST 4240).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8336 U.S. CONSTITUTIONAL HISTORY TO 1860 (3 credits)**

This course will examine the history of the United States constitution from its promulgation in 1787 through the end of the Civil War. This will include consideration of both English and colonial precedents. The course will analyze the process of writing and ratifying the document in the late 1780s and will then look at some of the key legal decisions between 1790 and 1860. (Cross-listed with HIST 4330).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8346 U.S. CONSTITUTIONAL HISTORY SINCE 1860 (3 credits)**

This course examine the increasingly important role played by competing interpretations of the United States constitution since the outbreak of the Civil War. This will include the emergence of the idea of a "living constitution," the extension of constitutional guarantees to the states, and examination of critical Supreme Court cases. (Cross-listed with HIST 4340).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8366 THE U.S. IN THE COLD WAR (3 credits)**

This course will examine the impact of the Cold War in modern American history on two levels. First it will seek to understand how the Cold War influenced American foreign policy decisions since the end of World War II and examine the long term consequences of those policies for both the U.S. and the world. Secondly, this course will examine how the Cold War impacted or shaped American culture, domestic politics, and social movements in the postwar period. (Cross-listed with HIST 4360).

**Prerequisite(s)/Corequisite(s):** Graduate student in history, or permission of the graduate chair.

**HIST 8406 HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES (3 credits)**

A survey of traditional North American Indigenous cultures, their interaction with the environment, with one another, and with other people groups. This course covers indigenous societies to the present day. (Cross-listed with HIST 4400).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8416 HISTORY OF NEBRASKA (3 credits)**

An examination of the history of Nebraska from Native American occupation to the present, with emphasis on environmental factors that have shaped the region and its people. (Cross-listed with HIST 4410).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8426 THE SIOUX TRIBE (3 credits)**

A cultural and historical study of the Sioux tribes emphasizing the earliest historic period to the present. (Cross-listed with HIST 4420).

**HIST 8456 NATIVE AMERICAN ENVIRONMENTALISM (3 credits)**

This course studies North American tribal subsistence and natural resource use practices from the early historic period to the present, Native Americans as environmentalists, and modern tribal environmentalism. (Cross-listed with HIST 4450).

**HIST 8466 AMERICAN IMMIGRATION HISTORY (3 credits)**

A study of American immigration from the colonial era to the present. Topics covered include Old World origins of migration, the old immigrants from western Europe, the new immigrants from southern and eastern Europe, non-European immigrants, native-born American responses to immigrants, the periods of immigrant adjustment in the new physical environment, and the contemporary revival of ethnicity. (Cross-listed with HIST 4460).

**Prerequisite(s)/Corequisite(s):** Graduate student standing or permission of the graduate chair

**HIST 8486 THE UNITED STATES IN THE 1960S (3 credits)**

This course is a review of the economic, social, cultural, and political changes that marked the United States in the 1960s. (Cross-listed with HIST 4480).

**HIST 8536 EUROPE: RENAISSANCE & REFORMATION (3 credits)**

This course will examine European history from the fifteenth through the seventeenth centuries. Among the topics which will be covered are the Renaissance, the Protestant Reformation, the Catholic Reformation, Wars of Religion, the beginning of European overseas expansion, and the Scientific Revolution. In addition to examining the religious ideas and revolutions of the period, there will also be analysis of economic, social, and political change. (Cross-listed with HIST 4530).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8546 MEDIEVAL EUROPE (3 credits)**

A dive into the history of medieval Europe through the stories of men and women, their beliefs, struggles, contradictions and achievements. (Cross-listed with HIST 4540).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8616 TUDOR AND STUART ENGLAND (3 credits)**

English history from the end of the Wars of the Roses in 1485 to the death of Queen Anne in 1714. The course will examine the efforts of the Tudors and Stuarts to establish dynasties, the religious upheavals in the sixteenth and seventeenth centuries, changes in the role of Parliament, the Civil Wars, and the beginning of English overseas expansion. (Cross-listed with HIST 4610).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8656 HISTORY OF MODERN IRELAND (3 credits)**

A survey of Irish history from the Act of Union of 1801 through the civil rights movement of "Troubles" of Northern Ireland in the 1970s. (Cross-listed with HIST 4650).

**HIST 8726 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with HIST 4720, RELI 4160, RELI 8166).

**HIST 8736 ISRAEL AND PALESTINE (3 credits)**

This course will outline the history of the conflict over Palestine/Israel, examine its present status, and explore its likely unfolding in the future. It seeks to provide a broad and concise understanding of the historical events which have shaped the relations between Israelis and Palestinians, as well as a keen awareness of the challenges and prospects related to their future. (Cross-listed with HIST 4730).

**HIST 8746 COMPARATIVE GENOCIDE (3 credits)**

This course explores genocide and its many forms throughout history. It begins by considering the varied elements and definitions of the term. Next it looks at what makes people kill before going on to examine many different genocides throughout history. Finally, the course addresses the prosecution and prevention of genocide. (Cross-listed with HIST 4740).

**Prerequisite(s)/Corequisite(s):** Graduate student enrolled in History MA program. Not open to non-degree graduate students.

**HIST 8806 U.S. AND THE MIDDLE EAST (3 credits)**

This course focuses on the evolution of US relations with and Foreign Policy vis-a-vis the Middle East over the last six decades. It seeks to illuminate the constant features in contrast to the changes in direction, examining the agendas of varying administrations as well as the treatment by the media of this region. It follows a chronological framework with particular emphasis on key thematic topics. While emphasizing the political dimensions of international relations, the class will also explore cultural and social aspects of the ties between the US and the peoples of the Middle East. (Cross-listed with HIST 4800).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**HIST 8826 MESOPOTAMIA AND PRE-ISLAMIC PERSIA (3 credits)**

Examination of the Ancient Near East from the emergence of its earliest civilizations—Sumer, Akkad and Babylonia—through the Bronze and Iron Ages, concluding with Persia in the Common Era (CE) just before the rise of Islam. (Cross-listed with HIST 4820).

**HIST 8836 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 4830, RELI 4830, RELI 8836).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 8846 ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN (3 credits)**

Examination of the conquests of Alexander the Great, as well as controversies in Alexander studies. Includes discussion of both the Macedonian culture that produced him and the career of his father, Philip II. (Cross-listed with HIST 4840).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8856 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 4850, RELI 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 8916 TOPICS IN HISTORY (3 credits)**

This course introduces students to specialized subject matter not available in existing History courses. Course may be repeated as long as the topic is substantially different each time. Course may be cross-listed with other programs e.g. Native American Studies (NAMS), Women's and Gender Studies (WGST) when topics are appropriate. (Cross-listed with HIST 4910).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8990 THESIS (1-6 credits)**

Thesis research project written under supervision of an adviser.

**Prerequisite(s)/Corequisite(s):** Completion of twenty-four hours of history graduate work. Approval of Graduate Program Chair. Not open to non-degree graduate students.

**HIST 9100 SEMINAR IN HISTORY (3 credits)**

This seminar guides advanced graduate students through critical readings and practices in historical research or historiography. Topics will vary and course can be repeated under different topics.

**Prerequisite(s)/Corequisite(s):** Open only to History MA students who have completed HIST 3930 or equivalent. Non-History MA students may be admitted after consultation with History GPC and instructor. Not open to non-degree graduate students.

**HIST 9200 COLLOQUIUM (3 credits)**

The colloquium guides advanced graduate students through the historiography of a specific subject. Topics will vary and course can be repeated under different topics. Open only to students enrolled in MA program in history unless permission granted by History Department Graduate Program Chair.

**Prerequisite(s)/Corequisite(s):** Open only to History MA students who have completed HIST 2980, HIST 3930 or equivalent. Non-History MA students may be admitted after consultation with History GPC and instructor. Not open to non-degree graduate students.

# History, MA

Department of History, College of Arts & Sciences

## Vision Statement

The mission of the Master of Arts in history program is to develop in students an understanding both of history itself and of history as a profession. In so doing, students will move beyond thinking of history as simply a series of events.

Since the professionalization of history in the late nineteenth century, historians have sought to explain not only what happened but why events unfolded the way they do. In subsequent years, this has led to an increasingly sophisticated volume of materials which deepen our understanding of the past. The process has also led to the formulation, and frequently the subsequent refutation, of models of interpretation.

In order to develop a proper understanding of the past, graduate students in history need to understand not only the events of the past but how historians have interpreted those events. As such the Master of Arts history program is committed to exposing our students to the events of history, the records of history, as well as to those who have sought to explain them. In so doing, our graduate will understand history at a much deeper level than when they entered the program.

## Program Contact Information

Danielle Battisti, PhD, Graduate Program Chair (GPC) (Fall 2021)  
287H Arts & Sciences Hall (ASH)  
402.554.4821  
dbattisti@unomaha.edu

Martina Saltamacchia, PhD, Graduate Program Chair (GPC) (Spring 2022)  
287L Arts & Sciences Hall (ASH)  
402.554.2482  
msaltamacchia@unomaha.edu

Program Website (<http://www.unomaha.edu/history/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: May 15
- Spring: November 15

## Other Requirements

- Complete 21 semester hours of undergraduate work in history, including a course on historical research, with a 3.0 grade point average (on a 4.0 scale).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Submit an essay of 250-500 words describing the applicant's interests in history and why he or she wishes to earn an MA degree in History
- **Writing Sample:** 10-12 pages in length from an upper-division history (or cognate) course, or equivalent-length history-related article published in a peer-reviewed publication
- **Letters of Recommendation:** Two letters of recommendation are required.
  - Because we seek to determine your potential as a historian, letters of recommendation should be solicited primarily from historians with whom you have worked during your academic career. If you did not major in history and therefore cannot get letters from historians, then the best remaining option is to obtain letters from professors in the field in which you majored.
- The History graduate program committee may choose, in rare cases, to admit provisionally any student who does not meet all of the above requirements, with the understanding that all conditions for unconditional admission must be met before HIST 8010 or HIST 9100 courses may be taken.
- Students who have no undergraduate course in historical research and methodology must successfully complete HIST 2980 during one of the first two semesters of their enrollment. This course, required of all undergraduate history majors at UNO, seeks to develop two skills essential to all historians: the ability to write clearly and the ability to conduct critical and thorough research. Students who lack these skills may anticipate serious problems in their studies.
  - Interpretation of this requirement rests with the History graduate program committee. Students who believe that they have taken a comparable course may be asked to submit examples of their work, which will enable the graduate program committee to assess their proficiency.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators

(<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).

- UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### Thesis Option (36 hours)

The 36-hour thesis program includes six (6) hours of thesis credit, plus 30 credit hours in graduate coursework. This program is especially recommended for students who wish to continue work toward a PhD, but is open to any student.

Students who intend to write a thesis should bear in mind that this is a substantial undertaking and one that normally takes at least a year of focused research, background reading, writing, and revision to complete, in addition to previous coursework. An MA thesis must present original research and provide evidence of both extensive work in primary sources and engagement with the current scholarship on the subject matter in question. Students should develop some idea of a topic well before they complete their coursework and, in conjunction with the GPC, identify the department member best suited to supervise the thesis. Each faculty member of the department has complete discretion as to whether he or she will work with a particular student and whether the proposed topic is acceptable. Further discussion on thesis topics will be addressed during advising and/or new student orientation.

Code	Title	Credits
<b>Required Courses</b>		
Complete at least 15 hours from the following distributed between the three courses. Consult your advisor for more information.		15
HIST 8030	GRADUATE HISTORICAL METHODOLOGY	
HIST 9100	SEMINAR IN HISTORY	
HIST 9200	COLLOQUIUM	
Select no more than three hours from the following.		3
HIST 8010	RESEARCH DIRECTED READINGS PROJECT	
HIST 8020	GRADUATE INTERNSHIP	
<b>Select the remainder hours from History or other advisor approved courses.</b>		<b>12</b>
HIST 8990	THESIS	6
<b>Total Credits</b>		<b>36</b>

Students completing an MA with thesis may include no more than three (3) hours **total** from among HIST 8010 and HIST 8020.

### Non-Thesis Option (36 hours)

**Thirty-six (36) hours of graduate coursework in history.**

The 36-hour non-thesis program consists entirely of coursework. This program is especially recommended for students who wish to pursue work in public history, archiving, secondary-school teaching, park-service work, etc. Students will receive guidance and support regarding future career paths from their comprehensive exam committee.

Code	Title	Credits
<b>Required Courses</b>		
Complete at least 15 hours from the following distributed between the three courses. Consult your advisor for more information.		15
HIST 8030	GRADUATE HISTORICAL METHODOLOGY	
HIST 9100	SEMINAR IN HISTORY	
HIST 9200	COLLOQUIUM	
No more than six hours from the following.		6
HIST 8010	RESEARCH DIRECTED READINGS PROJECT	
HIST 8020	GRADUATE INTERNSHIP	
<b>Select the remaining hours of History or other advisor approved courses.</b>		<b>15</b>
<b>Total Credits</b>		<b>36</b>

Students completing an MA without thesis may include no more than six (6) hours **total** from among HIST 8010 and HIST 8020.

## Exit Requirements

### Thesis Option

#### MA Thesis Contract

Any faculty member in the Department of History who agrees to chair a MA thesis committee or who agrees to be a member of an MA thesis committee, may ask the student in question to sign a MA Thesis Contract. The basic model for such a contract will be available to students on the history graduate student Canvas page. The faculty member in question may choose to modify this basic model if they think appropriate.

All candidates should carefully review the Graduate College requirements for forming a supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of a thesis.

### Non-thesis Option

#### Comprehensive Examination

Successfully pass comprehensive exams which may only be taken after the candidate has successfully completed all other requirements for the MA. Full details on comprehensive examinations will be provided during advising and/or new student orientation.

Exams will be offered in each semester of the academic year i.e. fall, spring summer. Students generally may not take their exams until they have completed all the required coursework for their MA program. Rare expectations may be considered at the discretion of the GPC.

As comps are not a course, they are graded only as pass/fail – with a B- being the minimum grade to pass. The three questions will be graded separately – students must pass all questions in order to earn their MA.

Retaking all or part of a comprehensive exam should be scheduled within two semesters (including summer) of the original exam, except in extraordinary circumstances and with the special permission of the graduate committee. Failure of one question will require a rewrite of that question (new or revised to be determined by the committee); failure of two or more questions will require a retake of the entire exam (new or revised, again to be determined by the committee). Retakes will be limited to one attempt. Further details on comprehensive exams will be provided during advising and/or new student orientation.

As is the case with regular courses, students may appeal comprehensive exam grades **ONLY** IF they believe such grading was “prejudiced or capricious” (see Bylaws of the Board of Regents of the University of Nebraska. Details here (<http://www.unomaha.edu/policies/>)). The process of appeal will follow that provided in the Department of History Grade

Appeal outlined here (<http://www.unomaha.edu/cas/gradeappeal.php>), with the GPC standing as Instructor of Record.

## Course Attendance Requirement and Withdrawal Policy

- All Department of History faculty may, at their own discretion, remove from any class any graduate student who misses three or more classes during a single semester.
- The Department of History graduate program committee may remove from the program any student who withdraws from three or more courses.

## Academic Progress

- Each candidate must complete his or her MA degree within eight (8) years of starting the program. A candidate who, owing to extenuating circumstances, is unable to meet this requirement may appeal in writing to the Graduate Program Chair (GPC) and/or the Department of History graduate committee for an extension of time. Such extensions will normally be granted only in cases of serious illness or military deployment.
- In addition to conforming to all requirements for academic progress laid down by the Office of Graduate Studies, the Department of History notes the following: pursuant to the section "Automatic Dismissal," wherein is noted "Departments/Schools may have additional and more stringent criteria for evaluating a student's performance and may demand a higher level of performance than that demanded by the Graduate College," please note:
  - The Department of History at UNO will automatically dismiss from the program any student who is awarded any grade below B- in two (or more) classes, regardless of whether or not they have complied with other requirements of satisfactory progress.

## History Certificate

Department of History, College of Arts & Sciences

### Vision Statement

UNO's department of history offers an 18 credit hour graduate certificate in history for educators and other professionals who already have an advanced degree in another field and wish to expand their knowledge of History. This certificate is designed to help educators meet the new requirements set by the Higher Learning Commission to teach history-related courses in institutions of higher education or dual enrollment/concurrent enrollment courses in high schools. This certificate can be earned completely online.

### Program Contact Information

Danielle Battisti, PhD, Graduate Program Chair (GPC) (Fall 2021)  
287H Arts & Sciences Hall (ASH)  
402.554.4821  
[dbattisti@unomaha.edu](mailto:dbattisti@unomaha.edu) ([mreames@unomaha.edu](mailto:mreames@unomaha.edu))

Martina Saltamacchia, PhD, Graduate Program Chair (GPC) (Spring 2022)  
287L Arts & Sciences Hall (ASH)  
402.554.2482  
[msaltamacchia@unomaha.edu](mailto:msaltamacchia@unomaha.edu)

Program Website (<http://www.unomaha.edu/history/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 15
- Spring: November 15
- Summer: April 15

## Other Requirements

- BA or MA with an overall GPA of 3.0
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo 105
- **Writing Sample:** Academic-style writing sample of approximately 5 pages in length.
- **Letters of Recommendation:** Two letters of recommendation from a former professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

Code	Title	Credits
HIST 9200	COLLOQUIUM (Themes in Global History since 1500)	3
HIST 9200	COLLOQUIUM (Themes in American History)	3
Four other HIST courses at the 8000 or 9000 level		12
<b>Total Credits</b>		<b>18</b>

## Exit Requirements

Students must earn a 3.0 GPA to graduate with this certificate.

## Information Technology

- Information Technology, Executive MS (p. 1208)
- Information Technology, PhD (p. 1209)

# Information Technology, Executive MS

## College of Information Science & Technology

### Vision Statement

The vision of the Executive Masters in Information Technology (EMIT) program is to provide flexible, innovative and technologically current education to rising IT professionals who want to prepare for corporate leadership positions through their functional expertise. The EMIT program brings together leaders in the IT field and world class instruction from the College of IS&T, other units at UNO, international university partners and local businesses. This accelerated graduate program is designed to be completed in 12-months in a cohort fashion using instructional modules delivered on every alternative Saturday.

### Program Contact Information

Deepak Khazanchi, PhD, Executive Director  
172C Peter Kiewit Institute (PKI)  
402.554.2029  
khazanchi@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-information-science-and-technology/executive-masters-it/>)

### Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Applications for this program are accepted on a rolling basis for **fall only**. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
  - The TOEFL or IELTS scores are valid for two years. Your TOEFL or IELTS score must be valid when you submit your application.
- **Statement of Purpose:** Through your resume, we have a clear sense of your professional path to date. Please respond to the following question in a statement of purpose (maximum 500 words): What are your career goals going forward, and how will the UNO EMIT program help you achieve them?
- **Resume:** A two page (maximum) abbreviated resume highlighting the candidate's key education and IT related experience is required. This will need to be uploaded with the application.
- **Employer Sponsorship:** Applicants to the EMIT program are required — regardless of the level of financial support from their employer — to submit a signed sponsorship letter from an authorized representative of their organization, briefly stating the terms of support. Financial sponsorship is not required, but the organization must agree to keep the applicant's travel time to a minimum and completely release him or her from all job responsibilities on class days. Sponsorship letters must be uploaded into the online application system. Independent

professionals or consultants and applicants who head their own firms are eligible, though these applicants will have to write their own sponsorship letters.

#### • Supplemental Questions:

- **Essay 1:** UNO's Executive MS in Information Technology (EMIT) program will challenge you by offering a rigorous and innovative academic experience and the opportunity to immediately apply what you learn to your career. How will you approach balancing the demands of the program with your professional and personal life while you are in school? (Maximum 250 words)
- **Essay 2:** What is your immediate post-EMIT professional goal? (Maximum 50 characters)
  - Examples of possible responses:
    - "Work as CTO for an insurance company."
    - "Join an IT consulting firm."
    - "Launch a new technology start-up."
- **Interview:** Interviews are required for admission to the EMIT program. Once your online application is complete and under review, you may be contacted by a member of the Admissions Office and/or the Director of the EMIT Program to schedule an on-campus or Skype interview. Please keep in mind interviews are by invitation only.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

### Degree Requirements

The EMIT curriculum includes course modules on topics that address the following major themes; globalization; data analytics & visualization; information assurance; IT leadership; distributed project management; and IT infrastructure and emerging technologies. Students will take the coursework in the same sequence and as a cohort. Classes will be offered in a variety of flexible and hybrid formats, including on the UNO campus, online via the internet, and in partner locations (when applicable).

Code	Title	Credits
EMIT 8000	MANAGING & LEADING IN A DIGITAL WORLD	2
EMIT 8050	IT LEADERSHIP	2
EMIT 8100	I.T. STRATEGY AND CHANGE MANAGEMENT	2
EMIT 8150	BIG DATA ANALYTICS AND VIZUALIZATION	2
EMIT 8200	MANAGING INFORMATION TECHNOLOGY INNOVATION	2
EMIT 8250	MANAGING INFORMATION ASSURANCE	2

EMIT 8300	SYSTEMS DEVELOPMENT AND MAINTENANCE	2
EMIT 8350	ENTERPRISE COMPUTING IN THE ERA OF BIG DATA	2
EMIT 8400	LEADING TEAMS AND MANAGING VIRTUAL WORK	2
EMIT 8450	EVALUATION OF ENTERPRISE I.T.	2
EMIT 8500	MANAGING AND LEVERAGING EMERGING TECHNOLOGIES	2
EMIT 8700	EMERGING CHALLENGES FOR I.T. EXECUTIVES	2
EMIT 8990	INTEGRATED EMIT CAPSTONE PROJECT	2-6
<b>Total Credits</b>		<b>30</b>

**EMIT 8000 MANAGING & LEADING IN A DIGITAL WORLD (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to the challenges and opportunities of managing and leading in a digital world within the context of a dynamic environment of technology workforce diversity, a global and emerging collaborative economy, and concern for ethics and social responsibility in the development of systems/technologies.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8050 IT LEADERSHIP (2 credits)**

This course equips students with the knowledge, skills and tools to be an effective information technology (IT) leader. The primary focus of the course is on developing leadership capability and ability to contribute, both strategically and operationally, to the performance of an organization through IT.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8100 IT STRATEGY AND CHANGE MANAGEMENT (2 credits)**

This course introduces students to a critical view of both strategic and tactical levels of IT management. The course also addresses the challenges of managing IT-enabled change and the complexities associated with managing people, processes, and technology.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program is required. Not open to non-degree graduate students.

**EMIT 8150 BIG DATA ANALYTICS AND VIZUALIZATION (2 credits)**

This course introduces students to data analytics including big data analytics, data quality, and visualization. Topics will include concepts, exercises, tools and techniques surrounding data analytics, quality, visualization, IoT and cloud computing within the context of addressing business challenges and/or to create competitive advantage.

**Prerequisite(s)/Corequisite(s):** This course is intended exclusively for IT professionals in the EMIT program. Not open to non-degree graduate students.

**EMIT 8200 MANAGING INFORMATION TECHNOLOGY INNOVATION (2 credits)**

This course introduces students to the concepts, applications and tools for facilitating IT Innovation, Creativity, Entrepreneurship and Risk Taking.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8250 MANAGING INFORMATION ASSURANCE (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to information assurance topics including areas such as managing cloud and mobile security, IT governance and policy, and information assurance planning and deployment.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8300 SYSTEMS DEVELOPMENT AND MAINTENANCE (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to the development and maintenance of software-intensive systems.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8350 ENTERPRISE COMPUTING IN THE ERA OF BIG DATA (2 credits)**

This course explores design, managerial and technical issues relevant to creating big data based solutions from a holistic viewpoint. Students will develop an understanding of both the technical and business aspects by exploring a balanced view of the theoretical foundation and practical implications of Enterprise Computing in the context of Big Data and other related (emerging) technologies.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8400 LEADING TEAMS AND MANAGING VIRTUAL WORK (2 credits)**

This course introduces students in the Executive Master of Science in Information Technology (EMIT) program to fundamental concepts, principles, theories, and practices related to organizational teamwork. Students will learn and practice skills to run productive & effective collaborative problem solving efforts, using modern collaboration technology.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8450 EVALUATION OF ENTERPRISE I.T. (2 credits)**

This course introduces students to concepts associated with evaluation of enterprise IT investments. Topics addressed will include understanding financial statements, IT investment value vs risk tradeoffs, understanding cost of adopting IT innovations and/or emerging technologies, designing reports, designing of IT-KPIs, performance measurement systems such as balanced scorecard and more.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8500 MANAGING AND LEVERAGING EMERGING TECHNOLOGIES (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to industry models and processes to identify, track, pilot and eventually adopt business innovations and/or emerging technologies that could provide an advantage for a business. Students will also learn how IT can facilitate business process change. Concepts and exercises surrounding Lean IT will be covered to optimize the processes in the IT organization.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8700 EMERGING CHALLENGES FOR IT EXECUTIVES (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to emerging challenges that will be faced by IT executives.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

**EMIT 8990 INTEGRATED EMIT CAPSTONE PROJECT (2-6 credits)**

This course serves as the integrated capstone project for the Executive Master of Science in Information Technology (EMIT) program.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program and completion of all cohort modules prior to submission of integrated project. Concurrent enrollment with other EMIT modules will be required. Not open to non-degree graduate students.

# Information Technology, PhD

College of Information, Science & Technology

## Vision Statement

The PhD program in Information Technology at the University of Nebraska Omaha (UNO) is a research-intensive, multidisciplinary program focused around the core areas of computer science, management information systems and interdisciplinary informatics.

## Program Contact Information

Brian Dorn, PhD, Graduate Program Chair (GPC)  
174E Peter Kiewit Institute (PKI)  
402.554.4905  
bdorn@unomaha.edu

Program Website (<http://phd.ist.unomaha.edu/>)

## Other Program Related Information

### Student Learning Outcomes

Upon completion of a PhD in Information Technology:

- Students will be able to interpret and synthesize research literature from multiple areas of the IT discipline.
- Students will be able to identify open research questions and design appropriate approaches to investigate them.
- Students will demonstrate the ability to contribute to scholarly literature.
- Students will be able to effectively engage students in learning about IT content.

## Admissions

Applicants with an earned undergraduate or graduate degree in a computing discipline (e.g., computer science, management information systems, bioinformatics, cybersecurity or a closely related discipline) can apply for admission to the PhD program. Applicants whose prior degrees are outside of a computing discipline are encouraged to discuss their interests with the program director prior to application.

Admission decisions are based on a holistic review of application materials by the College of IS&T's Doctoral Program Committee (DPC). During this review process the committee is looking for candidates that demonstrate:

- **Technical Interest.** Our program is a PhD in information technology. As such, you will be expected to demonstrate an interest and aptitude in technology that fits with the nature of our program.
- **Prior Experience with Research.** A PhD is fundamentally a research degree. Highlight your involvement in existing research projects, thesis work, and/or publications. Be specific about the roles you played in various projects in your statement of purpose and seek reference letters from those who can speak to your research experience and potential.
- **Alignment with UNO Faculty Expertise.** Alignment of your research interests with the expertise of graduate faculty in the College of IS&T is an important consideration during admissions in order to ensure successful applicants will have access to appropriate research mentors from the start of the program. Review IS&T faculty profiles on the web, identify specific research areas that interest you in your statement of purpose, and explicitly mention faculty names with whom you see a good match. Feel free to reach out via email to our faculty prior to submitting your application to discuss your interest.
- **Independence and Initiative.** A PhD is largely self-motivated and self-directed work. As such, successful PhD applicants should demonstrate a history of taking the initiative to perform beyond expectations and work independently.
- **Proficiency in Written and Verbal English Communication.** The ability to read, comprehend and write scholarly papers is key to success as a doctoral student.

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: January 15
- Spring: September 15

NOTE: All materials, including recommendation letters, transcripts, and applicable test scores, must be received by the application deadline. Applications which are incomplete after the published deadline will not be reviewed.

## Other Requirements

- **Entrance Exam:** Graduate Record Examination (GRE) scores are required for most applicants but are only one component of a holistic admission decision. Successful applicants have typically had GRE scores of 150 verbal and 160 quantitative or better. The GRE requirement may be waived for exceptional applicants subject to the GRE waiver procedures documented below.
  - The GRE may be automatically waived for applicants holding a master's degree from an accredited US institution provided that (1) the degree is in a computing discipline and (2) that the graduate GPA for that degree is 3.3 or higher.
  - A GRE waiver may also be *requested* for candidates meeting one or more of the conditions below.
    - Those who hold a bachelor's degree in a computing discipline from an accredited US institution with a GPA of 3.6 or higher.
    - Those with a minimum of 5 years of professional experience in the IT industry in the United States.
    - Those with a history of high-quality, peer-reviewed publications in an IT field who have made significant contributions to the authorship of those papers.
    - GRE waiver requests must be submitted to the Doctoral Program Committee Chair using the form located on the program website along with supporting documentation. Requests must be received at least 1 month prior to the published application deadline for the applicable term. Note that eligibility to apply for a GRE waiver does not guarantee it will be granted, and waivers will only be approved by the DPC in cases where the candidate's record permits an evaluation of their research potential without reference to GRE scores.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 577, Internet-based TOEFL: 90, IELTS: 7.0, PTE: 61, Duolingo: 110
- **Statement of Purpose:** A written statement (not to exceed two single-spaced pages) which addresses the following:
  - How is a PhD in IT going to advance your career?
  - Why is UNO the right place for you to pursue doctoral studies?
  - In answering the questions above the statement should:
    - Describe your research interests and how they align with the work of current IS&T faculty members.
    - Describe any relevant technical knowledge/skills or professional experiences that relate to the research you hope to conduct in IT.

- Describe your prior research experiences. If you have participated in collaborative research, what was your role on those projects?
- Lastly, if you have included optional supporting materials as part of your application, explain them.
- **Current resume or CV:** In addition to listing prior academic accomplishments and professional positions, please include complete citations for all prior authored academic publications if applicable.
- **Letters of Recommendation:** Three letters of recommendation are required. The best recommendation letters are from those who can give an in-depth evaluation of your strengths and weaknesses with respect to academic work.
  - We strongly recommend that at least one letter writer be able to speak directly about your prior research experiences.
  - Letters must be submitted directly to the application system by the letter writers. The DPC reserves the right to verify the content of recommendation letters with their authors.
- **Transcripts:** Transcripts from all higher-education institutions previously attended. Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **Optional Supporting Materials:** Applicants are encouraged to include a PDF portfolio of supporting materials that may provide additional evidence of research potential. This may include:
  - Copies of academic papers, publications, theses or project reports done in an academic or industrial setting
  - Documentation of technical accomplishments like a portfolio of significant software development projects
  - Documentation of certifications or other forms of micro-credentials not otherwise reflected on transcripts
  - Other materials you would like to share with the committee

## Admission Process and Timeline

Eligible students who request a GRE waiver must do so no later than one month prior to the published program application deadline for the term. These requests will be reviewed by the DPC, and applicants will be notified via email of the GRE waiver outcome prior to the admission deadline.

Following the admission deadline, the DPC will begin review of all complete applications. It is the applicant's responsibility to ensure all materials are available for review (including reference letters, transcripts, and others supporting materials) in the admission system by the deadline. Incomplete applications will not be considered by the committee.

Candidates identified for further consideration may be invited by the committee to take part in an interview with a small group of faculty to learn more. These interviews are usually conducted within 4-8 weeks following

the application deadline. Final admission decisions are usually made within 2-3 weeks following those interviews.

## Degree Requirements

### Coursework

The PhD in IT program requires 90 credit hours of graduate-level studies. The coursework taken by a student is entered into a plan of study that must be approved by the doctoral program committee before the beginning of the PhD student's second year of studies. The coursework consists of foundation courses, doctoral seminar and colloquia, a major field of study, and the dissertation. General rules applying to all plans of study include:

- Undergraduate course credits taken at UNO or another institution cannot be counted toward the PhD degree in IT.
- Dual-listed undergraduate courses ending in 8xx5 cannot be counted as course credits in the PhD program.
- Only three courses ending in 8xx6 are allowed outside the Foundation Course section of a plan of study.
- Graduate internship credit (CSCI 8950, ISQA 8910, CYBR 8910, or equivalent) may not be used in a doctoral plan of study.
- A maximum of three directed study type courses may be counted in the plan of study, including CIST 9970, CIST 9980, masters-level independent study courses, or other equivalents.

The different categories of credit-hour requirements for the program are outlined below.

### Foundation Courses 24 credit hours

Foundation courses constitute any of the courses offered in the master's degree in an IT-related field (e.g.: computer science, management information systems, cybersecurity, IT innovation).

Credit for graduate IT-related coursework in a prior degree may only be used to satisfy foundation course hours in the plan of study. A grade of B- or better is required in all coursework from a prior degree applied to foundation requirements, and thesis, thesis-equivalent project, independent study credits, or their equivalents from a prior degree may not be counted towards foundation requirements.

### Core Courses 12 credit hours

Code	Title	Credits
CIST 9080	RESEARCH DIRECTIONS IN I.T.	3
CIST 9040	COLLOQUIUM ON IT RESEARCH	1
CIST 9050	COLLOQUIUM ON IT TEACHING	1
CIST 9060	COLLOQUIUM ON IT PROFESSION AND ETHICS	1

### A Graduate-Level Research Methods Course, selected from

ISQA 9150	RESEARCH IN INFORMATION TECHNOLOGY
ITIN 9300	SOCIAL COMPUTING AND ITS APPLICATIONS

or a concentration-designated research methods course for students in a concentration

or an alternate course with faculty advisor and DPC approval (8xx0 or 9xxx level only)

### A Graduate-Level Statistics Course, selected from

ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS
ISQA 8340	APPLIED REGRESSION ANALYSIS
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS

or an alternate course with faculty advisor and DPC approval  
(8xx0 or 9xxx level only)

**Total Credits****12****Major Field of Study 18 credit hours**

Coursework in the major field of study provides students the advanced study needed to develop an in-depth knowledge of their chosen field of research. For students who have indicated a concentration within their PhD in IT plan of study, this comprises the concentration credit hours. At least three courses (9 hours) must be in 9000-level courses. The remaining courses should include at least one 8000-level graduate-only course.

**Electives 12 credit hours**

Selected in consultation with your faculty advisor.

**Dissertation 24 credit hours****90 Total credit hours****Comprehensive Examination & Admission to Candidacy**

Comprehensive exams will typically be scheduled around the middle of the fall and spring semester, as needed. Students intending to take comprehensive exams must apply to do so at least one semester prior to the term in which they plan to take the exam. Comprehensive exams may not be taken without an approved plan of study in place and the student has completed all core coursework in the plan. Typically, the comprehensive exam will be administered between the fourth and sixth semesters of study in the PhD program (not including summers).

Comprehensive exams consist of three parts. Parts one and two must be completed within the same week, but may be scheduled on non-consecutive days.

- **Part 1: Written Breadth Examination (one day)**

- When applying for the comprehensive examination, the student will select two areas-of-interest on which to be tested from the list of available breadth examination areas published on the PhD in IT program website. Each area will specify a reading list of publications from which the student should prepare. Reading lists may be updated by faculty annually and must be updated after three years. Lists to be used in breadth exams the subsequent academic year will be posted online in April. Graduate faculty members responsible for each selected area of interest will prepare two essay style questions to be answered based on the published reading list.
- Student responses to the breadth questions will be assessed by at least two graduate faculty members from each corresponding area of interest, excluding the student's direct faculty advisor.

- **Part 2: Written Depth Examination (one day)**

- When applying for the exam, students without an approved dissertation committee must name a depth examining committee. This committee shall consist of the student's faculty advisor and at least two graduate faculty members from IS&T with relevant expertise in the student's intended area of research. For students with an approved dissertation committee on file, that committee will serve in this capacity.
- The student and their faculty advisor will prepare a personal reading list of publications aligned with the student's intended dissertation research specialization. This reading list should be finalized no later than when the student applies to take the comprehensive exam.
- The faculty advisor, in consultation with other depth examining committee members, will prepare a minimum of two essay questions that assess the student's depth of knowledge in their individual research trajectory.

- Responses to depth questions will be assessed by the student's depth examining committee members.

- **Part 3: Oral Examination**

- Prior to taking either part of the written exam, the student will prepare and submit a research pre-proposal about their intended dissertation focus to their depth examining committee members. Details about the structure and content of the pre-proposal can be found on the IT PhD program website.
- Within two weeks of being notified of a passing result on parts one and two of the comprehensive examination, the student will give a brief presentation (approximately 20 minutes) of their research pre-proposal to their depth examining committee members, followed by a question and answer period.
- Students receiving a failing result on either part one or two of the exam may not proceed to the oral examination.

Faculty members assessing the different components of the exams will be responsible for communicating a strictly pass/fail result to the DPC. A student may not be asked to revise any part of their examination after submission. Should the student fail one or more part of the comprehensive exam, they may be allowed to re-take it during the following academic term upon specific recommendation by the DPC. For students who fail only one area of the breadth exam, retaking only the deficient area will be required with appropriate adjustments for breadth exam time limits. However, a student may only attempt comprehensive exams a maximum of two times.

Upon successfully completing all three parts of the comprehensive examination and meeting the general residency requirements outlined in the Graduate Catalog, the student will advance to candidacy and should file the necessary paperwork with graduate studies.

**Dissertation****Dissertation Committee**

Students must establish their full dissertation committee no later than the end of the semester when they complete their comprehensive examination.

Makeup of the dissertation committee is subject to general Graduate College rules governing dissertation committees. For purposes of the information technology program, all graduate faculty members in the College of Information Science & Technology are considered internal to the student's academic program.

**Dissertation Credits**

The dissertation of a PhD candidate is supervised by the chair or co-chairs of the student's dissertation committee in consultation with other members of the committee. While working on his or her dissertation, the candidate should take hours for the course CIST 9990. A minimum of 24 hours of this course is required for graduation. Dissertation course credits should be taken only after the PhD student has passed all elements of the comprehensive exam and advances to candidacy.

**IMPORTANT NOTE:** A minimum of seven months must elapse between the date of the PhD student's advancement to candidacy and the date of his or her dissertation defense.

**Dissertation Proposal**

Students must formally propose their dissertation to their approved dissertation committee. A written proposal should be prepared under the guidance of the dissertation committee, and a public oral defense of the proposal should be scheduled with the committee members allowing for sufficient time to review the written document. The result of the proposal defense should be recorded on the appropriate form by the dissertation committee and submitted to DPC. To ensure timely progress in the program, the proposal milestone should be completed no later than when students have accumulated 12 hours of CIST 9900.

## Scheduling Dissertation Defense

When the dissertation committee deems it appropriate for the PhD candidate to defend his or her dissertation, the PhD candidate should prepare a dissertation and submit it to the dissertation committee members. While submitting the dissertation to the dissertation committee, the candidate should also submit a final oral exam form to the Office of Graduate Studies. The final oral exam form requires the signatures of the dissertation committee members and the doctoral program committee chair, and should be submitted at least four weeks before the desired date of the public dissertation defense. Dissertation committee members should sign this form after receiving the final draft of the dissertation.

**IMPORTANT NOTE:** Before scheduling the dissertation defense, the student should refer to the Office of Graduate Studies website and/or the current Graduate Catalog for the graduation checklist, dissertation filing deadlines and commencement dates for the semester in which they plan to graduate. Be sure to apply to graduate in MavLINK prior to the deadline.

## Teaching Requirement

All PhD students are required to teach at least ONE course as the instructor of record while studying in the program. Students typically will complete this requirement in their second or third year of studies. Further information about qualifications, timing, and funding related to teaching assignments can be found on the program website.

## Artificial Intelligence

Code	Title	Credits
<b>Core Courses</b>		<b>12</b>
CSCI 8456	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	
CSCI 8110	ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
CSCI 9810	RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING	
<b>Electives</b>		<b>6</b>
CSCI 9410	ADVANCED TOPICS IN LOGIC PROGRAMMING	
CSCI 9220	REWRITING AND PROGRAM TRANSFORMATION	
CSCI 9350	MATHEMATICAL AND LOGICAL FOUNDATIONS OF DATA MINING	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
CSCI 8300	IMAGE PROCESSING AND COMPUTER VISION	
CSCI 8360	MACHINE LEARNING FOR TEXT	
CSCI 8450	ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING	
CSCI/MATH 8480	MULTI-AGENT SYSTEMS AND GAME THEORY	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ITIN 8300	RESEARCH FOUNDATIONS	
MATH 8456	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
or STAT 8456	INTRODUCTION TO MACHINE LEARNING AND DATA MINING	
CSCI 8476	PATTERN RECOGNITION	
CSCI 8486	ALGORITHMS FOR ROBOTICS	

CSCI 8590	FUNDAMENTALS OF DEEP LEARNING
BMI 8400	LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI
<hr/>	
<b>Total Credits</b>	<b>18</b>

## Computing Systems

Code	Title	Credits
<b>Core Courses (select any three from the list below)</b>		<b>9</b>
CSCI 8150	ADVANCED COMPUTER ARCHITECTURE	
CSCI 8210	ADVANCED COMMUNICATIONS NETWORKS	
CSCI 8530	ADVANCED OPERATING SYSTEMS	
CYBR 9460	SECURITY OF EMBEDDED SYSTEMS	
<b>Electives</b>		<b>9</b>
CIST 9100	SEMINAR ON READINGS IN IT	
CSCI 9420	INTELLIGENT AGENT SYSTEMS	
CSCI 8160	INTRODUCTION TO VLSI DESIGN	
CSCI 8200	INTERCONNECTION NETWORKS	
CSCI 8410	CRYPTOGRAPHY AND NETWORK SECURITY	
CSCI 8390	ADVANCED TOPICS IN DATA BASE MANAGEMENT	
CSCI 8430	TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT	
CYBR 8480	SECURE MOBILE DEVELOPMENT	
CSCI 8610	FAULT TOLERANT DISTRIBUTED SYSTEMS	
CSCI 8620	MOBILE COMPUTING AND WIRELESS NETWORKS	
CYBR 8436	QUANTUM COMPUTING AND CRYPTOGRAPHY	
CSCI 8446	INTRODUCTION TO PARALLEL COMPUTING	
CSCI 9810	RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING	
Courses not used in concentration core may also satisfy concentration electives.		
Other courses may count as electives on a case-by-case basis with approval of the concentration faculty		
<b>Total Credits</b>		<b>18</b>

## Human-Centered Computing

Code	Title	Credits
<b>Required Courses</b>		
ISQA 9030	BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS	3
CSCI 8256	HUMAN COMPUTER INTERACTION	3
CIST 9100	SEMINAR ON READINGS IN IT (3 total hours required)	1
<b>Electives, selected from</b>		<b>9</b>
CMST 8196	COMPUTER-MEDIATED COMMUNICATION	
CSCI/ITIN 8266	USER EXPERIENCE DESIGN	
ISQA 8510	MANAGING USABILITY FUNCTIONS IN SYSTEMS DEVELOPMENT ORGANIZATION	
ISQA 9010	FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH	
ITIN 8300	RESEARCH FOUNDATIONS <sup>1</sup>	
ITIN 8220	DESIGN PROCESS	

ITIN 9300	SOCIAL COMPUTING AND ITS APPLICATIONS
SOC 8060	QUALITATIVE METHODS <sup>1</sup>
Other elective courses can be considered with faculty advisor, concentration, and DPC approval.	
<b>Total Credits</b>	<b>18</b>

<sup>1</sup> If not used as an HCC elective, SOC 8060 or ITIN 8300 can satisfy the IT PhD core requirement for a research methods course for students in the HCC concentration.

## IT Project Management Concentration

Code	Title	Credits
<b>Core Courses</b>		
ISQA 9010	FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
CIST 9100	SEMINAR ON READINGS IN IT (1 cr to be taken multiple times for 3 credits total, ITPM designated section only)	3
<b>Electives</b>		
Select 9 elective hours from below, with at least one elective at 9xxx level		9
CIST 9900	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	
ISQA 9020	TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH	
ISQA 9030	BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS	
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	
CSCI 8710	MODERN SOFTWARE DEVELOPMENT METHODOLOGIES	
CSCI 8790	ADVANCED TOPICS IN SOFTWARE ENGINEERING	
CSCI 8700	SOFTWARE SPECIFICATIONS AND DESIGN	
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	
ISQA 8820	PROJECT RISK MANAGEMENT	

Other elective courses may be selected with the by approval of the student's supervisory committee

## Academic Performance

### Progress Report

Every doctoral student (full time or part time) and must complete an annual Progress Report in consultation with their faculty advisor. These forms must be submitted for review by the Doctoral Program Committee to assess the student's progress in the program and track program level Student Learning Outcomes. Students will report on their completion of program milestones, outcomes of teaching assignments, and publications or measures of scholarly output. An electronic copy of the current form is available on the IT PhD program website.

The DPC will review progress reports and provide the student and their faculty advisor with a written assessment of progress. Any items of concern identified in this written assessment should be addressed in a timely manner by the student and their faculty advisor to ensure continued satisfactory progress in the program. If the DPC deems progress as not satisfactory, the student will be placed on probationary status and the student will be ineligible for funding as a graduate assistant. Students placed on probation must complete an additional progress report in

the next semester updating DPC of their progress. After one semester on probation, a student whose performance has not improved will be recommended for dismissal by the Graduate College.

If student progress reports are not completed by the specified deadline, an advising hold will be placed on the student record and the student will be contacted and given an opportunity to submit the progress report within five days of being notified. If no progress report is received, the student's progress will be considered unsatisfactory and they may lose their funding and be counseled out of the PhD program.

### CIST 9040 COLLOQUIUM ON IT RESEARCH (1 credit)

The purpose of the course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to professional success as researchers. Topics to be discussed include: nature of research in information technology; research problem selection, development, and presentation with special emphasis on the doctoral dissertation; dissertation process; development and crafting of papers for journals; collaboration on research projects; and review process for journal papers. **Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor.

### CIST 9050 COLLOQUIUM ON IT TEACHING (1 credit)

The purpose of the course is to provide a forum for interaction among doctoral student and faculty on topics of relevance to professional success as teachers/educators in university settings. Topics to be discussed include: issues and challenges of teaching; getting started in teaching; course preparation; teaching methods; assessment of students; on-going course development; diversity in the classroom; use of technology in teaching including online education; and developing and maintaining a teaching portfolio.

**Prerequisite(s)/Corequisite(s):** Doctoral students in Information Technology and Biomedical informatics. Students from doctoral programs across the University of Nebraska are welcome to register with permission of instructor. Not open to non-degree graduate students.

### CIST 9060 COLLOQUIUM ON IT PROFESSION AND ETHICS (1 credit)

The purpose of this course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to professional success as members of the academy. Some of the topics to be discussed will include: ethics and professional code of conduct; strategies for dealing with academic dishonesty/plagiarism; academic and professional organizations in the IT profession (e.g., IEEE, ACM, AIS, PMI, AITP); challenges of human subjects research; developing survival skills: balancing service, teaching and research, etc.; career development and progression; and role and nature of local, national, and international service.

**Prerequisite(s)/Corequisite(s):** Any IS&T PhD student is eligible to attend; other Doctoral students can attend with permission of instructor. Not open to non-degree graduate students.

### CIST 9080 RESEARCH DIRECTIONS IN I.T. (3 credits)

The purpose of this course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to IT research and make them familiar with current and future research directions in IT. Students will examine what constitutes a research contribution, gain hands-on experience with directed research, and explore the breadth of sub-disciplines within IT research.

**Prerequisite(s)/Corequisite(s):** Doctoral standing in Information Technology or permission of course coordinators. Not open to non-degree graduate students.

### CIST 9100 SEMINAR ON READINGS IN IT (1 credit)

Seminar focused on IT literature within a topic area aligned with PhD IT concentrations, providing opportunity for in-depth review and discussion of materials in the concentration reading list. Provides exposure to current topics, research methods, and professional practice for the concentration.

**Prerequisite(s)/Corequisite(s):** Open to all currently admitted PhD students and other graduate students by instructor permission. May be repeated up to 3 times for credit in Major Field of Study, and up to 3 times as an elective.

**CIST 9900 SPECIAL TOPICS IN INFORMATION TECHNOLOGY (1-3 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the information technology area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Additional prerequisite courses may be required for particular topic offerings.

**CIST 9970 RESEARCH OTHER THAN THESIS (1-3 credits)**

This is a directed research course enabling students to pursue a research topic individually under the direction of a graduate faculty member. Research problems should help introduce students to practical research methods in the field of computing, and they should be framed in such a way to enable the student to complete the work in the course of one semester.

**Prerequisite(s)/Corequisite(s):** Requires instructor permission. Only open to doctoral students in the IT PhD program. Course cannot be taken for credit after candidacy nor count towards core/major field of study requirements in the IT PhD. Not open to non-degree graduate students.

**CIST 9980 INDEPENDENT STUDY IN INFORMATION TECHNOLOGY (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**CIST 9990 DISSERTATION (1-12 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty supervisory committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in information systems and/or information technology.

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in Information Technology. Admission to candidacy for the Ph.D. degree. Prior to enrolling for dissertation hours, the students must have permission of the supervisory committee. Not open to non-degree graduate students.

**CSCI 8000 ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES (3 credits)**

Logic/Declarative programming is an important programming paradigm in which problems are described in terms of the properties they possess. As a result, in this style of programming many algorithmic elements, which explicitly must be articulated when writing programs in other programming languages, can be omitted. Core elements of logic programming play important roles in AI.

**Prerequisite(s)/Corequisite(s):** CSCI 3320; CSCI 3660; CSCI 4220. Not open to non-degree graduate students.

**CSCI 8010 FOUNDATIONS OF COMPUTER SCIENCE (3 credits)**

This is a foundational course for students enrolled in the graduate program in computer science. The objectives are to introduce students to a large body of concepts so that they are better prepared for undertaking the core courses in the graduate program. It is assumed that student would have programmed in a high-level language and have exposure to basic college level mathematical concepts such as logarithms, exponents, sequences, and counting principles.

**Prerequisite(s)/Corequisite(s):** Students are expected to have written programs using a high-level programming language and should understand basic mathematical concepts including exponents, logarithms, sequences, and counting principles. Not open to non-degree graduate students.

**CSCI 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 8040 LARGE SCALE NETWORK ANALYSIS ALGORITHMS (3 credits)**

The course will provide a review of the properties of large complex network systems, such as those occurring in social networks, epidemiology and biological systems. We will discuss algorithms to analyze these properties, their implementations, their stability under information fluctuation and how information spreads through networks.

**Prerequisite(s)/Corequisite(s):** Students should be comfortable w/ programming, have knowledge of data structures, preliminary graph algorithms, & linear algebra. Suggest Prep Courses: CSCI 4150 or CSCI 8156; CSCI 3320; MATH 4050 or Permission. Not open to non-degree graduate students.

**CSCI 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with MATH 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**CSCI 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with MATH 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**CSCI 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with MATH 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**CSCI 8100 EXPERT SYSTEMS (3 credits)**

A study of the theoretical basis and practical design of expert systems. Knowledge engineering. Foundations in logic programming, the architecture of expert systems, languages (Prolog, LISP) for expert systems, expert system shells, knowledge acquisition, current issues.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent. Not open to non-degree graduate students.

**CSCI 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, MATH 3100, CSCI 3100).

**CSCI 8110 ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE (3 credits)**

An in-depth study of one or more topics selected from: search techniques, knowledge representation, knowledge programming, parallel processing in Artificial Intelligence, natural language processing, image processing, current and future directions, etc. May be repeated with different topics, with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent.

**CSCI 8150 ADVANCED COMPUTER ARCHITECTURE (3 credits)**

Various parallel architectures, models of parallel computation, processor arrays, multiprocessor systems, pipelined and vector processors, dataflow computers and systolic array structures.

**Prerequisite(s)/Corequisite(s):** CSCI 4350, CSCI 4500 and graduate. Not open to non-degree graduate students.

**CSCI 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**CSCI 8160 INTRODUCTION TO VLSI DESIGN (3 credits)**

Introduction to the principle concepts of integrated circuit layout. Presentation of the hardware foundations, algorithmic mathematical and graph theoretical foundations of circuit layout. Partitioning problems in integrated circuits. Placement and floor planning phase in layout. Routing algorithms and compaction techniques. Applications of graph theory in several steps of the design process of VLSI circuits.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4350 or CSCI 8356. Not open to non-degree graduate students.

**CSCI 8170 VLSI TESTING (3 credits)**

This course covers topics in VLSI testing. In particular, topics covered include fault modeling, fault simulation, test generation, testability profiles, built-in tests, and binary decision diagrams.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee; CSCI 4350. Not open to non-degree graduate students.

**CSCI 8200 INTERCONNECTION NETWORKS (3 credits)**

This course is to introduce the technology of interconnection networks from topology of networks, through routing and flow control, to a discussion of hardware/software fault tolerance, and to understand parameters affecting performance.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8210 ADVANCED COMMUNICATIONS NETWORKS (3 credits)**

Advanced study of communication networks, analysis of communication needs, special problems encountered in different types of networks, efficiency and traffic analysis and emerging hardware software technologies. Detailed "hands-on" study of the TCP/IP networking protocols.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or 8555 or equivalent. Not open to non-degree graduate students.

**CSCI 8256 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 4250).

**CSCI 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, ITIN 4260, ITIN 8266).

**CSCI 8300 IMAGE PROCESSING AND COMPUTER VISION (3 credits)**

This course introduces the computer system structures and programming methodologies for digital image processing and computer vision. The course will cover the mathematical models of digital image formation, image representation, image enhancement and image understanding. Techniques for edge detection, region growing, segmentation, two-dimensional and three-dimensional description of object shapes will be discussed. The course will concentrate on the study of knowledge-based approaches for computer interpretation and classification of natural and man-made scenes and objects.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 3220. Not open to non-degree graduate students.

**CSCI 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 8325 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 3320)

**CSCI 8340 DATABASE MANAGEMENT SYSTEMS II (3 credits)**

A continuation of the study of Data Base Management Systems. Extended discussion of logical data base design, normalization theory, query optimization, concurrent issues. Advanced topics including distributed data bases, deductive data bases, data base machine, and others.

**Prerequisite(s)/Corequisite(s):** CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8350 DATA WAREHOUSING AND DATA MINING (3 credits)**

Covers topics related to decision support queries. In particular, topics covered include building data warehouses, On-Line Analysis Processing (OLAP), maintenance of materialized views, indexing, various data mining techniques, and integration of OLAP and data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8856; bachelors degree and permission from Graduate Committee. Not open to non-degree graduate students.

**CSCI 8360 MACHINE LEARNING FOR TEXT (3 credits)**

This course focuses on the fundamental techniques for extraction of various insights from text data which is ubiquitous on the Web, social media sites, emails, news articles, digital libraries, and other sources. The course topics will include concepts and techniques used by search engines to crawl, index, and rank web pages on the Web, machine learning techniques for categorization of news articles into different categories, sentiment and opinion analysis of social media chats, text summarization, and information extraction.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CSCI 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CYBR 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CSCI 8390 ADVANCED TOPICS IN DATA BASE MANAGEMENT (3 credits)**

An in-depth study of one or more topics in the field of Data Base Management Systems, such as logical and/or physical data base design, query optimization, distributed data bases, intelligent knowledge-based systems, emerging technologies and applications. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8400 ADVANCED COMPUTER GRAPHICS (3 credits)**

Computer graphics continues to play an important role in computer science. This course covers the mathematical foundations of three-dimensional representation and animation; ray tracing and path tracing rendering methods; using the graphical processing unit (GPU) for real time applications; and concludes with simulation of natural phenomenon.

**Prerequisite(s)/Corequisite(s):** Bachelors degree or permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CYBR 8410)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalent(s). Not open to non-degree graduate students.

**CSCI 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CYBR 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8430 TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT (3 credits)**

This course examines in detail: the principles of a security architecture, access control, policy and the threat of malicious code; the considerations of trusted system implementation to include hardware security mechanisms, security models, security kernels, and architectural alternatives; the related assurance measures associated with trusted systems to include documentation, formal specification and verification, and testing, and approaches that extend the trusted system, into applications and databases and into networks and distributed systems.

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalents, or instructor permission. Not open to non-degree graduate students.

**CSCI 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CYBR 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366

**CSCI 8446 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchronization constructs; and operating systems for parallel computers. (Cross-listed with CSCI 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 or CSCI 8506 (May be taken concurrently). Not open to non-degree graduate students.

**CSCI 8450 ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING (3 credits)**

The course will provide in depth study of the topics in natural language processing and understanding, such as syntax, lexical and computational semantics, natural language ambiguities and their disambiguation, logical form construction and inference. The course will survey state-of-the-art natural language processing toolkits and knowledge bases that boost the development of modern language processing and understanding applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 OR CSCI 3660 OR CSCI 4450. Not open to non-degree graduate students.

**CSCI 8456 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 4450).

**CSCI 8476 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 4470)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with MATH 8480)

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**CSCI 8486 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 4480).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with MATH 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8506 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 4500).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with MATH 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with MATH 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**CSCI 8530 ADVANCED OPERATING SYSTEMS (3 credits)**

State of the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation, and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500/8506. Not open to nondegree students.

**CSCI 8555 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 3550)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 8590 FUNDAMENTALS OF DEEP LEARNING (3 credits)**

This course is an introduction to deep learning, a branch of machine learning concerned with the development and application of neural networks. Deep learning trains the machine to learn patterns that it is presented with rather than requiring the human operator to define the patterns that the machine should look for. Deep learning is behind many recent advances in artificial intelligence, such as face recognition, speech recognition and autonomous driving. This course will cover the foundations of deep learning, learning theory, basic/advanced neural networks and problem domains of many selected applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or instructor permission

**CSCI 8610 FAULT TOLERANT DISTRIBUTED SYSTEMS (3 credits)**

This course is to study the theory and practice of designing computer systems in the presence of faulty components. Emphasizes the basics of how faults can affect systems and what is required to mask or compensate for their efforts.

**Prerequisite(s)/Corequisite(s):** CSCI 4500 and CSCI 4350. Not open to non-degree graduate students.

**CSCI 8620 MOBILE COMPUTING AND WIRELESS NETWORKS (3 credits)**

Contemporary issues in mobile computing and wireless networks, including the differences between mobile computing and the traditional distributed computing paradigm, impediments of the mobile and wireless environments, problems and limitations due to such impediments, using the spectrum, wireless data networks, various network layers solutions, location management techniques, mobile IP, wireless LANs, wireless TCP, ad hoc networks, performance issues, security issues.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or CSCI 8555. Not open to non-degree graduate students.

**CSCI 8626 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 4620).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320.

**CSCI 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 8700 SOFTWARE SPECIFICATIONS AND DESIGN (3 credits)**

A continuation of the study of software engineering with an emphasis on early phases of software development, namely requirements engineering/specification and architectural design. Includes an in-depth study of practices for effective software requirements specification and architectural design, as well as formal specifications of software systems. Related topics such as metrics and support tools are also covered.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8706 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 4700).

**CSCI 8710 MODERN SOFTWARE DEVELOPMENT METHODOLOGIES (3 credits)**

Designed to introduce students to advanced object technology and other modern methodologies for developing software systems. Intended for graduate students who have mastered the basic concepts and issues of software engineering. Course covers advanced object-oriented software development. The course also covers several offshoots of object technology, including: component-based software engineering, aspect-oriented software development, software product line engineering, service-oriented computing, etc.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836.

**CSCI 8760 FORMAL METHODS IN SOFTWARE ENGINEERING (3 credits)**

In the high consequence system domain, a primary objective of any construction technique employed is to provide sufficiently convincing evidence that the system, if put into operation, will not experience a high consequence failure or that the likelihood of such a failure falls within acceptable probabilistically defined limits. Systems for which such evidence can be provided are called high assurance systems. The objective of this course is to examine software-engineering techniques across the development life cycle that are appropriate for high assurance systems. The course will analyze the nature of the evidence provided by various techniques (e.g., does a given technique provide sufficiently strong evidence in a given setting).

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and CSCI 8836 or CSCI 4830

**CSCI 8766 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 4760).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 8790 ADVANCED TOPICS IN SOFTWARE ENGINEERING (3 credits)**

An in-depth study of one or more topics in the field of software engineering such as human factors in software engineering, software specifications and modeling, reuse and design recovery, software valuations, software management, emerging technology and applications.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8836 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 4830).

**CSCI 8856 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 4850).

**CSCI 8876 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "omics" data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/O, and analysis. (Cross-listed with BIOI 4870)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOI 3500, or permission of instructor; BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required. Not open to non-degree graduate students.

**CSCI 8910 MASTER OF SCIENCE CAPSTONE (3 credits)**

The capstone course is to integrate coursework, knowledge, skills and experimental learning to enable the student to demonstrate a broad mastery of knowledge, skills, and techniques across the Master degree curriculum of Computer Science for a promise of initial employability and further career advancement. The course is designed to be in a student-centered and student-directed manner which requires the command, analysis and synthesis of knowledge and skills. Students may apply their knowledge and skill to a project which serves as an instrument of evaluation. Students are encouraged to foster an interdisciplinary research and cultivate industry alliances and cooperation in this course. This capstone course should be taken only after students have completed at least 3/4 of course requirements for the major.

**Prerequisite(s)/Corequisite(s):** Master's degree of Computer Science with course-only option (program III). Not open to nondegree students.

**CSCI 8920 ADVANCED TOPICS COMPUTER SCIENCE (3 credits)**

An in-depth study, at the graduate level, of one or more topics that are not treated in other courses. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** Permission of instructor; will vary with offering. Not open to non-degree graduate students.

**CSCI 8950 GRADUATE INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in environments such as those found in business, industry, and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate program chairperson and a minimum grade point average of 3.0 (B), with at most one grade below B, but not lower than C+ for all CS graduate classes. Not open to non-degree graduate students.

**CSCI 8960 THESIS EQUIVALENT PROJECT IN COMPUTER SCIENCE (1-6 credits)**

This course allows a graduate student to conduct a research project in computer science or a related area. The project is expected to place an emphasis on applied, implementations-based, or experimental research. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, and final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 8970 INDEPENDENT STUDY (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available in a formal course. The topics to be studied will be in a graduate area of computer science to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8980 GRADUATE SEMINAR (1-3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques and methodologies, and/or the current research results in the fundamental areas of computer science. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** Permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8986 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior/graduate level. Topics not normally covered in the computer science degree program, but suitable for senior/graduate-level students. (Cross-listed with CSCI 4980).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 8990 THESIS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 9210 TYPE SYSTEMS BEHIND PROGRAMMING LANGUAGES (3 credits)**

Empirical evidence suggests that a large number of errors made when writing software can be detected by analyzing the behavior of the program from the perspective of type. This course provides an in-depth exploration of various type systems for programming languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9220 REWRITING AND PROGRAM TRANSFORMATION (3 credits)**

This course begins by exploring the foundations of term rewriting. Topics such as unification, confluence, completion and termination are covered. Then a strategic framework is considered in which the application of rewrite rules can be controlled.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9350 MATHEMATICAL AND LOGICAL FOUNDATIONS OF DATA MINING (3 credits)**

With the maturity of data mining techniques, it is extremely important to examine the foundations of data mining. Instead of providing coverage of basic data mining methods, the course will focus on methodology employed in data mining, logical and mathematical foundations of data mining, as well as other issues related to the intrinsic nature of data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8456, CSCI 8856, and CSCI 8390. Not open to non-degree graduate students.

**CSCI 9410 ADVANCED TOPICS IN LOGIC PROGRAMMING (3 credits)**

This course will examine some advanced topics in logic programming, in particular logic programming under stable model (or answer set) semantics. Answer set programming is a common name of the field. Formal syntax, semantics, and proofs of correctness for logic programs will be considered. Elements of inductive and Prolog programming will also be introduced. Each advanced topic will be followed by how it has been applied in practice. Advanced applications of logic programming will be covered in detail.

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and doctoral student standing in Information Technology or the permission of the instructor.

**CSCI 9420 INTELLIGENT AGENT SYSTEMS (3 credits)**

This course covers the principles of interaction between agents in multi-agent systems using game theory. Relevant topics studied in this course include competitive games, statistical Bayesian games, cooperative games, and mechanism design. Students will have to implement projects related to the material studied in the course.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4450 or CSCI 8456. Not open to non-degree graduate students.

**CSCI 9710 METHODS IN SOFTWARE ENGINEERING RESEARCH (3 credits)**

This course provides guidelines on how to conduct research in the field of software engineering by presenting the research methods, classic readings, and development of theories and their application to real life problems. The main emphasis of the course is to provide opportunity for in-depth study of topics such as contemporary methods for software development.

**Prerequisite(s)/Corequisite(s):** CSCI 8836 or equivalent course and doctoral student standing in Information Technology or permission of the instructor. Not open to non-degree graduate students.

**CSCI 9810 RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING (3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques, and methodologies, and/or the current research results in the fundamental areas of theoretic computing. The course will examine advanced research topics in computer science and engineering, including foundations of automata theory, computability, complexity analysis, computational logics and algorithmic analysis, hybrid dynamic systems theory, number theory, adaptation and learning theory, concepts and principles in computational geometry, stochastic processes, and random optimization. Each topic will be discussed with a perspective of research issues and directions. Active student participation in investigation of the research topics, survey of the current state-of-art, and identifying the future research insights is required. Students will take turn presenting their research results on specific topics. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** The prerequisites of this course vary depending on the areas to be covered in the semester the course is offered. Good standing in Ph.D. program is required. Permission of the instructor may be required. Not open to non-degree graduate students.

**ISQA 8016 BUSINESS INTELLIGENCE (3 credits)**

This course intends to provide graduate students in-depth exposure to the growing field of business intelligence. Business intelligence (BI) consists of the set of concepts and techniques used to analyze business data in support of decision-making and planning. BI spans a number of areas of management information systems, including Decision Support Systems (DSS), Enterprise Resource Planning (ERP), Data Warehousing, Knowledge Management, Customer Relationship Management, Data Mining, and others.

**Prerequisite(s)/Corequisite(s):** (ISQA 4150 or ISQA 8156) and ISQA 8040 and ISQA 8050. Not open to non-degree graduate students.

**ISQA 8030 INFORMATION SYSTEMS AND ETHICS (3 credits)**

This course gives you an introduction to organizations and the role that information and information systems play in supporting an organization's operations, decision-making processes, quality management, and strategic activities. The course provides an introduction to the management of information systems function, the strategic and regulatory issues of telecommunications, and ethical and legal issues related to information systems.

**Prerequisite(s)/Corequisite(s):** Admission into the MS in MIS program.

**ISQA 8040 AN OVERVIEW OF SYSTEMS DEVELOPMENT (3 credits)**

The course presents an overview of the systems development lifecycle and database development. The course will focus on theory, current tools and techniques that the system developer can use to develop and document information systems. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8050 DATA ORGANIZATION AND STORAGE (3 credits)**

The course will provide concepts of data organization, data storage, and data transfer through computer networks. The performance implications of various design decisions will be explored. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8060 RESEARCH IN MIS (3 credits)**

This course covers research methods and their application to the development and evaluation of management information systems. Also covered is the relationship between organization theory and IS research.

**Prerequisite(s)/Corequisite(s):** CIST 2500, CIST 2100, and ISQA 8040, or permission of the instructor.

**ISQA 8080 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** 1) Permission of the instructor. 2) Additional prerequisite courses may be required for particular course offerings.

**ISQA 8086 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 4000)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ISQA 8106 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)**

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 4100)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 8136 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 4130)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background: CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 8156 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 4150)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 8160 APPLIED DISTRIBUTION FREE STATISTICS (3 credits)**

The primary objective of this course is to expose students to methods of analyzing data from non-normal populations including binomial tests, contingency tables, use of ranks, Kolmogorov-Smirnov type statistics and other selected topics.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156

**ISQA 8166 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 8180 ELECTRONIC COMMERCE (3 credits)**

Electronic Commerce is the digital enablement of transactions between multiple parties. A multitude of technologies, tools and applications have brought about changes in business, and society that require careful consideration. Students are given an overview of electronic commerce business models and required to apply these to solve business problems or take on opportunities presented. They will cover topics such as social networking, electronic markets, and political and ethical issues associated with electronic commerce, and business plans for technology ventures. They will apply these concepts using Web 2.0 tools, mobile applications and website design assignments.

**ISQA 8196 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 4190)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 8206 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 4200)

**Prerequisite(s)/Corequisite(s):** CIST 2500

**ISQA 8210 MANAGEMENT OF SOFTWARE DEVELOPMENT (3 credits)**

This course should encourage you to think critically about aspects of software development that make it difficult and strategies to mitigate these challenges. This course integrates concepts from software engineering, management science, psychology, and organizational behavior to identify, understand, and propose solutions to problems associated with software development. We examine and consider issues from various perspectives, such as the project manager, development team, senior management, and project sponsor. This course prepares students for various roles within a software development effort including leadership positions in software development. Students will practice software project management and agile methods of managing projects in a semester long team project using contemporary project and development methods.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or equivalent. Not open to non-degree graduate students.

**ISQA 8220 ADVANCED SYSTEMS ANALYSIS AND DESIGN (3 credits)**

This course is a systems analysis and design course for systems and business analysts. The course presents an overview of object-oriented system analysis and design. The course will then focus on theory, best practices, and modern methodologies that analysts can use to analyze and design information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or (ISQA 4110 and ISQA 4120) or equivalent and ISQA 8050 or ISQA 3310 or equivalent

**ISQA 8250 FACILITATION OF COLLABORATIVE PROBLEM SOLVING (3 credits)**

The course focuses on the facilitation of collaborative problem solving and decision making processes. Students learn how to design and facilitate collaborative workshops, with support from both paper-based and electronic meeting tools. The course is hands-on and experiential, with students working in small teams to conduct real workshops.

**ISQA 8306 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 4300)

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 8310 IT INFRASTRUCTURE & CLOUD COMPUTING (3 credits)**

This course provides a graduate-level introduction to the business and technical decisions around technical infrastructure. It covers topics related to computer and systems architecture and communications networks, with a focus on the technical and business decisions around technology. Students completing the course will be able to understand and design network infrastructure, evaluate cloud computing offerings, and communicate their decisions. The course covers hardware, software, and cloud computing technologies.

**ISQA 8340 APPLIED REGRESSION ANALYSIS (3 credits)**

The primary objective of this course is to expose students to regression models and applications with particular emphasis on applying these concepts to IT research. Topics to be discussed include: Foundations of regression analysis using least squares procedures; model formulation, stepwise regression, transformations; graphical methods, estimation; inference; influence diagnosis; matrix formulation, multicollinearity, time series, and nonlinear models.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156, not open to non-degree graduate students.

**ISQA 8380 ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION (3 credits)**

This course is designed to give students grounding in the concepts, issues, and tools needed to manage enterprise architecture, distributed systems & Internet-based environments. The goal of the course is to equip students to make the architecture and infrastructure-related decisions needed for successful development and use of contemporary client/server and Internet-based systems. Topics include middleware, architecture, XML, JSON, web services, service-oriented architecture, enterprise application integration, distributed computing services, Model View Controller (MVC) development frameworks.

**Prerequisite(s)/Corequisite(s):** ISQA 8310 and ISQA 8050 or equivalent; permit required.

**ISQA 8410 DATA MANAGEMENT (3 credits)**

The course provides in-depth coverage of such areas as: the relational model, SQL, data modeling, data quality management, database design, data warehousing, business intelligence, document and content management, NoSQL systems, and data governance. The course offers a mix of theoretical treatment and hands-on application. Current DBMS and data modeling software will be used.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 or equivalent, permit only.

**ISQA 8420 MANAGING THE I.S. FUNCTION (3 credits)**

The course provides a focus on the business management implications of the information explosion. The course is organized around a management audit of the information services activity to help present and future managers recognize and implement effective information services management.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8450 NOSQL AND BIG DATA TECHNOLOGIES (3 credits)**

The course will cover topics in the area of NoSQL and Big Data management. The course is intended to get students familiarized with NoSQL and Big Data technologies, explore how these database technologies differ conceptually from traditional relational database technologies, understand their applications, uses, advantages, and disadvantages, and provide hands-on experience with NoSQL and Big Data databases. The course offers a mix of theoretical treatment and hands-on application of the discussed NoSQL and Big Data technologies.

**Prerequisite(s)/Corequisite(s):** Prior exposure to data management is expected. The prereq is: ISQA 3310, ISQA 8040, CSCI 4850, or work experience that has given you a comparable grounding in database concepts and technologies; in this case permission by the instructor is needed.

**ISQA 8460 INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD (3 credits)**

This course introduces the Internet of Things (IoT). It provides an overview of a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. In the future, the "Things" in question may have identities and virtual personalities, operating in smart spaces using intelligent interfaces to connect and communicate with the social, environmental, and user context.

**Prerequisite(s)/Corequisite(s):** Basic Web Development using HTML/CSS and some MVC framework. The equivalent of two semester exposure to programming.

**ISQA 8510 MANAGING USABILITY FUNCTIONS IN SYSTEMS DEVELOPMENT ORGANIZATION (3 credits)**

This course deals with usability of information systems, from the perspective of organizing and managing usability functions in a systems development organization. After briefly introducing the background to system usability and usability principles, the course focuses specifically on the introduction, organization, support, management and evaluation of usability functions in systems development organizations. The role of the usability professional in the organization is emphasized.

**Prerequisite(s)/Corequisite(s):** Two semesters of programming or demonstrable experience and ISQA 8040 or equivalent, not open to non-degree graduate students.

**ISQA 8525 GRAPHICAL USER INTERFACE DESIGN (3 credits)**

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 3520)

**Prerequisite(s)/Corequisite(s):** CIST 1300

**ISQA 8530 E-COMMERCE SECURITY (3 credits)**

The course will integrate concepts, principles, and technologies from business, telecommunications, and computer science to identify, understand, and propose solutions to the security threats to e-commerce.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8310. Not open to non-degree graduate students.

**ISQA 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST4540, CYBR 4540, CYBR 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**ISQA 8560 INFORMATION WARFARE AND SECURITY (3 credits)**

This course will study the nature of information warfare, including computer crime and information terrorism, as it relates to international, national, economic, organizational, and personal security. Information warfare policy and ethical issues will be examined.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030 or ISQA 8030, or permission of instructor required.

**ISQA 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with IASC 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**ISQA 8580 SECURITY RISK MANAGEMENT AND ASSESSMENT (3 credits)**

The purpose of this course is to prepare the student for managing information security at the organizational level. This course will combine concepts from strategic management, decision science and risk analysis to prepare the student to integrate security issues into an organizational strategic planning process.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or ISQA 8030. Not open to non-degree graduate students.

**ISQA 8596 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 4590)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 8600 FROM DATA TO DECISIONS (3 credits)**

This course focuses on inquiry-driven data preparation and exploratory analysis skills for audience-driven, decision-oriented data analysis. Students gain experience in data evaluation, cleaning, documentation, and exploration with basic descriptive statistics and visualizations.

**ISQA 8700 DATA MINING: THEORY AND PRACTICE (3 credits)**

This course provides students theoretical issues as well as practical methods for conducting data mining process, including the implementation of a warehouse. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course also promotes students to conduct a real-life data analyzing project in Big Data Era.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 and ISQA 8310 and ISQA 8040, not open to non-degree graduate students.

**ISQA 8720 APPLIED STATISTICAL MACHINE LEARNING (3 credits)**

This course focuses on advanced techniques in the analysis and evaluation of data, using both supervised and unsupervised methods. It covers the main types of statistical learning models needed for complex data analytics problems, as well as aspects of model development and optimization. Topics include: Linear and Non-Linear Regression Models, Classification, Resampling Methods, Model Selection and Regularization, Decision Trees, Model Boosting and Bagging, Support Vector Machines, and Clustering methods. This is an applied, hands-on course that will use a state-of-the-art statistical tool to implement the discussed approaches in assignments and a course project and focuses on the understanding and application of the concepts.

**Prerequisite(s)/Corequisite(s):** ISQA 8156 (B- grade or better) and the following topics: The equivalent of two classes of statistics and/or advanced mathematics and a minimum of one semester of applying R in courses and/or projects

**ISQA 8736 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 4730)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 8750 STORYTELLING WITH DATA (3 credits)**

This course provides an in-depth study of how to build a compelling story using data for business professionals to make winning arguments, it provides an overview of a number of technologies and research disciplines that enabled the power of data visualization. Data visualization is critical to managing large volumes of data, and can be defined as the science (analytical) and art (design) of manipulating and presenting data for expression and cognitive recognition. Data visualization involves using data in a way that humans can clearly understand, supporting efforts by organization to gain competitive advantage by changing operations, decision-making, and strategic initiatives.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or equivalent. Admission into the UNO graduate program, basic web development or work experience with comparable grounding in programing, scripting concepts & technologies and permission by the instructor is needed.

**ISQA 8810 INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS (3 credits)**

The course will integrate concepts and techniques from management science, psychology, organizational behavior, & administration change to identify, understand & propose solutions to the problems of project management. The purpose of the course is to prepare the graduate for project participation and leadership.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8820 PROJECT RISK MANAGEMENT (3 credits)**

This course will cover project risk management, i.e., the process of measuring or assessing risk in projects and then developing strategies to manage the risk. The topics covered will include: Risk Management Planning, Risk Identification, Quantitative Risk Analysis, Qualitative Risk Analysis, Risk Response Planning, and Risk Monitoring and Control will be covered in detail. Students will learn how to apply and use the tools and techniques needed to perform these project management tasks. A collection of readings on risk management from the empirical literature coupled with risk management standards from organizations such as IEEE and the Project Management Institute (PMI) will be used to provide the student with an excellent foundation in risk management and control.

**Prerequisite(s)/Corequisite(s):** ISQA 8810 or permission of instructor.

**ISQA 8900 INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS (1-3 credits)**

The content of the course will vary. However, both the student and the faculty member must sign an Independent Research Agreement and file it with the Master of Science in Management Information Systems Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward a M.S. in MIS should be completed.

**ISQA 8910 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

Information Systems Internship provides students with an opportunity for practical application and further development of knowledge and skills acquired in the MS MIS degree program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor required. Students must have completed a minimum of 18 credit hours towards the MS MIS program. Not open to non-degree graduate students.

**ISQA 8950 CAPSTONE MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course consists of a student executed Information Systems design project providing an in-depth practical experience. It typically covers system conceptualization, analysis, and design. It may also involve prototyping. The project will typically not include the actual implementation of the system. This course replaces the MS in MIS comprehensive exam requirement.

**Prerequisite(s)/Corequisite(s):** Students must have 6 credit hours or fewer left in the program. Students must have completed all core classes. Not open to non-degree graduate students.

**ISQA 8990 THESIS (1-6 credits)**

This course is a research project designed and executed under supervision of a thesis supervisory committee. Student will develop skills, including the ability to design, conduct, analyze, and report results in writing (i.e., thesis) of an original, independent, scientific investigation. The student's thesis supervisory committee must approve the project plan.

**Prerequisite(s)/Corequisite(s):** ISQA 8060 research methods or equivalent. Graduate major in MIS and approval of the thesis supervisory committee. Not open to non-degree graduate students.

**ISQA 9010 FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH (3 credits)**

This course covers the following areas: (1) information systems as an academic discipline including classic readings in IS and its reference disciplines, (2) theory development and evaluation, (3) research methods applicability in IS.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems areas or with the permission of the instructor; ISQA 8060 or equivalent. Not open to non-degree graduate students.

**ISQA 9020 TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH (3 credits)**

This seminar is a survey course on the technical and process issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in technical and process issues with the application of that knowledge to research on information systems. Major topics include: software engineering, programming, data base systems, decision support systems, data warehousing and mining systems, object-oriented systems, adaptive and expert systems, client-service systems, information filtering and multimedia systems, information agents, mobile computing, telecommunications, and electronic commerce.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9030 BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS (3 credits)**

This seminar is a survey course on behavioral and organizational issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in behavioral and organizational issues with the application of that knowledge to research on information systems. The course is intended for doctoral students in Information Technology or related areas.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9120 APPLIED EXPERIMENTAL DESIGN AND ANALYSIS (3 credits)**

Constructing and analyzing designs for experimental investigations; completely randomized, randomized complete block and Latin-square designs, split-plot designs, incomplete block designs, confounded factorial designs, nested designs, and treatment of missing data, comparison of designs. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (a programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9130 APPLIED MULTIVARIATE ANALYSIS (3 credits)**

The use of multivariate analysis for solving business problems. Multivariate Analysis of Variance (MANOVA), factor, cluster, and discriminant analysis techniques in IT research. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (A programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9150 RESEARCH IN INFORMATION TECHNOLOGY (3 credits)**

Research methods in Information Technology involves an overview of the research process specific to problems in IT. Students will learn about theories in IT relevant to their areas of research. They will identify key components of research problems in IT, understand different types of research processes, develop research questions, and design research projects. They will learn to construct research instruments that enable them to collect data. They will also learn about the different data collection and analysis tools and techniques. As part of this course, students will take the CITI training and achieve the research readiness they need to succeed in the PhD in IT program.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**ISQA 9900 ADVANCED RESEARCH IN INFORMATION SYSTEMS (3 credits)**

This course provides a format for exploration of advanced research areas that are of interest to doctoral students in the information systems and/or information technology area. The specific research area will vary from semester to semester, in keeping with research interests of faculty and students. Examples of areas include, but are not limited to, e-business technology, mobile commerce, intelligent agents e-enabled decision support, electronic collaboration, computer-mediated communications, human-computer interaction and information assurance.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor

## IT Innovation, MS

**School of Interdisciplinary Informatics, College of Information Science & Technology**

### Vision Statement

Information technology innovation (ITIN) is the interdisciplinary practice of conceptualizing, designing, prototyping, and fielding an IT-based product or service. It focuses both on the technological and entrepreneurial aspects of IT products. Being many-faceted by definition, IT innovation brings together aspects of computer science and management information systems with other disciplines that inform IT design and application such as health care, business, psychology, art, music, or public administration, among many others. It integrates and interfaces a diverse set of disciplines in addition to information technology. In addition, IT Innovation takes a more holistic and immersive approach to idea/product development: It focuses on the ideation, design, and development of an IT-based innovation, as

well as on the entrepreneurial realization of this innovation as a profitable or sustainable product or service. There is a great demand for ITIN entrepreneurs and professionals locally, regionally, and nationally, and the MS in ITIN program was created, in part, to prepare a workforce to meet those demands, in addition to satisfying the intellectual curiosity and honing the intellectual capacity of passionate creatives who work in and with technology.

### Program Contact Information

Christine Toh, PhD, Graduate Program Chair (GPC)  
284A Peter Kiewit Institute (PKI)  
402.554.3927  
ctoh@unomaha.edu (ctoh@unomaha.edu)

Carlee Heylmun, Advisor  
176C Peter Kiewit Institute (PKI)  
402.554.3819  
carleebrown@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-information-science-and-technology/academics/it-innovation.php>)

### Other Program Related Information

#### Fast Track

The College of Information Science & Technology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 (nine) graduate credit hours toward the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

#### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree desiring to pursue an MS in either the same or a related CIST field.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of Computer Science, which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 in graduate coursework is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS in selected CIST program. The application fee will be waived, and the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, you may be recommended for admission to the graduate program.

- The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements

- The minimum undergraduate grade point average (GPA) requirement for the MS in IT Innovation program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the [waiver list](https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf) (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Writing Sample:** Applicants are required to submit a writing sample about the most innovative thing that you have developed. This should be a two page double-spaced word processed essay that demonstrates your potential for success in the graduate program and distinguishes you from other applicants to our graduate program.
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **OPTIONAL:** One letter of recommendation from a reference who can evaluate your work and/or academic achievements.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

Non-Degree students interested in taking courses without admission to the MS in IT Innovation degree program may do so with permission of the graduate program committee.

## Requirements

### Foundation Courses

Foundation courses ensure that all students in the IT Innovation program have a strong foundation on which to build the rest of the program.

Foundation courses cannot be used to satisfy the 36 semester hours required for the MS in IT Innovation degree. Students who have not completed all the foundation course requirements may be admitted on provisional status until those requirements have satisfactorily been completed. All must be completed prior to or concurrent with the first six hours of MS in IT Innovation graduate course work.

Foundation Courses include:

- Six credit hours of programming & development courses, examples include; Java, C, C++, C#, Unity, PHP, Python, R, or comparable language.
- Three credit hours of system analysis & design courses, examples include: ITIN 4440 Agile Development, ISQA 8040 Overview Systems Analysis & Design, or ISQA 8220 Advanced Systems Analysis & Design.

## Degree Requirements

Code	Title	Credits
ITIN 8000	TECHNOLOGY & INNOVATION-STATE OF THE ART	3
ITIN 8100	INTERMEDIA	3
ITIN 8210	FOUNDATIONS OF IT INNOVATION	3
ITIN 8220	DESIGN PROCESS	3
ITIN 8300	RESEARCH FOUNDATIONS	3
BSAD 8096	PRINCIPLES OF COLLABORATION	3
ITIN 8256	INNOVATION VENTURES	3
<b>Electives</b>		
Approved Electives: The majority of coursework in any graduate plan of study must consist of graduate-only level classes ending in 8xx0. A maximum of five 8xx6 courses is allowed, so electives should be selected with this in mind.		9
Students will select a cognate of four related electives with approval from their faculty advisor by the end of their second semester in the program.		
<b>Select Capstone or Thesis</b>		<b>6</b>
ITIN 8940	ITIN CAPSTONE I	
ITIN 8950	ITIN CAPSTONE II	
or		
ITIN 8990	THESIS	
<b>Total Credits</b>		<b>36</b>

### Exit Requirements

Complete the Capstone requirement (ITIN 8940 and ITIN 8950) or the thesis option ITIN 8990.

All candidates completing the thesis option, should carefully review the Graduate College requirements for forming the supervisory committee, Thesis/Thesis Equivalent Proposal Approval forms, and final approval and submission of the thesis.

### Quality of Work Standards

The Graduate College's Quality of Work standards shall be applied to foundation courses as well as courses taken as part of the degree program. In particular, the GPC will recommend to the Graduate College that any

1. Student receiving a grade of "C-" or below in any foundation courses will be automatically dismissed from the program or, in the case of unclassified or non-degree students, be automatically denied admission.
2. Student receiving a grade of "C+" or "C" in any foundation course will be placed on probation or dismissed from the program.
3. Student not maintaining a "B" (3.0 on 4.0 scale) average in foundation courses will be placed on probation or dismissed from the program.

#### **ITIN 8000 TECHNOLOGY & INNOVATION-STATE OF THE ART (3 credits)**

ITIN 8000 provides a regular forum for IT Innovation graduate students, where the latest developments in the field of IT Innovation are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in IT Innovation. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in IT Innovation program may register. Not open to non-degree graduate students.

#### **ITIN 8006 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 4000).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

#### **ITIN 8100 INTERMEDIA (3 credits)**

This is an ongoing course that brings together students of the arts and students of scientific disciplines in order to facilitate and promote the creation of intermedia art, and to further explore shared resources, joint research, and exhibition/performance opportunities.

**Prerequisite(s)/Corequisite(s):** Instructor permission

#### **ITIN 8210 DESIGN SCIENCE AND THEORY DEVELOPMENT (3 credits)**

The purpose of this course is to help students understand theory, theoretical contributions, and design science. Students will approach such questions as: What is a theory? What makes a good theory? Why are theories just theories and not laws? What is not a theory? Following this introduction, we explore design science as a research methodology and Information Technology design theories. Ultimately, students create their own new studies around some design concept.

**Prerequisite(s)/Corequisite(s):** Graduate standing / permission of the instructor

#### **ITIN 8220 DESIGN PROCESS (3 credits)**

Inter-disciplinary design teams will work together to design and innovate products of the future. The design projects in the course are developed to directly address a problem brought forward by a technology company in the Omaha area in order to provide students with a design experience that directly impacts real-world product development. Students will focus on the technological (interface), physical (ergonomics) and aesthetic quality of design, and will learn how to conduct rigorous user studies in a laboratory setting. Teams will be cross disciplinary and consider all aspects of the design, creation, testing, and fabrication of the products.

#### **ITIN 8256 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 4720, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or instructor permission.

#### **ITIN 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 4260).

#### **ITIN 8300 RESEARCH FOUNDATIONS (3 credits)**

This course serves as an introduction to research literature and research methodology in the innovation and creativity research domain. Students are introduced to skills, methodological issues, and bibliographic resources to enhance their ability in critically evaluating and conducting research in the IT Innovation field. Through a series of readings, in-class discussions, and lectures the student will select and define a research question, explore the various types of research designs and complete a literature review. This course is structured to make research meaningful and significant and enable students to write effectively.

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent

#### **ITIN 8900 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the graduate student who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Graduate Program Committee Chair at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required

#### **ITIN 8940 ITIN CAPSTONE I (3 credits)**

The purpose of the Information Technology Innovation (ITIN) capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and includes an interdisciplinary field of study. The capstone is the culmination product of the specific various disciplines a student has selected as the unique combination for his or her degree. This course serves as part one of the capstone project for the ITIN Masters degree. The two courses for the ITIN capstone project are intended to be completed in two consecutive semesters (Fall/Spring).

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: two sections of ITIN 8000, ITIN 8220, 8300, and 3 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

#### **ITIN 8950 ITIN CAPSTONE II (3 credits)**

The purpose of the ITIN capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and an interdisciplinary field. The capstone is the culmination product for prospective graduate and utilizes the discipline(s) a student has selected as the unique combination for his or her degree. This course serves as part two of the capstone project for the Information Technology Innovation (ITIN) program. The two courses for the ITIN capstone project are taught in two consecutive semesters.

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: three sections of ITIN 8000, ITIN 8220, 8300, 8940 and 6 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

**ITIN 8990 THESIS (1-6 credits)**

This course is required for the Master of Science degree in the MS in IT Innovation Program. The purpose of this course is to conduct original research in IT Innovation, under supervision of a faculty member, culminating in a paper document that represents the student's competency in their chosen field, as well as scholarly contributions. With consultation from their committee, MS in IT Innovation thesis students should be prepared to independently complete the writing of their thesis and successfully defend their thesis.

**Prerequisite(s)/Corequisite(s):** Graduate major in ITIN and approval of the Thesis Advisory Committee.

**ITIN 9300 SOCIAL COMPUTING AND ITS APPLICATIONS (3 credits)**

It is indisputable that social media and the Internet more broadly reshaped information disbursement and processing. Digital participation and communication has become the 'new normal' and the dividing line between off- and online communities is increasingly blurred. This leads to specific challenges in the extraction and analysis of online social media data, and the management of new communication.

**Prerequisite(s)/Corequisite(s):** Open to all currently-admitted doctoral students. Students should have a technical aptitude; experience with at least one web scripting language, (e.g. PHP, rails, python etc) is helpful. Experience with JSON is advantageous but not essential.

## Language Teaching

### Degree Programs Offered

- Language Teaching, MA (p. 1230)

### Certificate Programs Offered

- Spanish Certificate (p. 1232)

## French

**FREN 8036 ADVANCED FRENCH CONVERSATION (3 credits)**

This course focuses on the development of oral skills in French through the use of complex and sophisticated conversational structures and nuanced lexicon. Students will be involved in expressing or presenting their ideas and opinions, interpersonal speaking activities, and a variety of activities including reading short literary and cultural texts and screening films. (Cross-listed with FREN 4030).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**FREN 8056 SEMINAR IN THE CULTURE AND CIVILIZATION OF QUEBEC (3 credits)**

An introduction to the many facets of Quebec Culture & Civilization, through readings on Quebec's history and contemporary culture and also through films and other media related to Quebec. (Cross-listed with FREN 4050).

**Prerequisite(s)/Corequisite(s):** FREN 2120 or departmental permission.

**FREN 8156 CONTEMPORARY FRENCH NOVEL (3 credits)**

Selected contemporary French novels are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. In addition, students will examine the sociopolitical and cultural contexts of these literary works. (Cross-listed with FREN 4150).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or departmental permission. Not open to non-degree graduate students.

**FREN 8176 CONTEMPORARY FRENCH THEATER (3 credits)**

Selected contemporary French plays are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. (Cross-listed with FREN 4170).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission of instructor. Not open to non-degree graduate students.

**FREN 8226 THE STRUCTURE OF FRENCH (3 credits)**

A survey of the linguistic structure of modern French, including phonology, morphology, and syntax. (Cross-listed with FREN 4220).

**Prerequisite(s)/Corequisite(s):** FREN 3040 or departmental permission. Not open to non-degree graduate students.

**FREN 8440 SEMINAR: FRENCH COMPOSITION (3 credits)**

This course provides opportunities for students to refine their composition skills in French through extensive writing workshops and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College.

**FREN 8866 MODERN FRENCH WOMEN AUTHORS (3 credits)**

Selected contemporary French literary texts written by women are analyzed and discussed. This may include novels, short stories, poetry, and graphic novels. The primary objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the works under consideration. In addition, students will examine the sociopolitical and cultural contexts of these works. (Cross-listed with FREN 4860).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 8900 FRENCH INDEPENDENT STUDY (1-3 credits)**

Specifically planned projects and readings in a well-defined field of French literature or linguistics carried out under the supervision of a member of the foreign languages faculty holding graduate faculty status.

**FREN 8906 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once. (Cross-listed with FREN 4900).

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior standing, and no incompletes outstanding. Not open to non-degree graduate students.

**FREN 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the Francophone world. (Cross-listed with FREN 4950).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

**FREN 8966 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address narrow field of study of the civilization, history, film, contemporary culture, art, politics, and or cultural studies of the Francophone world. (Cross-listed with FREN 4960).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

**FREN 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Francophone world. (Cross-listed with FREN 4970).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

## German

**GERM 8046 ADVANCED GERMAN COMPOSITION AND STYLISTICS (3 credits)**

Advanced grammatical principles, composition and stylistics.

**GERM 8226 THE STRUCTURE OF GERMAN (3 credits)**

A survey of the linguistic structure of modern German, including phonology, morphology, and syntax. (Cross-listed with GERM 4220).

**Prerequisite(s)/Corequisite(s):** GERM 3040 and GERM 4610, or permission.

**GERM 8440 SEMINAR:GERMAN COMPOSITION (3 credits)**

This course will provide opportunities for students to refine their composition skills in German through extensive writing practice, writing workshops, and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**GERM 8906 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior standing, and no incompletes outstanding.

**GERM 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the German-speaking world. (Cross-listed with GERM 4950).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

**GERM 8966 PRO-SEMINAR: SOCIETY AND CULTURE (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the German-speaking world. (Cross-listed with GERM 4960).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

**GERM 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the German-speaking world. (Cross-listed with GERM 4970).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

## Spanish

**SPAN 8026 LANGUAGE ENHANCEMENT THROUGH VOCABULARY LEARNING (3 credits)**

This class aims to expand students' vocabulary in Spanish. This will be achieved through doing an overview of current research that investigates how vocabulary is learned; identifying effective vocabulary learning strategies; and exploring topics not commonly encountered in Spanish classes such as commerce and science. The course also includes points of contact with the Spanish-speaking community in Omaha, where students can participate in interactions that connect what has been learned in the classroom to language use in real life. (Cross-listed with SPAN 4020).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SPAN 8036 ADVANCED SPANISH CONVERSATION (3 credits)**

This course targets the development of oral skills in Spanish through the incorporation of complex and sophisticated conversational structures and nuanced lexicon. In particular, the course focuses on presentational (i.e., expressing or exposing ideas or opinions), and interpersonal speaking (i.e., engaging in conversation where learners narrate and describe in the major time frames of past, present, and future in paragraph-length discourse with control of aspect). (Cross-listed with SPAN 4030)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SPAN 8046 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics. (Cross-listed with SPAN 4040)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SPAN 8066 INTRODUCTION TO TRANSLATION AND INTERPRETATION (3 credits)**

This course offers an introduction to the translation and interpretation field. Course objectives include (a) understanding translation theory; (b) comprehending the role of communication in translation and interpretation; (c) targeting common grammatical and pragmatic errors; (d) increasing vocabulary knowledge in a variety of fields; and (e) gaining an increased awareness of the rigor and demands innate to the translation and interpretation fields. (Cross-listed with SPAN 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MALT program or permission of instructor

**SPAN 8076 HISPANIC BILINGUALISM (3 credits)**

This course explores bilingualism among Spanish speaking populations. Topics include societal bilingualism, the history of Spanish and language policy in Spain, Latin America, and the U.S., psychological aspects of bilingualism, monolingual vs. bilingual acquisition, first vs second language acquisition, and Spanish as a heritage language in the U.S. (Cross-listed with SPAN 4070).

**SPAN 8086 INTRODUCTION TO HISPANIC LINGUISTICS (3 credits)**

This course introduces students to the field of linguistics by exploring the following areas: phonetics and phonology (sound systems), morphology (word formation), historical linguistics (language development over time), and sociolinguistics and pragmatics (language in society and context), among others, as framed within the study of the Spanish language. (Cross-listed with SPAN 4080).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040 OR SPAN 3010 and SPAN 3020; Graduate standing

**SPAN 8126 HISPANIC SOCIOLINGUISTICS (3 credits)**

This course introduces sociolinguistics, the study of the relationship between language and society, with an emphasis on the Spanish language. Its focus will be on correlational linguistics (how social factors such as age, gender and socioeconomic status affect language) and language and society (the role language plays in human conduct and social organization). Course topics will include the concept of speech communities, sociolinguistic variables, phonological and syntactic variation as well as languages in contact, bilingualism, Spanish in the U.S., Spanish as a heritage language, and language attitudes and ideologies. (Cross-listed with SPAN 4120).

**Prerequisite(s)/Corequisite(s):** SPAN 8086 or instructor permission

**SPAN 8136 SPANISH IN THE UNITED STATES (3 credits)**

This course looks at Spanish in the U.S. from a sociolinguistic perspective. Course topics include: Dialectal/regional differences, dialect contact, Spanish- English bilingualism and code-switching, "Spanglish", language maintenance, language ideologies surrounding Spanish in the U.S., and Spanish in public spheres (e.g., TV, movies, radio, music, stand-up comedy). (Cross-listed with SPAN 4130).

**Prerequisite(s)/Corequisite(s):** SPAN 8086 or instructor permission

**SPAN 8146 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 4140, LLS 4140).

**SPAN 8156 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 4150, CACT 8156)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 and SPAN 3060 or permission of instructor

**SPAN 8176 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 4170, LLS 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040, or SPAN 3010 and SPAN 3020; SPAN 3060

**SPAN 8226 THE STRUCTURE OF SPANISH (3 credits)**

This course introduces students to the structure of the Spanish language with a focus on its morphology and syntax as seen in the study of constituents of a sentence, lexical categories, content and function words, the pronominal system, the structure of simple and complex sentences, and the verbal system, among others. It reviews frequent syntactical errors in Spanish L2 and Heritage learners with the purpose of advancing their linguistic competence. (Cross-listed with SPAN 4220).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and 3040 or SPAN 3010 and SPAN 3020; graduate standing

**SPAN 8440 SEMINAR: SPANISH COMPOSITION (3 credits)**

This course provides opportunities for students to refine their composition skills in Spanish through extensive writing workshops and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College.

**SPAN 8900 SPANISH INDEPENDENT STUDY: GRADUATE ONLY (1-3 credits)**

Specifically planned projects and readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign languages faculty holding graduate faculty status.

**Prerequisite(s)/Corequisite(s):** Acceptance into the Master of Arts in Language Teaching Program (MALT). Must have completed a minimum of six graduate credit hours.

**SPAN 8906 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**SPAN 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrower field of the literature and/or cinema of the Spanish-speaking world. (Cross-listed with SPAN 4950)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SPAN 8966 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the Spanish-speaking world. (Cross-listed with SPAN 4960)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060.

**SPAN 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Spanish-speaking world. (Cross-listed with SPAN 4970)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

# Language Teaching, MA

Department of Foreign Languages, College of Arts & Sciences

## Vision Statement

The Master of Arts in language teaching program at the University of Nebraska at Omaha (UNO) is the only graduate program in the region that provides practicing and future teachers of Spanish, French, and English as a second or other language with a rigorous, practically oriented education founded on scholarship specifically in the pedagogy of language teaching. Students expand not only their familiarity with the latest research on applied linguistics and effective instructional techniques for L2 and heritage learners, but also the literature and culture of their language of focus. The program strives to strengthen language education in the region by equipping its students with the knowledge and skills to apply best pedagogical practices in world language and TESOL classrooms.

## Program Contact Information

Cecilia Tocaimaza-Hatch, PhD, Graduate Program Chair (GPC)  
301 Arts & Sciences Hall (ASH)  
402.554.4841  
ctocaimazahatch@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-arts-and-sciences/foreign-languages-and-literature/>)

## Other Program Related Information

Note that completion of the MALT program by itself **does not** certify you to teach in the Nebraska public school system. If you are interested in pursuing teacher certification along with your MALT degree, please contact the MALT program's GPC.

## Fast Track Program

The Department of Foreign Languages and Literature has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing the BA degree with Foreign Languages & Literature major with concentrations in Spanish and/or French desiring to pursue an MA in Language Teaching
- Students must have completed no fewer than 60 undergraduate hours
- Students must have a minimum undergraduate GPA of 3.0
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good academic standing
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted to undergraduate status including financial aid
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the

applicant will need to contact the Office of Graduate Studies for a fee waiver code.

- Admission to Fast Track does NOT guarantee admission to the graduate program.
- The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 30
- Spring: November 15
- Summer: April 15

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- **Statement of Purpose:** A personal statement (700-900 words, double space), written in the language of the concentration you are applying for. If applying for a double major or a minor, you should also include a personal statement in those languages. Some topics you might want to consider:
  - Interests and qualifications for graduate study
  - Description of yourself and your intellectual development
  - Strengths and weaknesses, and how you overcame them or challenges to overcoming them
  - Reasons why you want to join this program
  - Possible areas of research or deeper study
  - What you want to do after graduation
- **Letters of Recommendation:** Two letters of recommendation are required
- Applicant must have taken ENGL 3610 or SPAN 4080 or an equivalent course. Those who do not meet this requirement may be admitted provisionally.
- Applicant must schedule an oral target language interview with a MALT faculty member. This includes an interview in English for non-native speakers who apply to the TESOL concentration. Please contact the Graduate Program Chair for assistance.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>12</b>
FLNG 8960	SEMINAR:SPECIAL TOPICS	
FLNG 8020	SEMINAR:FL/TESOL RESEARCH	
or ENGL 8030	FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES	
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY	
FLNG 8040	SEMINAR: ASSESSMENT & CURRICULUM DESIGN	
Select two of the following:		<b>6</b>

TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE
TED 8180	CULTURALLY RESPONSIVE TEACHING
TED 8130	LANGUAGE, CULTURE, AND POWER
TED 8300	EFFECTIVE TEACHING PRACTICES
TED 8540	DIGITAL CITIZENSHIP
TED 8006	SPECIAL METHODS IN THE CONTENT AREA

#### Concentration

Student must select an area of concentration. See Language Teaching, MA Concentrations

**Total Credits** **36**

### Exit Requirements

The final requirements of the degree for all concentrations are as follows:

1. Successful completion of a written and oral comprehensive examination. The exam is administered in the student's final semester in the program.
2. Successful completion of the student's portfolio at the end of the second to the last semester in the program.
3. Successful completion of a poster presentation during the Colloquium on Language Teaching. Students should have completed at least nine credit hours in the program (or obtain special permission from their advisor) in order to give their poster presentation.

## Concentrations

### French Concentration

Code	Title	Credits
<b>French Concentration Requirements</b>		
FREN 8440	SEMINAR: FRENCH COMPOSITION	3
FREN 8226	THE STRUCTURE OF FRENCH	3
<b>Electives</b>		
These courses are approved in consultation with the graduate advisor during the advising process (12 hours in target language).		12
<b>Total Credits</b>		<b>18</b>

### German Concentration

Code	Title	Credits
<b>German Concentration Requirements</b>		
GERM 8226	THE STRUCTURE OF GERMAN	3
GERM 8440	SEMINAR:GERMAN COMPOSITION	3
<b>Electives</b>		
These courses are approved in consultation with the graduate advisor during the advising process (9 hours in target language).		12
<b>Total Credits</b>		<b>18</b>

### Spanish Concentration

Code	Title	Credits
<b>Spanish Concentration Requirements</b>		
SPAN 8226	THE STRUCTURE OF SPANISH	3
SPAN 8440	SEMINAR:SPANISH COMPOSITION	3
<b>Electives</b>		
These course are approved in consultation with the graduate advisor during the advising process (12 hours in target language).		12
<b>Total Credits</b>		<b>18</b>

## Teaching English to Speakers of Other Languages Concentration (TESOL)

Code	Title	Credits
<b>Teaching English to Speakers of Other Languages</b>		
ENGL 8656	STRUCTURE OF ENGLISH	3
ENGL 8740	SEMINAR: DISCOURSE, CULTURE, AND POWER	3
<b>Writing Seminar</b>		
		3
<b>Literature Seminar</b>		
		3
<b>Electives</b>		
These courses are approved in consultation with the graduate advisor during the advising process (6 hours in target language).		6
<b>Total Credits</b>		<b>18</b>

## Spanish Certificate

Department of Foreign Languages, College of Arts & Sciences

### Vision Statement

The graduate certificate in Spanish provides students with the opportunity to earn a certificate degree after successful completion of 18 credit hours of intensive language proficiency training in Spanish. The program includes courses in Hispanic cultures, literature, linguistics, and, for those students interested in language teaching, language teaching pedagogy.

The graduate certificate in Spanish presents a rigorous language program that seeks to serve these student populations: (a) High school faculty interested in teaching dual enrollment classes and who are required to have 18 graduate credit hours in their discipline to be eligible. (b) Bilingual instructors who support dual language and world language programs. (c) Individuals in various fields (e.g., law enforcement, social work, psychological services, healthcare) who work with Spanish-speaking individuals.

### Program Contact Information

Cecilia Tocaimaza-Hatch, PhD, Graduate Program Chair (GPC)  
301 Arts & Sciences Hall (ASH)  
402.554.4841  
ctocaimazahatch@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/foreign-languages-and-literature/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- Undergraduate grade point average of at least 3.0
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency->

[%20International.pdf](#)), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 600, Internet-based TOEFL: 100, IELTS: 8, PTE: 68, Duolingo: 120
- Statement of Purpose:** A statement of purpose (700-900 words, double space), written in Spanish is required. Some topics you might want to include:
  - Your interests and qualifications for graduate study
  - Description of yourself and your intellectual development
  - Strengths and weaknesses, and how you overcame them or challenges to overcoming them
  - Reasons why you want to join this program
  - Possible areas of research or deeper study
  - What you want to do after completion of the certificate
- Letters of Recommendation:** Two letters of recommendation are required.
- Competence in Spanish with at least an intermediate-high (based on ACTFL guidelines) as assessed during an oral interview and through a statement of purpose written in the language of interest

## Degree Requirements

Code	Title	Credits
<b>Required:</b>		
SPAN 8036	ADVANCED SPANISH CONVERSATION	3
<b>One course from the following list:</b>		<b>3</b>
SPAN 8156	LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000	
SPAN 8956	PRO-SEMINAR: LITERATURE AND/OR FILM	
SPAN 8146	INTRODUCTION TO LATIN AMERICAN FILM	
SPAN 8176	INTRODUCTION TO LATIN AMERICAN LITERATURES	
<b>One course from the following list:</b>		<b>3</b>
SPAN 8026	LANGUAGE ENHANCEMENT THROUGH VOCABULARY LEARNING	
SPAN 8066	INTRODUCTION TO TRANSLATION AND INTERPRETATION	
SPAN 8076	HISPANIC BILINGUALISM	
SPAN 8086	INTRODUCTION TO HISPANIC LINGUISTICS	
SPAN 8226	THE STRUCTURE OF SPANISH	
SPAN 8976	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS	
<b>Elective Courses:</b>		<b>9</b>
Students interested in Spanish language select three courses from the following list:		
SPAN 8066	INTRODUCTION TO TRANSLATION AND INTERPRETATION	
SPAN 8076	HISPANIC BILINGUALISM	
SPAN 8086	INTRODUCTION TO HISPANIC LINGUISTICS	
SPAN 8156	LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000	
SPAN 8226	THE STRUCTURE OF SPANISH	
SPAN 8440	SEMINAR: SPANISH COMPOSITION	
SPAN 8900	SPANISH INDEPENDENT STUDY: GRADUATE ONLY	

SPAN 8956	PRO-SEMINAR: LITERATURE AND/OR FILM
SPAN 8966	PRO-SEMINAR: CULTURE AND SOCIETY
SPAN 8976	PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS
Students interested in Spanish language teaching may replace up to two of the above courses with the following courses:	
FLNG 8050	THEORY AND METHODS IN THE TEACHING OF HERITAGE LANGUAGES
FLNG 8060	APPROACHES AND METHODS IN LANGUAGE TEACHING
FLNG 8020	SEMINAR:FL/TESOL RESEARCH
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY
FLNG 8040	SEMINAR: ASSESSMENT & CURRICULUM DESIGN
FLNG 8900	DIRECTED READINGS
FLNG 8960	SEMINAR:SPECIAL TOPICS

**Total Credits****18**

## Literacy, MS

Teacher Education Department, College of Education, Health, and Human Sciences

### Vision Statement

For candidates who hold a current teaching certificate, the Master of Science in literacy leads to eligibility for an added PK-12 Reading Specialist endorsement. The Nebraska Department of Education requires two years contracted teaching experience at time of endorsement and successful Praxis II.

The Master of Science in literacy focuses on literacy pedagogy. During the program candidates will expand their knowledge in the following areas:

- Ability to apply research in reading and writing to teaching
- Skills for working with struggling readers and writers in PK-12 settings
- Leadership skills to work with students and their teachers in literacy
- Understanding components of students' diversity as readers and writers
- Using various types of literature to increase students' skills as readers and writers

### Program Contact Information

Jennifer Lemke, EdD, Advisor  
308 Roskens Hall (RH)  
402.554.2726  
jenniferlemke@unomaha.edu (kdanielson@unomaha.edu)

Chris Wilcoxen, EdD, Graduate Program Chair (GPC)  
308 Roskens Hall (RH)  
402.554.2119  
cwilcoxen@unomaha.edu (cwilcoxen@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-education/teacher-education/graduate/literacy.php>)

### Other Program-Related Information

**The master's degree in literacy does not lead to initial teacher certification.**

### Unclassified Students

Students who are not planning to pursue a program leading to a graduate certificate or a master's degree can be admitted to the literacy program with unclassified status. Candidates holding a previous master's degree in education who are seeking additional teaching endorsements may wish to choose an unclassified status. Unclassified students are allowed to take courses for which they meet the prerequisite. Successful completion of graduate courses as an unclassified student does not obligate the department to accept those courses for credit toward the fulfillment of degree requirements. Formal advisement in an endorsement area is required. Students admitted as unclassified are not eligible for financial aid.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: August 1
- Spring: December 1
- Summer: June 1

### Other Requirements

- A minimum undergraduate GPA of 3.0 (on a 4.0 scale).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- A valid teaching certificate.
- UNO College of Education, Health, and Human Sciences "Personal and Professional Fitness" form
- International students who do not expect to teach in the US **may** be eligible for admission.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
TED 9100	THEORIES, MODELS, AND PRACTICES OF LITERACY	3
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	3
TED 9130	ASSESSMENTS AND INTERVENTIONS - ELEMENTARY	3
TED 9140	ASSESSMENT AND INTERVENTION - SECONDARY	3
TED 9180	LITERACY RESEARCH SEMINAR	3
TED 9190	LITERACY GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better for program completion.)	3
TED 8650	CHILDREN'S LITERATURE AND EDUCATION	3
TED 8660	YOUNG ADULT LITERATURE	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3

Choose 3 hours from the following courses:

3

TED 8470	TEACHING THE LANGUAGE ARTS
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM

Choose 3 hours from the following courses:

3

TED 8130	LANGUAGE, CULTURE, AND POWER
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS
TED 8180	CULTURALLY RESPONSIVE TEACHING
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION
TED 8290	TRAUMA INFORMED EDUCATION
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE

Choose 3 hours from the following courses:

3

TED 8540	DIGITAL CITIZENSHIP
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS
TED 8580	ONLINE TEACHING AND LEARNING
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS

**Total Credits**

36

- A diversity course must be taken within the first 12 hours.
- TED 9190 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

### **TED 8000 SPECIAL STUDIES (1-3 credits)**

A series of intensive studies especially for in-service teachers scheduled as regular seminars or classes, according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate status

### **TED 8006 SPECIAL METHODS IN THE CONTENT AREA (3 credits)**

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 4000).

### **TED 8010 INTRODUCTION TO RESEARCH (3 credits)**

This course will introduce advanced degree candidates to: A) An understanding of the scientific method as applied to behavioral research B) Assessment, evaluation, descriptive, causal-comparative, experimental and historical data gathering procedures and analytical strategies C) Sampling theory, techniques, distribution and hypothesis testing D) Specific designs, methods, and tools of research E) Search and retrieval of published research, both American and international (global), in the library and over the Internet F) Critical evaluation of research studies G) Basic statistics, both descriptive and inferential, and H) Preparation of a research proposal containing three chapters: Problem, Review of Related Research and Methodology.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### **TED 8030 SEMINAR IN EDUCATION: SPECIAL TOPICS (1-3 credits)**

This is a variable content course focusing on topics of current relevance to PK-12 teachers.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### **TED 8040 SEMINAR ON STUDENT TEACHING/NEW TEACHER INDUCTION (3 credits)**

The seminar is designed for experienced teachers who are, or may be, serving as cooperating teachers for student teachers or as mentor teachers for beginning teachers. Participants will study the purposes, techniques, and trends involved in serving as a cooperating teacher or as a mentor.

**Prerequisite(s)/Corequisite(s):** Successful teaching experience is required for this course.

### **TED 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with STEM 8050).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### **TED 8055 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context. As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 3050).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

### **TED 8060 CURRENT ISSUES AND TRENDS IN EDUCATION (3 credits)**

The course is an advanced study of current issues and trends which have substantial impact on PK-12 education. The graduate candidates who take this class will read, analyze, and evaluate relevant research in order to become conversant in those issues.

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

### **TED 8070 TEACHING MULTIPLE INTELLIGENCE (3 credits)**

This course focuses on the utilization of the multiple intelligences (MI) theory by teachers to enhance children's understanding of various disciplines. Graduate candidates will have the opportunity to explore, evaluate, and develop various methodologies that foster understanding.

**Prerequisite(s)/Corequisite(s):** Graduate status.

### **TED 8080 STORYTELLING AND EDUCATION (3 credits)**

This course is designed to consider the importance of storytelling, to provide teacher candidates with the background materials for storytelling, to study resource material for storytelling from a variety of cultures, and to develop techniques for storytelling. Actual experience in storytelling and opportunities for evaluating storytelling experiences will be provided.

**Prerequisite(s)/Corequisite(s):** Graduate status

### **TED 8100 RESEARCH PROJECT (1-3 credits)**

This course is designed for individual or group study and analysis of specific problems in schools dealing with curriculum and instruction in areas which have a broad scope of application rather than a specific level.

**Prerequisite(s)/Corequisite(s):** Approval of Advisor.

**TED 8120 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

TED 8120 is designed to enhance graduate candidates' knowledge of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs). As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will learn strategies for designing and promoting effective multicultural and multilingual learning environments. This course includes an in-school, guided practicum through which graduate candidates must demonstrate competencies related to standards related to teaching ELs in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education's ESL teaching endorsement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 8130 LANGUAGE, CULTURE, AND POWER (3 credits)**

This course will focus on the intersection of language, culture, and power in the schools. This seminar will research how each component impacts the students and teachers in the classroom.

**TED 8150 ANTI-RACISM EDUCATION: PRINCIPLES AND PRACTICES (3 credits)**

This course provides a theoretical analysis of race, racism and the implications for anti-racist education. In addition to exploring the key features of anti-racism education, the course also addresses other axes of oppression, namely, class and gender, with a critical focus on racialized power and privilege, and how such features function in the broader U.S. context as well as the schooling environment. Of equal importance is a critical interrogation of the historical, ideological, and political processes that produce and maintain racism. Course participants explore pedagogies, curriculum, and school leadership strategies as mechanisms for instituting anti-racism work in schools and community.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8160 ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS (3 credits)**

This course is designed to enhance graduate candidates' knowledge of PK-12 English as a Second Language (ESL) pedagogical and assessment strategies that address the needs of English Language Learners (ELs) in content area classrooms. As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will be able to explore evidence-based pedagogical and assessment strategies to use in educational contexts serving ELs.

**Prerequisite(s)/Corequisite(s):** Graduate candidate status. Not open to non-degree graduate students.

**TED 8170 DEVELOPMENTAL ASSESSMENT OF THE YOUNG CHILD (3 credits)**

This course is designed as a survey of developmental assessment in early childhood education (ages birth to eight years). Selection of assessment tools and strategies, implementation, data collection, analysis of results, and teaching impact are addressed in context of key assessment purposes in the early childhood field.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8180 CULTURALLY RESPONSIVE TEACHING (3 credits)**

This course includes an introductory analysis of the societal and institutional processes and problems which have bearing upon the education of children in urban settings. In addition, the course will focus on knowledge, skills and dispositions related to instructional strategies and classroom management needed for effective teaching in an urban environment.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8190 CONTEMPORARY ISSUES IN URBAN EDUCATION (3 credits)**

This course is designed for candidates who wish to keep abreast of contemporary issues which confront the educational institution and teaching profession within the urban milieu.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8200 SOCIAL WORLDS OF THE YOUNG CHILD (3 credits)**

This course will explore theoretical and cultural perspectives on the social and emotional development of young children. This course will also examine the relationship between social emotional development, guidance practices, democratic life skills, and school readiness.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8210 THE PRINCIPLES OF MULTICULTURAL EDUCATION (3 credits)**

This course will develop practicing teachers' awareness of and skill in meeting the needs of P-12 students with regards to the areas of human understanding, acceptance and value. Candidates will examine existing attitudes towards various minority groups such as racial, ethnic, gender, exceptionality, etc. School materials and attitudes will also be examined in determining the effect they have on PK-12 students.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8220 PLAY AS A LEARNING MEDIUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides an in-depth examination of young children's play and its curricular role in the early childhood classroom. The origins, developmental outcomes, assessment, curricular implementation, and evaluation of play will be covered, with an emphasis on play as a major component of developmentally appropriate practice with young children. The focus is on teachers learning to help children become partners in the operation of the learning environment.

**TED 8230 LITERATURE FOR THE YOUNG CHILD (3 credits)**

Literature for the young child is examined through the lens of developmentally appropriate practice for informing educators' interactions with children and also for developing high-quality, literature-related projects of study across the early childhood (birth-through-age-eight) continuum.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8240 FAMILY, SCHOOL, AND COMMUNITY PARTNERS (3 credits)**

This course will examine the purposes and methods for developing family, school, and community partnerships. Candidates will explore characteristics of diverse families and develop the skills necessary for planning, design, implementation, and evaluation of effective partnerships in early childhood settings.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8250 ASSESSMENT FOR CLASSROOM TEACHER (3 credits)**

This course studies assessment principles, effective practices, and classroom assessment processes throughout the curriculum. The research regarding assessment for learning is studied and application is made to classroom practices.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8260 ADVANCED CURRICULUM IN EARLY CHILDHOOD (3 credits)**

This course is designed to provide an in-depth examination of the processes used in selecting and implementing appropriate curricular content in programs for children ages three to eight years. Particular emphasis is on the role of the teacher as a dedicated practitioner and reflective scholar in the early learning environment.

**TED 8270 TRENDS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides a context for examining socio-political and research-based influences underlying trends in early childhood education at the local, national and international levels.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8280 INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION (3 credits)**

The course examines the intersection of human rights and P-12 education and prepares individuals to effectively work with and advocate for children and adolescents in educational settings. Students completing the course will be able to 1) demonstrate an increased understanding of fundamental human rights with a specific emphasis on education rights and the human rights of children and adolescents 2) create learning environments that elevate human rights in educational settings and 3) design developmentally appropriate instruction for children and adolescents on varied human rights topics.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8300 EFFECTIVE TEACHING PRACTICES (3 credits)**

This course focuses on specific characteristics and behaviors of effective teachers. Course content will be derived from research on teaching and learning.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8310 HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING (3 credits)**

This course examines human growth and learning from birth through late adolescence. It is designed to prepare teachers to synthesize information regarding developmental theory and subsequently apply this to lesson design and effective content-area pedagogy. Candidates will examine multiple frameworks related to the cognitive, social/emotional, and physical development of children and use those to analyze current educational practices in PK-12 schools. Cultural influences impacting human development and implications for educational practices will also be examined. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Admission into a Teacher Education Department graduate program.

**TED 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with STEM 8370).

**TED 8376 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 4370).

**TED 8390 CLASSROOM MANAGEMENT IN PRACTICE (3 credits)**

This course will provide graduate students with a survey of general classroom management methods for classrooms. Candidates will enhance their understanding of three basic components of effective pedagogy: 1) proactive classroom management, 2) high-impact instructional strategies that impact student engagement and learning, 3) behavior management techniques that incorporate practice, feedback, research, and reflection.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**TED 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with STEM 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with STEM 8420).

**TED 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with STEM 8430).

**TED 8470 TEACHING THE LANGUAGE ARTS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading, writing, listening, and speaking. Candidates will learn about research supported appropriate language arts instruction strategies and assessments. This course will inform graduate students as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**TED 8480 FOUNDATIONS OF BILINGUAL EDUCATION (3 credits)**

This course is designed to give future and current teachers a thorough understanding of the theoretical, political, historical, and practical foundations of bilingual/multicultural education in the United States. As dedicated practitioners, reflective scholars, and responsible citizens, graduate students will have knowledge of factors that contribute to effective multilingual and multicultural learning environments that promote individual and societal bilingualism. Advanced Spanish language proficiency required.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8490 SPANISH LANGUAGE ARTS (3 credits)**

This course is designed to reinforce first and second language acquisition theory as it relates to dual immersion settings. Best practices for developing and reinforcing bilingualism and biliteracy are presented and used for planning and delivering instruction. Spanish fluency is required for the course.

**Prerequisite(s)/Corequisite(s):** Graduate status required for graduate students pursuing the bilingual education endorsement and concentration (does not lead to a Nebraska Department of Education teaching endorsement). Advanced Spanish language proficiency required.

**TED 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with AVN 8510, STEM 8510).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8520 SCHOOL LIBRARY CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their schools and communities.

**Prerequisite(s)/Corequisite(s):** There are no course prereqs for the Capstone Practicum but candidates must be in the final 2 semesters of their library media program & must complete an application for the Practicum the semester prior to their practicum. Not open to non-degree grads.

**TED 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with STEM 8530).

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**TED 8540 DIGITAL CITIZENSHIP (3 credits)**

The course explores key concepts of Digital Citizenship pertaining to digital law, digital ethics, digital interaction, digital literacy, and cyber-security. The course addresses an educator's role as technology leader in both policy and practice to establish a responsible and robust digital learning community in P-12 schools.

**Prerequisite(s)/Corequisite(s):** Graduate Standing/Status

**TED 8550 TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING (3 credits)**

Technology for Creativity and Critical Thinking investigates the use of visual media tools in P-12 digital learning environments. This course provides candidates an opportunity to develop leadership skills and dispositions relevant to advocacy initiatives addressing policy and best practice in the use of technology in P-12 schools.

**TED 8560 TECHNOLOGY FOR DIVERSE LEARNERS (3 credits)**

This course will engage candidates that facilitate the use of instructional technology, pedagogy, and strategies to better meet the needs of diverse learners. Candidates will explore categories of diverse learners relevant and specific to their own organizations and learning environments to ensure candidates can effectively research and implement assistive technology, instructional technology, and applications to enhance learning opportunities for children and youth.

**TED 8570 INTERNET IN THE LEARNING PROCESS (3 credits)**

This course is designed to help educators actively explore instructional implementations of Internet use appropriate for use in K-12 classrooms, successful diffusion of Internet innovations in educational environments, and emerging multicultural "breaking down the walls of the classroom" concepts available to educators through Internet use.

**TED 8580 ONLINE TEACHING AND LEARNING (3 credits)**

Online Teaching and Learning is a course for education professionals that investigates the use of online tools for planning, preparing and assessing student learning in a digital environment. The course will prepare candidates to provide leadership for digital initiatives within learning organizations. The course encourages educators to explore methods of virtual lesson delivery and online assessment through direct instruction and online study.

**Prerequisite(s)/Corequisite(s):** Graduate Admissions status

**TED 8590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course is an introduction to future-ready information and instructional technologies for use with children and youth. Course will cover a diverse array of technical literacies that serve as content and skill goals for today's children and youth in P-12 schools and other learning organizations.

**TED 8610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing genres extend throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8620 ADVANCED SUPPORT OF INSTRUCTIONAL TECHNOLOGY ENVIRONMENTS (3 credits)**

This course is designed for P-12 educators who wish to become better advocates of technology integration or become technology coordinators or school technicians. Course enrollees will evaluate and implement advanced strategies to keep technology up to date, effectively use technology, and properly manage technology in a school setting.

**TED 8650 CHILDREN'S LITERATURE AND EDUCATION (3 credits)**

Candidates in this graduate course will explore story, poetry, drama, and informational materials for elementary students with an emphasis on methods for including literature in school curricula with an awareness of diverse children's lives, discourses, and understandings. Examines current issues, recent materials, and the theoretical and research base of this field to develop meaningful and creative learning, literacy, and library experiences for children.

**TED 8660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8695 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 3690).

**TED 8700 ELEMENTARY EDUCATION CAPSTONE COURSE (3 credits)**

This course is designed as a required, final capstone course for Elementary Education graduate students to be taken in the last nine hours of the Master of Science program. A grade of B or better must be received in TED 8700 to show satisfactory completion of the course and for program completion.

**Prerequisite(s)/Corequisite(s):** Permission of the Elementary Education Program Chair. Not open to non-degree graduate students.

**TED 8710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 8720 INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION (3 credits)**

This course examines the prominent coaching models used in PK-12 schools (i.e. teacher-centered coaching, student-centered coaching, cognitive coaching, transformational coaching). Candidates completing this course will be able to: develop an understanding of best practices in coaching, create a common lexicon for the role of an instructional coach, engage in the coaching cycle, and create a personal vision for their work as a coach. Candidates will engage in a field based experience to apply their learning.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8726 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 4720).

**TED 8740 ORGANIZATION OF INFORMATION (3 credits)**

This course addresses current theory and best practice in descriptive and subject cataloging and classification of information resources that align with school library standards and guidelines. Candidates will demonstrate the ability to integrate the legal and ethical standards of their discipline in ensuring access to information and ideas for a diverse array of learners in schools and communities.

**TED 8746 ORGANIZATION OF INFORMATION (3 credits)**

Candidates will demonstrate a basic understanding of the theories, concepts and activities of descriptive and subject cataloging and classification procedures of information resources in 21st Century libraries and information agencies.

**TED 8760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 8770 INTEGRATING TECHNOLOGY INTO INSTRUCTIONAL DESIGN (3 credits)**

The purpose of this course is to introduce participants to effective methods for the integration of educational media into instructional design and provides participants (1) knowledge of broad instructional design theories and models with a concentration on constructivism, (2) experience in designing instruction that effectively integrates technology into the teaching-learning process, and (3) experience in producing instructional media. The course is intended to provide fundamentals in the selection, evaluation, production, application and utilization of educational media. This course is designed for in-service library media or instructional technology specialists as well as regular classroom teachers.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8800 MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH (3 credits)**

This is designed as a graduate-level course dealing with utilization of literary materials representing authors and content from multiple perspectives, particularly authors whose cultural and ethnic backgrounds differ from the mainstream.

**TED 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with STEM 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8816 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 4810).

**TED 8820 CAPSTONE IN STEM EDUCATION (3 credits)**

This course will prepare graduate students for the integration, articulation, and differentiation of curriculum and instruction in and between the STEM core areas of Science, Technology, Engineering, and Mathematics. Special emphasis will be on using the STEM core content to help provide applications and context to existing science and mathematics curriculum and instruction and on providing leadership in developing curriculum for mathematics and science dependent courses in engineering and technology.

**Prerequisite(s)/Corequisite(s):** The student must be enrolled in one of the following concentrations: STEM, mathematics, science, technology; and be enrolled in the last six hours of their program of study. Not open to non-degree graduate students.

**TED 8830 LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES (3 credits)**

The course explores best practice for effective leadership and management of 21st Century school libraries. Candidates will gain a comprehensive knowledge of the theories, policies and processes involved in directing a school library in support of the personal and academic success of P-12 students. Candidates will explore and employ ethical codes of conduct in their profession to ensure school libraries meet the needs of their diverse array of patrons.

**TED 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with STEM 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**TED 8850 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with SPED 8980).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**TED 8856 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 4850).

**TED 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with STEM 8860).

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8880 LEADERSHIP IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course seeks to prepare candidates with leadership skills in the early childhood field that will empower them to initiate and implement changes in programs serving young children and families. Candidates will explore and apply frameworks of leadership and analyze policy, governance, and power structures that can impact change. Candidates will also learn effective advocacy skills to positively influence policies and practices in program and governance structures. Lastly, candidates will examine approaches for developing new leaders in early childhood education through reflective supervision and mentorship.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8900 SECONDARY EDUCATION GRADUATE CAPSTONE (3 credits)**

The Secondary Education Graduate Capstone course provides candidates with an opportunity to apply the knowledge, skills, and dispositions acquired during their program to content specific synthesis activities in their respective disciplines. Candidates will demonstrate their ability to integrate information from program coursework in the design, development and presentation of a final capstone project related to teaching and learning in 21st Century educational environments.

**Prerequisite(s)/Corequisite(s):** 30 credit hours towards degree completion; Permission required by Program Advisor. Not open to non-degree graduate students.

**TED 8970 INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of Department and Graduate Faculty member.

**TED 8980 PRACTICUM: VARIOUS CONTENT AREAS (1-6 credits)**

This course is designed to provide school professionals with a guided, supervised, field experience that will develop and enhance the knowledge, skills, and dispositions requisite of a successful educational practitioner.

**Prerequisite(s)/Corequisite(s):** Prerequisites for the course will vary, depending on the content/discipline area. See syllabus for specific discipline area.

**TED 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option.

**Prerequisite(s)/Corequisite(s):** Completion of Selective Retention and approval of advisor. Not open to non-degree graduate students.

**TED 9100 THEORIES, MODELS, AND PRACTICES OF LITERACY (3 credits)**

This course develops a framework about the theories, models, practices, processes, and related research associated with literacy. The content looks across grade levels and student populations, and across social and cultural contexts in an examination of factors that impact theories and processes of literacy.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 9110 PRINCIPLES AND PRACTICES FOR TEACHING READERS (3 credits)**

This graduate course for both elementary and secondary teachers is open to any candidate who has graduate standing in education. The purpose of the course is to develop a broad understanding of the reading process as well as materials and instructional strategies that support students who are emerging, developing, and maturing as readers in all areas of the curriculum.

**TED 9130 ASSESSMENTS AND INTERVENTIONS - ELEMENTARY (3 credits)**

This course is designed for graduate candidates enrolled in the Literacy Masters or Reading Specialist endorsement program. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches that support reading development. This knowledge is applied through a practicum experience with elementary students in which candidates integrate knowledge and practices related to assessment and evaluation of readers' strengths and needs.

**TED 9140 ASSESSMENT AND INTERVENTION - SECONDARY (3 credits)**

This course is designed for graduate candidates in literacy endorsement and Master's programs. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches as they relate to reading difficulties among middle and high school students. Included in this course is knowledge about the role and responsibility of a literacy leader as it relates to coaching, mentoring, supervision, and evaluation of a reading program. Application of this information is demonstrated through a practicum experience with middle and high school students.

**Prerequisite(s)/Corequisite(s):** TED 9100; TED 9110 concurrent with, or prior to TED 9140.

**TED 9180 LITERACY RESEARCH SEMINAR (3 credits)**

This course will develop advanced degree candidates' understanding and ability to critically examine current literacy research through work with (1) scientific methods of quantitative and qualitative research (2) discussion of historical trends in literacy research, (3) designs, methods, and tools of research, and (4) reviewing and critically examining current research studies in literacy. These examinations will be conducted from the perspectives of knowledge about literacy processes, classroom practice, and influence of previous research results. Teacher candidates will apply these issues in an action research project they design.

**TED 9190 LITERACY GRADUATE CAPSTONE (3 credits)**

This course is designed to help Literacy Masters students synthesize the knowledge gained from the program in order to serve as literacy leaders within the complex organizations of classrooms, schools, and school districts. In this course students will integrate their learning across the program in order to organize their future activities in teaching, leadership, advocacy, and engagement opportunities in ways that honor the interrelationships among classroom, school, sociocultural and economic contexts. They will prepare to engage with all literacy education stakeholders in cutting edge, innovative ways that advance both the learning of PK-12 students and the literacy education field.

**Prerequisite(s)/Corequisite(s):** This course is designed as a capstone event. Accordingly, students must have no more than 6 additional remaining credit hours of coursework. Permit to enroll required.

**TED 9200 CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE (3 credits)**

This course examines ways in which ideology, power, and culture intersect in P-12 educational settings. Undemocratic, inequitable, and oppressive structures are identified. Possibilities for democratic, equitable transformations are proposed.

**Prerequisite(s)/Corequisite(s):** Graduate status

# Management Information Systems

## Degree Programs Offered

- Management Information Systems, MS (p. 1244)
- Business Administration, MBA and Management Information Systems, MS (MBA/MIS (p. 1036))
- Public Administration, MPA and Management Information Systems, MS (MPA/MIS (p. 1254))

## Certificates Offered

- Data Analytics Certificate (p. 1256)
- Data Management Certificate (p. 1258)
- Information Assurance Certificate (p. 1259)
- Project Management Certificate (p. 1260)
- Systems Analysis and Design Certificate (p. 1262)

**ISQA 8016 BUSINESS INTELLIGENCE (3 credits)**

This course intends to provide graduate students in-depth exposure to the growing field of business intelligence. Business intelligence (BI) consists of the set of concepts and techniques used to analyze business data in support of decision-making and planning. BI spans a number areas of management information systems, including Decision Support Systems (DSS), Enterprise Resource Planning (ERP), Data Warehousing, Knowledge Management, Customer Relationship Management, Data Mining, and others.

**Prerequisite(s)/Corequisite(s):** (ISQA 4150 or ISQA 8156) and ISQA 8040 and ISQA 8050. Not open to non-degree graduate students.

**ISQA 8030 INFORMATION SYSTEMS AND ETHICS (3 credits)**

This course gives you an introduction to organizations and the role that information and information systems play in supporting an organization's operations, decision-making processes, quality management, and strategic activities. The course provides an introduction to the management of information systems function, the strategic and regulatory issues of telecommunications, and ethical and legal issues related to information systems.

**Prerequisite(s)/Corequisite(s):** Admission into the MS in MIS program.

**ISQA 8040 AN OVERVIEW OF SYSTEMS DEVELOPMENT (3 credits)**

The course presents an overview of the systems development lifecycle and database development. The course will focus on theory, current tools and techniques that the system developer can use to develop and document information systems. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8050 DATA ORGANIZATION AND STORAGE (3 credits)**

The course will provide concepts of data organization, data storage, and data transfer through computer networks. The performance implications of various design decisions will be explored. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8060 RESEARCH IN MIS (3 credits)**

This course covers research methods and their application to the development and evaluation of management information systems. Also covered is the relationship between organization theory and IS research.

**Prerequisite(s)/Corequisite(s):** CIST 2500, CIST 2100, and ISQA 8040, or permission of the instructor.

**ISQA 8080 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** 1) Permission of the instructor. 2) Additional prerequisite courses may be required for particular course offerings.

**ISQA 8086 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 4000)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ISQA 8106 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)**

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 4100)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 8136 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 4130)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background : CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 8156 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 4150)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 8160 APPLIED DISTRIBUTION FREE STATISTICS (3 credits)**

The primary objective of this course is to expose students to methods of analyzing data from non-normal populations including binomial tests, contingency tables, use of ranks, Kolmogorov-Smirnov type statistics and other selected topics.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156

**ISQA 8166 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 8180 ELECTRONIC COMMERCE (3 credits)**

Electronic Commerce is the digital enablement of transactions between multiple parties. A multitude of technologies, tools and applications have brought about changes in business, and society that require careful consideration. Students are given an overview of electronic commerce business models and required to apply these to solve business problems or take on opportunities presented. They will cover topics such as social networking, electronic markets, and political and ethical issues associated with electronic commerce, and business plans for technology ventures. They will apply these concepts using Web 2.0 tools, mobile applications and website design assignments.

**ISQA 8196 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 4190)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 8206 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 4200)

**Prerequisite(s)/Corequisite(s):** CIST 2500

**ISQA 8210 MANAGEMENT OF SOFTWARE DEVELOPMENT (3 credits)**

This course should encourage you to think critically about aspects of software development that make it difficult and strategies to mitigate these challenges. This course integrates concepts from software engineering, management science, psychology, and organizational behavior to identify, understand, and propose solutions to problems associated with software development. We examine and consider issues from various perspectives, such as the project manager, development team, senior management, and project sponsor. This course prepares students for various roles within a software development effort including leadership positions in software development. Students will practice software project management and agile methods of managing projects in a semester long team project using contemporary project and development methods.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or equivalent. Not open to non-degree graduate students.

**ISQA 8220 ADVANCED SYSTEMS ANALYSIS AND DESIGN (3 credits)**

This course is a systems analysis and design course for systems and business analysts. The course presents an overview of object-oriented system analysis and design. The course will then focus on theory, best practices, and modern methodologies that analysts can use to analyze and design information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or (ISQA 4110 and ISQA 4120) or equivalent and ISQA 8050 or ISQA 3310 or equivalent

**ISQA 8250 FACILITATION OF COLLABORATIVE PROBLEM SOLVING (3 credits)**

The course focuses on the facilitation of collaborative problem solving and decision making processes. Students learn how to design and facilitate collaborative workshops, with support from both paper-based and electronic meeting tools. The course is hands-on and experiential, with students working in small teams to conduct real workshops.

**ISQA 8306 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 4300)

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 8310 IT INFRASTRUCTURE & CLOUD COMPUTING (3 credits)**

This course provides a graduate-level introduction to the business and technical decisions around technical infrastructure. It covers topics related to computer and systems architecture and communications networks, with a focus on the technical and business decisions around technology. Students completing the course will be able to understand and design network infrastructure, evaluate cloud computing offerings, and communicate their decisions. The course covers hardware, software, and cloud computing technologies.

**ISQA 8340 APPLIED REGRESSION ANALYSIS (3 credits)**

The primary objective of this course is to expose students to regression models and applications with particular emphasis on applying these concepts to IT research. Topics to be discussed include: Foundations of regression analysis using least squares procedures; model formulation, stepwise regression, transformations; graphical methods, estimation; inference; influence diagnosis; matrix formulation, multicollinearity, time series, and nonlinear models.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156, not open to non-degree graduate students.

**ISQA 8380 ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION (3 credits)**

This course is designed to give students grounding in the concepts, issues, and tools needed to manage enterprise architecture, distributed systems & Internet-based environments. The goal of the course is to equip students to make the architecture and infrastructure-related decisions needed for successful development and use of contemporary client/server and Internet-based systems. Topics include middleware, architecture, XML, JSON, web services, service-oriented architecture, enterprise application integration, distributed computing services, Model View Controller (MVC) development frameworks.

**Prerequisite(s)/Corequisite(s):** ISQA 8310 and ISQA 8050 or equivalent; permit required.

**ISQA 8410 DATA MANAGEMENT (3 credits)**

The course provides in-depth coverage of such areas as: the relational model, SQL, data modeling, data quality management, database design, data warehousing, business intelligence, document and content management, NoSQL systems, and data governance. The course offers a mix of theoretical treatment and hands-on application. Current DBMS and data modeling software will be used.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 or equivalent, permit only.

**ISQA 8420 MANAGING THE I.S. FUNCTION (3 credits)**

The course provides a focus on the business management implications of the information explosion. The course is organized around a management audit of the information services activity to help present and future managers recognize and implement effective information services management.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8450 NOSQL AND BIG DATA TECHNOLOGIES (3 credits)**

The course will cover topics in the area of NoSQL and Big Data management. The course is intended to get students familiarized with NoSQL and Big Data technologies, explore how these database technologies differ conceptually from traditional relational database technologies, understand their applications, uses, advantages, and disadvantages, and provide hands-on experience with NoSQL and Big Data databases. The course offers a mix of theoretical treatment and hands-on application of the discussed NoSQL and Big Data technologies.

**Prerequisite(s)/Corequisite(s):** Prior exposure to data management is expected. The prereq is: ISQA 3310, ISQA 8040, CSCI 4850, or work experience that has given you a comparable grounding in database concepts and technologies; in this case permission by the instructor is needed.

**ISQA 8460 INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD (3 credits)**

This course introduces the Internet of Things (IoT). It provides an overview of a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. In the future, the "Things" in question may have identities and virtual personalities, operating in smart spaces using intelligent interfaces to connect and communicate with the social, environmental, and user context.

**Prerequisite(s)/Corequisite(s):** Basic Web Development using HTML/CSS and some MVC framework. The equivalent of two semester exposure to programming.

**ISQA 8510 MANAGING USABILITY FUNCTIONS IN SYSTEMS DEVELOPMENT ORGANIZATION (3 credits)**

This course deals with usability of information systems, from the perspective of organizing and managing usability functions in a systems development organization. After briefly introducing the background to system usability and usability principles, the course focuses specifically on the introduction, organization, support, management and evaluation of usability functions in systems development organizations. The role of the usability professional in the organization is emphasized.

**Prerequisite(s)/Corequisite(s):** Two semesters of programming or demonstrable experience and ISQA 8040 or equivalent, not open to non-degree graduate students.

**ISQA 8525 GRAPHICAL USER INTERFACE DESIGN (3 credits)**

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 3520)

**Prerequisite(s)/Corequisite(s):** CIST 1300

**ISQA 8530 E-COMMERCE SECURITY (3 credits)**

The course will integrate concepts, principles, and technologies from business, telecommunications, and computer science to identify, understand, and propose solutions to the security threats to e-commerce.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8310. Not open to non-degree graduate students.

**ISQA 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST4540, CYBR 4540, CYBR 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**ISQA 8560 INFORMATION WARFARE AND SECURITY (3 credits)**

This course will study the nature of information warfare, including computer crime and information terrorism, as it relates to international, national, economic, organizational, and personal security. Information warfare policy and ethical issues will be examined.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030 or ISQA 8030, or permission of instructor required.

**ISQA 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with IASC 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**ISQA 8580 SECURITY RISK MANAGEMENT AND ASSESSMENT (3 credits)**

The purpose of this course is to prepare the student for managing information security at the organizational level. This course will combine concepts from strategic management, decision science and risk analysis to prepare the student to integrate security issues into an organizational strategic planning process.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or ISQA 8030. Not open to non-degree graduate students.

**ISQA 8596 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 4590)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 8600 FROM DATA TO DECISIONS (3 credits)**

This course focuses on inquiry-driven data preparation and exploratory analysis skills for audience-driven, decision-oriented data analysis. Students gain experience in data evaluation, cleaning, documentation, and exploration with basic descriptive statistics and visualizations.

**ISQA 8700 DATA MINING: THEORY AND PRACTICE (3 credits)**

This course provides students theoretical issues as well as practical methods for conducting data mining process, including the implementation of a warehouse. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course also promotes students to conduct a real-life data analyzing project in Big Data Era.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 and ISQA 8310 and ISQA 8040, not open to non-degree graduate students.

**ISQA 8720 APPLIED STATISTICAL MACHINE LEARNING (3 credits)**

This course focuses on advanced techniques in the analysis and evaluation of data, using both supervised and unsupervised methods. It covers the main types of statistical learning models needed for complex data analytics problems, as well as aspects of model development and optimization. Topics include: Linear and Non-Linear Regression Models, Classification, Resampling Methods, Model Selection and Regularization, Decision Trees, Model Boosting and Bagging, Support Vector Machines, and Clustering methods. This is an applied, hands-on course that will use a state-of-the-art statistical tool to implement the discussed approaches in assignments and a course project and focuses on the understanding and application of the concepts.

**Prerequisite(s)/Corequisite(s):** ISQA 8156 (B- grade or better) and the following topics: The equivalent of two classes of statistics and/or advanced mathematics and a minimum of one semester of applying R in courses and/or projects

**ISQA 8736 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 4730)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 8750 STORYTELLING WITH DATA (3 credits)**

This course provides an in-depth study of how to build a compelling story using data for business professionals to make winning arguments, it provides an overview of a number of technologies and research disciplines that enabled the power of data visualization. Data visualization is critical to managing large volumes of data, and can be defined as the science (analytical) and art (design) of manipulating and presenting data for expression and cognitive recognition. Data visualization involves using data in a way that humans can clearly understand, supporting efforts by organization to gain competitive advantage by changing operations, decision-making, and strategic initiatives.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or equivalent. Admission into the UNO graduate program, basic web development or work experience with comparable grounding in programing, scripting concepts & technologies and permission by the instructor is needed.

**ISQA 8810 INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS (3 credits)**

The course will integrate concepts and techniques from management science, psychology, organizational behavior, & administration change to identify, understand & propose solutions to the problems of project management. The purpose of the course is to prepare the graduate for project participation and leadership.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8820 PROJECT RISK MANAGEMENT (3 credits)**

This course will cover project risk management, i.e., the process of measuring or assessing risk in projects and then developing strategies to manage the risk. The topics covered will include: Risk Management Planning, Risk Identification, Quantitative Risk Analysis, Qualitative Risk Analysis, Risk Response Planning, and Risk Monitoring and Control will be covered in detail. Students will learn how to apply and use the tools and techniques needed to perform these project management tasks. A collection of readings on risk management from the empirical literature coupled with risk management standards from organizations such as IEEE and the Project Management Institute (PMI) will be used to provide the student with an excellent foundation in risk management and control.

**Prerequisite(s)/Corequisite(s):** ISQA 8810 or permission of instructor.

**ISQA 8900 INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS (1-3 credits)**

The content of the course will vary. However, both the student and the faculty member must sign an Independent Research Agreement and file it with the Master of Science in Management Information Systems Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward a M.S. in MIS should be completed.

**ISQA 8910 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

Information Systems Internship provides students with an opportunity for practical application and further development of knowledge and skills acquired in the MS MIS degree program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor required. Students must have completed a minimum of 18 credit hours towards the MS MIS program. Not open to non-degree graduate students.

**ISQA 8950 CAPSTONE MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course consists of a student executed Information Systems design project providing an in-depth practical experience. It typically covers system conceptualization, analysis, and design. It may also involve prototyping. The project will typically not include the actual implementation of the system. This course replaces the MS in MIS comprehensive exam requirement.

**Prerequisite(s)/Corequisite(s):** Students must have 6 credit hours or fewer left in the program. Students must have completed all core classes. Not open to non-degree graduate students.

**ISQA 8990 THESIS (1-6 credits)**

This course is a research project designed and executed under supervision of a thesis supervisory committee. Student will develop skills, including the ability to design, conduct, analyze, and report results in writing (i.e., thesis) of an original, independent, scientific investigation. The student's thesis supervisory committee must approve the project plan.

**Prerequisite(s)/Corequisite(s):** ISQA 8060 research methods or equivalent. Graduate major in MIS and approval of the thesis supervisory committee. Not open to non-degree graduate students.

**ISQA 9010 FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH (3 credits)**

This course covers the following areas: (1) information systems as an academic discipline including classic readings in IS and its reference disciplines, (2) theory development and evaluation, (3) research methods applicability in IS.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems areas or with the permission of the instructor; ISQA 8060 or equivalent. Not open to non-degree graduate students.

**ISQA 9020 TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH (3 credits)**

This seminar is a survey course on the technical and process issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in technical and process issues with the application of that knowledge to research on information systems. Major topics include: software engineering, programming, data base systems, decision support systems, data warehousing and mining systems, object-oriented systems, adaptive and expert systems, client-service systems, information filtering and multimedia systems, information agents, mobile computing, telecommunications, and electronic commerce.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9030 BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS (3 credits)**

This seminar is a survey course on behavioral and organizational issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in behavioral and organizational issues with the application of that knowledge to research on information systems. The course is intended for doctoral students in Information Technology or related areas.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9120 APPLIED EXPERIMENTAL DESIGN AND ANALYSIS (3 credits)**

Constructing and analyzing designs for experimental investigations; completely randomized, randomized complete block and Latin-square designs, split-plot designs, incomplete block designs, confounded factorial designs, nested designs, and treatment of missing data, comparison of designs. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (a programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9130 APPLIED MULTIVARIATE ANALYSIS (3 credits)**

The use of multivariate analysis for solving business problems. Multivariate Analysis of Variance (MANOVA), factor, cluster, and discriminant analysis techniques in IT research. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (A programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9150 RESEARCH IN INFORMATION TECHNOLOGY (3 credits)**

Research methods in Information Technology involves an overview of the research process specific to problems in IT. Students will learn about theories in IT relevant to their areas of research. They will identify key components of research problems in IT, understand different types of research processes, develop research questions, and design research projects. They will learn to construct research instruments that enable them to collect data. They will also learn about the different data collection and analysis tools and techniques. As part of this course, students will take the CITI training and achieve the research readiness they need to succeed in the PhD in IT program.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**ISQA 9900 ADVANCED RESEARCH IN INFORMATION SYSTEMS (3 credits)**

This course provides a format for exploration of advanced research areas that are of interest to doctoral students in the information systems and/or information technology area. The specific research area will vary from semester to semester, in keeping with research interests of faculty and students. Examples of areas include, but are not limited to, e-business technology, mobile commerce, intelligent agents e-enabled decision support, electronic collaboration, computer-mediated communications, human-computer interaction and information assurance.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor

## Management Information Systems, MS

Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology

### Vision Statement

The Master of Science in management information systems (MIS) degree is designed to give students the skills and background needed to develop and manage an organization's information resources, technology, and infrastructure. It will serve as a source of added knowledge and experience for MIS graduates and practitioners interested in obtaining an advanced degree. It will also provide career growth opportunities for the non-MIS and non-business degree holders who find that their careers demand graduate level MIS education. The MS in MIS prepares students for a variety of positions, including applications and web-site developer, computer network

manager, business system analyst/manager, consultant, and technology manager. The MS in MIS also prepares students for admission to doctoral programs in information systems. A community advisory committee helps keep the program current with the needs of the business community.

## Program Contact Information

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/>)

## Other Program Related Information

### Fast Track

The College of Information Science & Technology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program. Students will work with both undergraduate and graduate advisors to ensure graduate classes selected will count toward both programs, should a student wish to earn a graduate degree in a separate CIST area than their undergraduate degree.

#### Program Specifics:

- This program is available for undergraduate students pursuing any CIST undergraduate degree desiring to pursue an MS in either the same or a related CIST field.
- Students must have completed no less than 60 undergraduate hours and within at least 24 undergraduate credits yet to complete.
- Students must have a minimum undergraduate GPA of 3.0, with the exception of computer science, which requires a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form, obtain all signatures and submit it to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 (3.5 for computer science) is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. All applicants will need to meet any other admission requirements established for the MS in selected CIST program. The application fee will be waived if the applicant contacts the Office of Graduate Studies for a fee waiver code prior to submitting the MS application.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For all CIST degrees, if a student successfully completes their undergraduate BS degree with a cumulative GPA of 3.0 (3.5 for computer science) and all graduate courses with a 3.0 or better, you may be recommended for admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

## International Dual Degree

The College of IS&T, in conjunction with the Management Center Innsbruck (Austria) (MCI) and the Technical University of Braunschweig (Germany) (TUB), offers a small number of interested students the opportunity to receive both the MS in MIS (UNO) degree and the MA in Management, Communications and Information Technology (MCiT) (MCI) or the Masters in MIS (TUB) degree in a two-year, full-time equivalent period. This is implemented as an international dual degree track within the MS in MIS degree with courses that transfer in both directions. The international dual degree track, like the traditional MS in MIS program, requires the equivalent of 36 U.S. credit hours of course work beyond any foundation requirements. Students who wish to pursue this option will work closely with an advisor to develop a detailed plan of study.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- The minimum undergraduate grade point average (GPA) requirement for the MS in MIS program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four year undergraduate degree.
- **Entrance Exam:** An entrance exam is required for those who do not have a baccalaureate or equivalent degree from an institution of higher education in the United States. Submit GMAT or GRE scores with at least these minimum scores:
  - GRE Verbal: 144, GRE Quantitative: 148, GMAT: 500
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Applicants are required to submit a statement of purpose with a maximum of 750 words that address the following. The statement must be written in the applicant's own words, reflecting their goals and aspirations. Plagiarism in the statement may result in the rejection of the entire application.
  - Motivations for pursuing graduate education
  - Relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - Career goals
  - Why you want to study at UNO
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.educationalperspectives.org/>)

www.edperspective.org/). This graduate program will conduct an in-house credential evaluation of your transcript(s).

- UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
- \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- OPTIONAL: One letter of recommendation from a reference who can evaluate your work and/or academic achievements.
- OPTIONAL: Application for Graduate Assistant Position

The MS in MIS program hires departmental Graduate Assistants (GA) after successful completion of at least a semester in the program. However, a few research positions may be available to incoming students. If you are interested in applying for one of those positions, please submit a letter stating your research area interests and why you feel you would make a good GA. Please note that GA positions will be considered after admission and program admission is not a guarantee of receiving a GA position.

Students interested in taking courses without admission to the MS in MIS degree program may do so with permission of the graduate program committee. Contact mgreiner@unomaha.edu.

## Requirements

### Foundation Courses

Foundation courses ensure that all students in the MS Management Information Systems (MIS) program have a strong foundation on which to build the rest of the program. These courses not only provide essential prerequisite knowledge and skills for other courses in the program, but they also contain a distinct body of knowledge that is an important part of the MIS professional's education. All foundation courses are required for all students. Students who have obtained an undergraduate MIS degree will typically have this foundation. Other students, including computer science or engineering majors, will usually have to take one or more foundation courses. Occasionally, a student's work experience may be sufficient to waive one or more foundation courses.

Waivers for foundation courses are granted by the chair of the graduate program committee upon the recommendation of the faculty member who is responsible for an individual foundation course. Students requesting a waiver for a particular course should be prepared to meet with a faculty member and answer questions in the area of the course. They should bring to the meeting any relevant transcripts, course syllabi, course material, or evidence of practical experience. Some foundation courses may have an option for testing out.

Foundation courses cannot be used to satisfy the 36 semester hours required for the MS in MIS degree. Students who have not completed all the foundation course requirements may be admitted on provisional status until those requirements have satisfactorily been completed. All must be completed prior to or concurrent with the first six hours of MS in MIS graduate course work.

Code	Title	Credits
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	1-3
or equivalent		
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	

ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT
---	---

**Total Credits**

**10-15**

## Degree Requirements

Complete ISQA 8310 as early as possible in your program, provided you have met the prerequisite of ISQA 8030 or equivalent.

**Earn a total of 36 credit hours with a number 8000 or above (excluding foundation courses listed in the admissions requirements).** The 36 credit hours may be earned in two ways:

- Capstone option: 18 hours core classes (6 courses) + 15 hours electives (5 courses) + 3 hours capstone (ISQA 8950)
- Thesis option: 18 hours core classes (6 courses) + 9 hours electives (3 courses) + 3 hours research methods (ISQA 8060) + 6 hours thesis (ISQA 8990)

### Capstone Option

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
<b>Electives</b>		
Select 15 credits from the following, with a minimum of 3 credits from ISQA electives:		15
MIS Concentrations (see Concentrations)		
Approved Electives		
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> See Exit Requirements below for additional details.

### Thesis Option

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
<b>Research Methods</b>		
ISQA 8060	RESEARCH IN MIS	3
<b>Electives</b>		

Select 9 credits of approved electives, with at minimum 3 credits from ISQA electives	9
ISQA 8990 THESIS (6 Hours Required) <sup>1</sup>	3
<b>Total Credits</b>	<b>36</b>

<sup>1</sup> See Exit Requirements below for additional details.

## Exit Requirements

Either pass ISQA 8950 or complete the thesis option (thesis plus thesis defense).

Code	Title	Credits
ISQA 8990	THESIS	6
or		
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS	3

All core classes must be complete before students may enroll in ISQA 8950.

All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms, and final approval and submission of the thesis.

Transfer students may request permission to transfer as many as 12 semester hours of credit on a 36-hour program provided the courses are pertinent to the student's graduate program. Submit petitions to the Graduate Program Committee for transfer credit and include a syllabus for each course to be transferred.

Students have seven years to complete their MS in MIS degree. The 7-year time limit starts with the first degree-program class on the plan of study.

## Concentrations

The ISQA faculty has developed a set of concentrations to assist students as they work to complete the MS in MIS program. Concentrations consist of a set of elective courses that are related to a particular subject area. Students may choose to take courses that make up a concentration, or not, as they see fit. Concentrations are not minors in the traditional sense, but rather reflect areas in demand in the community. If you have any questions regarding these concentrations, please contact the MS in MIS graduate advisor.

### Analytics Concentration

Data analytics uses a variety of techniques to examine large amounts of data to discover patterns that can lead to business insights. Data analytics has broad applicability in customer behavior analysis, fraud detection, scientific inquiry, process improvement, financial analysis, trend analysis, forecasting, and decision-making. Techniques may include statistical methods, data mining, modeling and simulation, and data visualization. The analytics concentration prepares students for work in the area of analytics, and also offers the necessary methodological foundation for thesis work in a master's or PhD program.

Code	Title	Credits
<b>Required Courses</b>		
Pick one ISQA course from each of the three categories below		
<b>Data Engineering</b>		<b>3</b>
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8600	FROM DATA TO DECISIONS	

ISQA 8700	DATA MINING: THEORY AND PRACTICE	
CSCI 8350	DATA WAREHOUSING AND DATA MINING	
<b>Data Analytics</b>		<b>3</b>
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
ECON 8310	BUSINESS FORECASTING	
CSCI/MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
<b>Data Visualization</b>		<b>3</b>
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8750	STORYTELLING WITH DATA	
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	
<b>Electives</b>		<b>3</b>
Pick one of the remaining courses from any of the three categories above <sup>1</sup>		
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8990	THESIS <sup>2,3</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.

<sup>2</sup> Topic must be related to Analytics concentration area. Prior approval from the GPC is required to use this course.

<sup>3</sup> Only three hours of the required six hours of thesis may be applied to the concentration.

### Data Management Concentration

The effective management of data and information is a fundamental task not only in the information society, but also for civilization as a whole. This concentration will prepare students to manage a growing variety of types of data throughout the data lifecycle. The curriculum gives students theoretical and practical training in database design, database administration, data quality management, knowledge management, business intelligence, data integration, and data governance. Students will gain exposure to transaction processing systems, data warehouses, and XML data stores. Students may also gain experience managing geospatial data.

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	3
ISQA 8306	DATABASE ADMINISTRATION	3
ISQA 8700	DATA MINING: THEORY AND PRACTICE	3

**Electives**Select one of the following: <sup>1</sup> 3

ISQA 8016	BUSINESS INTELLIGENCE
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES
ISQA 8736	DECISION SUPPORT SYSTEMS
GEOG 8535 & GEOG 8545	CARTOGRAPHY AND DATA VISUALIZATION and CARTOGRAPHY & GIS LAB <sup>2</sup>
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>3</sup>
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>3</sup>
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>3</sup>
ISQA 8990	THESIS <sup>3,4</sup>

**Total Credits** 12<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.<sup>2</sup> GEOG 8535 and GEOG 8545: (2 credit hours+2 credit hours lab)<sup>3</sup> Topic must be related to Data Management concentration area. Prior approval from the GPC is required to use this course.<sup>4</sup> Only three hours of the required six hours of thesis credit may be applied to the concentration.**Electronic Commerce Concentration**

The rise of electronic commerce offers opportunities for both research and practice. Yet a critical examination of the electronic commerce landscape is required to make sense of this subject. A multitude of technologies and applications have brought about changes in business and society that require careful consideration. Some key topics include understanding the effects of new information technologies on the value proposition, market opportunities, revenue models for business through electronic commerce, that inform the design of web and mobile applications. This concentration is suited for students who would like to pursue careers in IT consulting, start-up companies, and technology venues. Students interested in Electronic Commerce are encouraged to declare a formal concentration by contacting the graduate advisor.

Code	Title	Credits
<b>Required Course</b>		
ISQA 8180	ELECTRONIC COMMERCE	3
ISQA 8570	INFORMATION SECURITY POLICY AND ETHICS	3

**Electives**Select two of the following: <sup>1</sup> 6

ISQA 8525	GRAPHICAL USER INTERFACE DESIGN
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD
ISQA 8750	STORYTELLING WITH DATA
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>
ISQA 8990	THESIS <sup>2,3</sup>

**Total Credits** 12<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.<sup>2</sup> Topic must be related to e-Commerce concentration area. Prior approval from the GPC is required to use this course.<sup>3</sup> Only three hours of the required six hours of thesis credit may be applied to the concentration.**Geographic Information Systems Concentration**

The use of spatial data for management, analysis, and decision-making has grown dramatically in both the public and private sectors, as global positioning systems, mobile devices, and geographic information systems (GIS) have become widespread. The concentration in GIS provides students with the technical and conceptual skills to manage geospatial data and apply it to solving geospatial problems. Students will learn the principles of geospatial data and mapping systems, global positioning systems, representation and management of geospatial data within computer systems, construction and use of maps, and the use of geospatial functions for decision-support.

Code	Title	Credits
<b>Required Courses</b>		
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	4
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	4
GEOG 8666	GEOGRAPHIC INFORMATION SYSTEMS II	4

**Total Credits** 12**Health Informatics Concentration**

Students interested in health informatics or working in the health care industry are encouraged to declare a formal concentration by contacting a MS in MIS advisor. The health informatics concentration integrates MIS with biomedical informatics. The AMIA defines biomedical informatics as a multi-disciplinary field that studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving, and decision making, driven by efforts to improve human health. Biomedical informatics as the core scientific discipline that supports applied research and practice in several disciplines including health informatics and clinical informatics.

Code	Title	Credits
<b>Required Courses</b>		
BMI 8100	INTRODUCTION TO BIOMEDICAL INFORMATICS	3
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	3

Select one of the following: 3

ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN
ISQA 8700	DATA MINING: THEORY AND PRACTICE
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS
ISQA 8750	STORYTELLING WITH DATA

**Electives**Select one of the following: <sup>1</sup> 3

BMI 8080	SEMINAR IN BIOMEDICAL INFORMATICS
----------	-----------------------------------

ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>	
BMI 8896	GENETIC SEQUENCE ANALYSIS	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
BMI 8970	INDEPENDENT STUDY IN BIOINFORMATICS	
ISQA 8990	THESIS <sup>2,3</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.

<sup>2</sup> Topic must be related to Health Informatics concentration area. Prior approval from the GPC is required to use this course.

<sup>3</sup> Only three hours of the required six hours of thesis may be applied to the concentration.

## Information Assurance Concentration

The Information Assurance (IA) concentration focuses on the planning, deployment, and management of security technologies to achieve information assurance. Students interested in Information Assurance are encouraged to declare a formal concentration by contacting the graduate advisor.

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8546	COMPUTER SECURITY MANAGEMENT	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	3
<b>Electives</b>		
Select one of the following: <sup>1</sup>		3
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8560	INFORMATION WARFARE AND SECURITY	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
CYBR 8386	COMPUTER AND NETWORK FORENSICS	
ISQA 8990	THESIS <sup>2,3</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.

<sup>2</sup> Topic must be related to Information Assurance concentration area. Prior approval from the GPC is required to use this course.

<sup>3</sup> Only three hours of the required six hours of thesis credit may be applied to the concentration.

## IT Audit and Control Concentration

The IT Audit and Control concentration will provide students with the technical, organizational, accounting/auditing, and managerial background to plan and conduct IT audit and control activities. The concentration will cover the following conceptual areas: business risks and the management

of business risk, IT risk as a component of business risk, the need to manage IT risks, basic type of controls required in a business system in order to control IT risks, controls associated with top management, system development, programming, data resource management, database, security, operations management, quality assurance, boundary controls, and communications. Issues associated with new system control risks created by the use of the internet for business applications and electronic business will also be covered in one or more courses. Students will learn and apply and integrate technical, managerial and conceptual skills needed to plan and conduct IT audits and establish appropriate controls.

## Prerequisite Courses

Students must have completed at least 9 hours of the MS in MIS core courses (beyond foundation requirements) prior to enrolling for the concentration. In addition, the following preparation is required for this concentration:

Code	Title	Credits
BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	3

(This course is only required for students who have had no exposure to accounting fundamentals. Students will be given an automatic waiver if they have taken two semesters of accounting in their undergraduate degree.)

## Requirements

Code	Title	Credits
<b>Required Courses</b>		
ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
<b>Electives</b>		
Select two of the following: <sup>1</sup>		6
ISQA 8596	IT AUDIT AND CONTROL	
ISQA 8546	COMPUTER SECURITY MANAGEMENT	
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	
ACCT 8090	INFORMATION SYSTEMS AUDITING	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8990	THESIS <sup>2,3</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.

<sup>2</sup> Topic must be related to IT Audit and Control concentration area. Prior approval from the GPC is required to use this course.

<sup>3</sup> Only three hours of the required six hours of thesis credit may be applied to the concentration.

## Project Management Concentration

The Project Management concentration will provide students with the technical, organizational and managerial background to be effective project managers, project leaders, information technology managers, and software engineers. The curriculum in this concentration integrates project management standards developed by organizations such as IEEE

(The Institute of Electrical and Electronics Engineers) and PMI (Project Management Institute) with conceptual background from disciplines such as project management, software engineering, management science, psychology, organization behavior, and organization change. Students are to start coursework in the project management concentration after completion of at least 9 hours of the core courses, including ISQA 8210.

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
<b>Electives</b>		
Select two of the following: <sup>1</sup>		6
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>2</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>2</sup>	
ISQA 8990	THESIS <sup>2,3</sup>	
<b>Total Credits</b>		<b>12</b>

- <sup>1</sup> This is not an exhaustive list. Other courses may be taken as electives with approval of the GPC.
- <sup>2</sup> Topic must be related to Project Management concentration area. Prior approval from the GPC is required to use this course.
- <sup>3</sup> Only three hours of the required six hours of thesis credit may be applied to the concentration.

## Quality of Work Standards

The Graduate College's Quality of Work standards shall be applied to foundation courses as well as courses taken as part of the degree program. In particular, the GPC will recommend to the Graduate College that any

1. Student receiving a grade of "C-" or below in any foundation courses will be automatically dismissed from the program or, in the case of unclassified or non-degree students, be automatically denied admission.
2. Student receiving a grade of "C+" or "C" in any foundation course will be placed on probation or dismissed from the program.
3. Student not maintaining a "B" (3.0 on 4.0 scale) average in foundation courses will be placed on probation or dismissed from the program.

# Business Administration, MBA and Management Information Systems, MS (MBA/MIS)

Department of Business Administration, College of Business Administration

Department of Information Systems & Quantitative Analysis, College of Information Science & Technology

## Vision Statement

In today's context of globally integrated and interdependent businesses, ubiquitous information technologies, and a mobile workforce, it is critical that graduate education provides students opportunities to develop integrated business and technology skills. The primary purpose of this dual degree program is to provide this integration by enabling students to complete the MBA and MS in MIS degrees simultaneously. This track is designed for dedicated students who are willing to take on the challenges related to graduate education from two perspectives—business administration and management information systems. As such, this program involves intensive preparation in both business administration and information systems and a specialization in an area that combines both backgrounds. The dual degree program requires a minimum of 55 hours of course work beyond foundation requirements. Students who wish to pursue this option must work closely with an adviser to develop an integrated plan of study at an early stage. Students who complete the dual degree program will receive two degrees, two diplomas, and will have both degrees recorded on their transcript.

## Program Contact Information (Business Administration)

Kristi Lynch, MBA Director  
312 Mammel Hall (MH)  
6708 Pine Street  
402.554.4836  
mba@unomaha.edu

Ms. Jessica Kampfe, MBA Advisor  
311 Mammel Hall (MH)  
6708 Pine Street  
402.554.3010  
mba@unomaha.edu

## (Management Information Systems)

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu (mgreinder@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/Dual-Degree-MS-MIS-MBA.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

**Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Spring: November 1
- Summer: April 1
- Fall: July 1 (June 1 for international students)

## Other Requirements

- All applicants must have earned a minimum junior/senior GPA of 3.0 for both the MBA and the MS in MIS programs.
- **Entrance Exam:** Official GMAT score: minimum GMAT score of 500 with a minimum 20th percentile for both the verbal and quantitative portions; **or** 299 on the GRE with a minimum 20th percentile for both the verbal and quantitative portions.
  - MIS GMAT/GRE Waiver policy: GMAT/GRE score is waived for students with a baccalaureate or equivalent degree from an institution of higher education in the United States

- **MBA GMAT/GRE Waiver policy:** Beginning in Fall 2021, the GMAT/GRE is no longer required by the MBA department for admission to the MBA/MIS degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Applicants are required to submit a 750 word statement of purpose addressing the following. The statement must be written in the applicant's own words, reflecting their goals and aspirations. Plagiarism in the statement may result in the rejection of the entire application.
  - Why you want to study at UNO
  - Career goals
  - Relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - Motivations for pursuing graduate education
- **Resume:** Include work experience and education
- **Letters of Recommendation:** Three letters of recommendation (names and addresses submitted as part of the online application) from individuals who can evaluate your work and/or academic achievement
- **Interview:** optional
  - Although not required, applicants are strongly encouraged to arrange for an interview with one or more members of the graduate program committees of the MBA and MIS programs by directly contacting the committee chairperson of the College of IS&T. Telephone interviews are highly recommended for applicants outside the local area.
- Students qualifying for admission based on the standard outlined above, but lacking some foundation courses, will be granted provisional status until all foundation courses are completed with grades of "B" (3.0 on a 4.0 scale) or better.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of the transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### MBA Foundation Courses

Code	Title	Credits
Accounting		
Select one of the following:		3-6

BSAD 8110	ACCOUNTING AND FINANCIAL FUNDAMENTALS	
ACCT 2010 & ACCT 2020	PRINCIPLES OF ACCOUNTING I and PRINCIPLES OF ACCOUNTING II	
Or one year of Principles of Accounting at the undergraduate level		
<b>Economics</b>		
Select one of the following:		3-6
ECON 1200	AN INTRODUCTION TO THE U.S. ECONOMY	
ECON 2200 & ECON 2220	PRINCIPLES OF ECONOMICS (MICRO) and PRINCIPLES OF ECONOMICS (MACRO)	
Or Micro- and Macro-Economics at the undergraduate level		
<b>College Algebra</b>		
MATH 1220	COLLEGE ALGEBRA	3
<b>English Composition</b>		
A required course for all international students entering the MBA program who are required to take the TOEFL:		
ENGL 1150	ENGLISH COMPOSITION I	3

## MS in MIS Foundation Courses

### MBA/MIS Non-Course Requirements

Each student admitted to the dual degree option will, within the first semester of their enrollment, file a plan of study in close consultation with a graduate advisor.

Code	Title	Credits
Six (6) hours of programming coursework or equivalent experience:		
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	3
Or equivalent		
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
Select one of the following:		
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
Or equivalent		
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	
Or equivalent		

## Joint Foundation Course

Code	Title	Credits
Statistics can be satisfied by either one of the following or one semester of undergraduate statistics:		3
BSAD 2130	PRINCIPLES OF BUSINESS STATISTICS	
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	

## MBA/MIS Required Courses (38 hours)

### MBA Program (20 hours)

Code	Title	Credits
BSAD 8000	BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY	2

BSAD 8060	PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP <sup>1</sup>	2	ACCT 8076	GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING	3
BSAD 8150	ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS	2	ACCT 8080	DATABASE DEVELOPMENT AND USE IN AIS	3
BSAD 8210	ACCOUNTING: DECISIONS & CONSEQUENCES	2	ACCT 8090	INFORMATION SYSTEMS AUDITING	3
BSAD 8250	ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES	2	ACCT 8210	FINANCIAL ACCOUNTING THEORY	3
BSAD 8420	MARKETING: UNDERSTANDING CONSUMERS AND MARKETS	2	ACCT 8220	GRADUATE TOPICS IN INCOME TAXATION	3
BSAD 8630	FINANCE: UNDERSTANDING CAPITAL AND CASH <sup>2</sup>	2	ACCT 8230	MANAGEMENT ACCOUNTING ISSUES	3
BSAD 8700	BUSINESS ANALYTICS: MAKING SENSE OF DATA	2	ACCT 8250	SEMINAR IN ACCOUNTING	3
BSAD 8720	STRATEGIC FINANCIAL MANAGEMENT <sup>3</sup>	2	ACCT 8260	FEDERAL TAX RESEARCH AND PLANNING	3
BSAD 8830	STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE <sup>4</sup>	2	ACCT 8280	SEMINAR IN ACCOUNTING INFORMATION SYSTEMS	3
<b>Total Credits</b>		<b>20</b>	ACCT 8290	ADVANCED FINANCIAL AUDITING	3

<sup>1</sup> BSAD 8060: this is the first graduate-level course MBA students are to complete

<sup>2</sup> BSAD 8630 (prereq: completion of BSAD 8150 and BSAD 8210)

<sup>3</sup> BSAD 8720 (prereq: completion of BSAD 8630)

<sup>4</sup> BSAD 8830 (prereq: BSAD 8150 and BSAD 8210)

### MS in MIS Program (18 hours)

Code	Title	Credits			
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3	ECON 8010	SEMINAR IN PUBLIC FINANCE	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3	ECON/BSAD 8020	ENVIRONMENTAL ECONOMICS AND MANAGEMENT	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3	ECON 8200	SEMINAR IN MICRO ECONOMIC THEORY	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3	ECON 8216	INDUSTRIAL ORGANIZATION	3
ISQA 8410	DATA MANAGEMENT	3	ECON 8220	SEMINAR IN MACRO THEORY	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3	ECON 8230	BUSINESS CONDITIONS ANALYSIS	3
<b>Total Credits</b>		<b>18</b>	ECON 8290	RESEARCH METHODS IN ECONOMICS AND BUSINESS	3

### MBA Directed Elective Requirements

#### Directed Elective Requirement

For students who have earned an undergraduate or graduate degrees in accounting, economics, management, or marketing, the core course(s) corresponding to the student's previously earned degree(s) will be waived. To satisfy degree requirements, the student must complete a directed elective in the waived field as indicated. For students who have earned an undergraduate or graduate degree in finance, the core course(s) corresponding to the student's previously earned degree may be waived upon request. Students with more than one core course waiver will be required to take an additional 1-credit hour seminar or 3-credit hour elective to fulfill degree requirements.

Code	Title	Credits			
<b>Accounting Directed Electives</b>					
ACCT 8016	ADVANCED FINANCIAL ACCOUNTING	3	ECON 8300	ECONOMETRICS	3
ACCT 8046	ADVANCED FEDERAL INCOME TAXATION	3	ECON 8306	QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS	3
ACCT 8050	FINANCIAL STATEMENT ANALYSIS	3	ECON 8310/BSAD 8080	BUSINESS FORECASTING	3
ACCT 8066	ADVANCED MANAGERIAL ACCOUNTING	3	ECON 8320	TOOLS FOR DATA ANALYSIS	3
			ECON 8326	NATURAL RESOURCE ECONOMICS	3
			ECON 8330	DATA ANALYSIS FROM SCRATCH	3
			ECON 8346	ECONOMICS OF TECHNOLOGY	3
			ECON 8456	DOMESTIC MONETARY THEORY AND POLICY	3
			ECON 8600	HEALTH ECONOMICS	3
			ECON 8616	INTERNATIONAL TRADE	3
			ECON 8626	INTERNATIONAL MONETARY THEORY	3
			ECON 8666	INTERNATIONAL ECONOMIC DEVELOPMENT	3
			ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
			ECON 8856	ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT	3
			<b>Finance Directed Electives</b>		
			BSAD 8510	SECURITY ANALYSIS	3
			BSAD 8520	SEMINAR INVESTMENT MANAGEMENT	3
			BSAD 8530	BANK & FINANCIAL MARKETS	3
			BSAD 8540	MULTINATIONAL FINANCIAL MANAGEMENT	3
			BSAD 8550	SEMINAR IN FINANCE	1-3
			BSAD 8576	INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS	3
			BSAD 8596	RISK MANAGEMENT FOR BUSINESS MANAGERS	3
			BSAD 8600	REAL ESTATE FINANCE THEORY AND APPLICATIONS	3
			BSAD 8606	FINANCIAL RISK MANAGEMENT	3

BSAD 8610	REAL ESTATE APPRAISAL	3
BSAD 8820	SUSTAINABLE BUSINESS PRACTICES	1
HSRA 872	Health Care Finance	3

**Management Directed Electives**

BSAD 8096	PRINCIPLES OF COLLABORATION	3
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8336	PROJECT MANAGEMENT	3
BSAD 8340	INTERNATIONAL BUSINESS STUDY ABROAD	3
BSAD 8350	SEMINAR IN MANAGEMENT	3
BSAD 8356	GLOBAL SOURCING AND INNOVATION	3
BSAD 8376	SUPPLY CHAIN ANALYTICS	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8456	MANAGERIAL NEGOTIATION STRATEGIES	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
CMST 8176	ORGANIZATIONAL COMMUNICATION	3
CMST 8186	COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS	3
CMST 8566	COMMUNICATION, TEAMWORK, & FACILITATION	3
CMST 8806	ADVANCED CONFLICT MEDIATION	3
PSYC 8636	ORGANIZATIONAL PSYCHOLOGY	3
PSYC 8646	PERSONNEL PSYCHOLOGY	3
PSYC 9620	TRAINING AND DEVELOPMENT	3
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3

**Marketing Directed Electives**

BSAD 8206	CONSULTATIVE SELLING PRINCIPLES	3
BSAD 8216	SELLING FINANCIAL SERVICES	3
BSAD 8326	SALES MANAGEMENT	3
BSAD 8386	INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT	3
BSAD 8426	BUSINESS DEMOGRAPHICS	3
BSAD 8430	STRATEGIC BRAND MANAGEMENT	3
BSAD 8450	SEMINAR IN MARKETING	3
BSAD 8710	SUPPLY CHAIN MANAGEMENT	3
BSAD 8766	SELLING IN AN ENTREPRENEURIAL CONTEXT	3

**MBA/MIS Electives**

12 hours from one of the areas of focus listed below

Students must take a minimum of three credit hours of the ISQA 8000-level elective courses and a minimum of three credit hours of the BSAD or ECON 8000-level elective courses

Students may enroll in a maximum of six credit hours of dual-level (8–6) elective courses

Students may pursue an alternate area of focus with the approval of the graduate program committee

**Technology Entrepreneurship Focus**

Code	Title	Credits
BSAD 8080/ ECON 8310	BUSINESS FORECASTING	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3

ECON/BSAD 8736	ECONOMICS OF ENTREPRENEURSHIP	3
ISQA 8180	ELECTRONIC COMMERCE	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3

**Business Process Transformation Focus**

Code	Title	Credits
BSAD 8300	ORGANIZATION THEORY & DESIGN	3
ECON 8346	ECONOMICS OF TECHNOLOGY	3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	3
ISQA 8736	DECISION SUPPORT SYSTEMS	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	3

**Applied Quantitative Techniques Focus**

Code	Title	Credits
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	3
ECON 8320	TOOLS FOR DATA ANALYSIS	3
Select two of the following:		6
ECON 8300	ECONOMETRICS	
ECON 8310/ BSAD 8080	BUSINESS FORECASTING	
ECON 8316	BUSINESS INTELLIGENCE AND REPORTING	
ECON 8330	DATA ANALYSIS FROM SCRATCH	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8750	STORYTELLING WITH DATA	

**Health Care Information Systems Focus**

Code	Title	Credits
BMI 8100	INTRODUCTION TO BIOMEDICAL INFORMATICS	3
BMI 8850	BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL	3
ECON 8600	HEALTH ECONOMICS	3
Pick one of the following:		3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	
ISQA 8750	STORYTELLING WITH DATA	

## MBA/MIS Exit Requirements

### Capstone Courses (5 hours)

BSAD 8800 **MBA Project-Focused Capstone** (2 credits) (taken within the last 9 hours or the final semester of the program). This course will focus on students completing a service-learning consulting project for a nonprofit or other organization. This consulting project will focus on the application of the knowledge and skills learned in this program. A minimum B (3.0 on 4.0 scale) grade required to complete the course successfully and qualify for graduation. **Prerequisite:** Students must successfully complete BSAD 8630, BSAD 8420, and BSAD 8830 before taking the Capstone course. Not open to non-degree graduate students.

ISQA 8950 **MIS Capstone** (3 credits) (taken within the last 6 hours or the final semester of the program, with all core courses completed).

Code	Title	Credits
BSAD 8800	MBA PROJECT-FOCUSED CAPSTONE	2
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS	3

### Thesis Option

To take this option, a student will be required to enroll in six (6) hours of thesis credit:

#### MBA Program

Code	Title	Credits
BSAD 8990	THESIS	1-6

#### MS-MIS Program

Code	Title	Credits
ISQA 8990	THESIS	3

The thesis must be in an area that relates to both the business administration and information systems domains. The Supervisory Committee must include at least one CBA faculty member and one ISQA faculty member.

### Other Requirements to Complete the Program

Attendance at a *minimum* of 2 MBA leadership seminars

### Other Program-Related Information

#### Transfer Credits

A student may transfer credits into the MBA/MIS dual-degree program subject to the following conditions:

- No more than 1/3 of the credits for the dual-degree program may be transfer credits
- No more than 1/3 of the business credits for the dual-degree program may be transfer credits
- No more than 1/3 of the MIS credits for the dual-degree program may be transfer credits
- The transfer credits must conform to the transfer policies of the individual programs that make up the dual-degree program

#### Total Credit Hours: 55

### Academic Performance

In addition to UNO Graduate College Quality of Work Standards, Dual Degree (DD) students may repeat only once a BSAD 8-0-level course in which they receive any grade, including "W" or "I". Students earning three "C/C+" grades, or a grade of "C-" or below, will be automatically dismissed from the DD program. Dismissed students will be immediately

administratively withdrawn from all courses in which they are enrolled for DD credit.

Students who have been dismissed may not enroll in any courses for DD credit in any subsequent semester or summer session until reinstatement has been granted by the Dual-Degree Program Academic Standards Committee (DDPASC) comprised of the 2 GPC Chairs and 1 faculty member from each GPC.

Students who have been dismissed from the DD program may submit a written petition for reinstatement to the DDPASC. Students petitioning the DDPASC for reinstatement may not enroll in any course for DD credit until after the DDPASC has ruled on the petition. Upon receiving a petition for reinstatement, the DDPASC will evaluate the student's written petition for reinstatement. As part of the reinstatement petitioning process, the DDPASC reserves the right to examine the student's academic record and reserves the right to speak to any previous instructor who has taught the student; this information may be used by the DDPASC in the reinstatement decision. Information provided by previous instructors will not be shared with the student. Reinstatement is a privilege and not all students who are dismissed will be reinstated. Students who have been reinstated will serve a probationary period at the DDPASC's discretion and must satisfy the probationary conditions specified by the DDPASC. In addition to probationary conditions, reinstated students will be subject to additional reinstatement conditions as specified by the DDPASC. These reinstatement conditions will include retaking one or more courses in which the student must earn a grade of "B" (3.0) or higher (the exact grade requirements for retaken courses may in fact be higher than "B" (3.0)). Students not satisfying the probationary or reinstatement conditions will be automatically dismissed.

### Grades Earned in Repeated Courses

When making decisions related to the Quality of Work Standards issues outlined in the UNO Graduate Catalog, the Dual-Degree Program Academic Standards Committee (DDPASC) will consider the initial grade(s) received in a course as well as the most recent grade received for the course. This approach differs from the method used to calculate GPA in a student's MavLINK/DegreeWorks file, where the most recent grade replaces the grade received in the previous course attempt.

## Public Administration, MPA and Management Information Systems, MS (MPA/MIS)

**School of Public Administration, College of Public Affairs & Community Service, Department of Information Systems & Quantitative Analysis, College of Information Science & Technology**

### Vision Statement

In government and non-profit organizations, there is a significant need and a long-term demand for persons with advanced skills in information management technology. The primary purpose of this dual degree option is to prepare students to manage and lead organizations in the future. To meet this need, the School of Public Administration and the College of Information Science & Technology offer the option to complete both the MPA and the MS in MIS degree jointly by completing 54-57 hours of course work beyond foundation requirements. This joint degree program is designed for dedicated students who are able to successfully complete graduate intensive study from two perspectives—public administration and management information systems—while achieving a synergy between the two fields. As such, the program involves graduate coursework in both public administration and information systems, with integrative experiences that will attain the desired synergy. Students interested in this option will

work closely with a faculty mentor to develop an integrated plan of study at an early stage.

## Program Contact Information

### Public Administration

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
cebdon@unomaha.edu

### Prospective Student Admissions:

Meagan Van Gelder, EdD, Advisor  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
mvandelder@unomaha.edu

### Current Student Advisor:

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
jharrold@unomaha.edu

### Management Information Systems

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/mpa-dual-degree-mis-mpa.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: June 1
- Spring: October 1

### Other Requirements

- The general prerequisite for admission to the program is a four year bachelors' degree with a minimum of a 3.0 GPA of the junior-senior year (last 50-60 credit hours).
- **Entrance Exam:** An entrance exam is required for those who do not have a baccalaureate or equivalent degree from an institution of higher education in the United States. Submit GMAT or GRE scores with at least these minimum scores:
  - GRE Verbal: 144, GRE Quantitative: 148, GMAT: 500
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 563, Internet-based TOEFL: 85, IELTS: 6.5, PTE: 58, Duolingo: 105
- **Statement of Purpose**
- **Writing Sample:** From work or previous academic experiences. Alternatively, if you do not have a writing sample, please submit a two page double-spaced word processed essay that addresses the following two topics:

- Your unique personal qualities and life experiences that distinguish you from other applicants to our graduate program
- Two accomplishments that demonstrate your potential for success in the graduate program
- **Resume:** Indicate your work experience and background
- **Letters of Recommendation:** Two letters of recommendation are required
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### MPA/MIS Foundation Courses

A student must have completed some basic courses either as an undergraduate student or prior to enrolling in the first MS in MIS course. Students may start MPA courses while completing the MIS foundation courses.

Code	Title	Credits
Six hours of programming coursework or equivalent experience:		6
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	1-3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
One semester of undergraduate information systems, or:		3
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	
One semester of undergraduate statistics, or:		3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	

### Required Courses

Code	Title	Credits
<b>MPA Core Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3

PA 8400	PUBLIC AND NONPROFIT BUDGETING	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
PA 8530	PLANNING AND EVALUATION	3

**MS in MIS Core Courses**

ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3

**Methods Course**

PA/AVN 8120 or ISQA 8060	ANALYSIS AND DECISION MAKING RESEARCH IN MIS	3
-----------------------------	---	---

**MPA/MIS Electives**

Select one of the following: 12

Take a minimum of six hours each of ISQA elective courses and PA elective courses

Or select a MPA/MIS Specialty Area (see below)

Select one of the following (see below): 6

Capstone Option

Thesis Option

**Total Credits** 57

**MPA/MIS Specialty Areas**

Students may choose to specialize in the following areas (see details below), or in another area with the approval of their faculty advisor (all courses must be at the 8000-level):

**Program Management**

Code	Title	Credits
PA 8450	SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3

**Total Credits** 12

**Financial Management Information Systems**

Code	Title	Credits
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3
ISQA 8596	IT AUDIT AND CONTROL	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3

**Total Credits** 9

**Health Care Information Systems**

Code	Title	Credits
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3

Advisor approved course 3

Integrative Experience (Required) 3-6

**Total Credits** 9-12

**MPA/MIS Exit Requirements****Capstone Option****MPA Capstone Course:**

Code	Title	Credits
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	3

The MPA Capstone Course is taken at the end of the program, with no more than nine credit hours remaining. All Public Administration core classes must be completed prior to taking the Capstone Course.

**MIS Capstone Course:**

Code	Title	Credits
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS	3

Six credit hours or fewer may be left in the program. All MIS core courses must have been completed.

**Thesis Option**

To take this option, a student will be required to enroll in six hours of thesis credit.

Code	Title	Credits
ISQA 8990	THESIS	6

The thesis must be in an area that relates to both the public administration and information systems domains.

**Total Credit Hours: 57**

**Data Analytics Certificate**

Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology

**Vision Statement**

Data analytics uses a variety of techniques to examine large amounts of data to discover patterns that can lead to business insights. Data analytics has broad applicability in customer behavior analysis, fraud detection, scientific inquiry, process improvement, financial analysis, trend analysis, forecasting, and decision-making. Techniques may include statistical methods, data mining, modeling and simulation, and data visualization. The certificate is designed to equip students to apply the theory and practice of data analytics to solving problems in a variety of economic, social, and scientific domains.

**Program Contact Information**

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php>)

**Admissions**

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- The minimum undergraduate grade point average requirement for the data analytics certificate program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **OPTIONAL Statement of Purpose:** Applicants may submit a statement of purpose with a maximum of 750 words that address:
  - why you want to study at UNO
  - career goals
  - relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - motivations for pursuing graduate education

## Degree Requirements

### Prerequisite Requirements

The following courses are prerequisites for the required courses. Elective courses may have additional prerequisites. All prerequisites must be completed with grades of "B" or better.

Code	Title	Credits
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
or equivalent		
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3

or equivalent		
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	3
or ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
or equivalent		

## Requirements

No more than two courses (6 credit hours maximum) can be used on two MIS-related certificates (Data Analytics, Information Assurance, Project Management, and Systems Analysis and Design).

Code	Title	Credits
<b>Core Courses</b>		
Pick one ISQA course from each of the three categories below		
<b>Data Engineering</b>		<b>3</b>
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8600	FROM DATA TO DECISIONS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
CSCI 8350	DATA WAREHOUSING AND DATA MINING	
<b>Data Analytics</b>		<b>3</b>
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	
ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
ECON 8310	BUSINESS FORECASTING	
CSCI/MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
<b>Data Visualization</b>		<b>3</b>
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8750	STORYTELLING WITH DATA	
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	
<b>Electives</b>		<b>6</b>
Pick two of the remaining courses from any of the three categories above <sup>1</sup>		
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> ISQA 8080, ISQA 8086, and ISQA 8900 may be used but must be related to data analytics. Prior approval from the GPC is required to use these courses.

## Completion of the Certificate

During what is expected to be the semester the certificate is completed and prior to the posted deadline, students should apply for the certificate through MavLINK on or before the deadline. If you complete the application form and do not complete all of the requirements for the certificate, contact the Office of Graduate Studies as soon as possible. You must reapply during

the next semester in which you expect to complete the certificate; no additional fee is charged to reactivate your application.

The following requirements are due 12 working days prior to commencement:

- “Incomplete” and “NR” grades from previous terms must be removed so that the grade will be in the Office of Graduate Studies.
- All fees, fines, and other obligations due the university must be settled.

For students currently enrolled in courses that are a part of their plan of study, enrollment must be maintained in order to complete the certificate. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the fifteenth working day following the end of a semester.

## Awarding of Graduate Certificates

The Office of Graduate Studies will mail the certificate to students when all requirements are completed and all obligations to the university are satisfied. The Graduate College will not approve any changes in the student's permanent record once the certificate is awarded.

# Data Management Certificate

**Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology**

## Vision Statement

Data management focuses on the processes and techniques to manage data as a valuable organizational and societal asset throughout the data lifecycle. The certificate will give students theoretical and practical training in database design and development, database administration, data integration, data engineering, and data governance. Students will be exposed to a variety of data types and different kind of databases such as relational database, data warehouse, and NoSQL and big data databases.

## Program Contact Information

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- Individuals with an undergraduate degree and one to two years of work experience in information systems (IS) related roles are eligible to apply for this certificate programs.
- The minimum undergraduate grade point average requirement for the data management certificate is 3.0 or equivalent score on a 4.0

scale. Applicants should have the equivalent of a 4-year undergraduate degree.

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, OR a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum scores required for this program are:
  - Paper-based TOEFL: 563, Internet-based TOEFL: 85, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume indicating your work experience and background
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **OPTIONAL Statement of Purpose:** Applicants may submit a statement of purpose with a maximum of 750 words that address:
  - motivations for pursuing graduate education
  - relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - career goals
  - why you want to study at UNO

The data management graduate certificate consists of three core courses (9 credits) and two electives (6 credits) for a total of 15 credit hours. Specific course requirements for the graduate certificate are described below. There are three prerequisite courses which may be waived by the chair of the graduate program committee, based on courses already taken, applicable work experience, test out exams offered by the department, or the recommendation of faculty teaching the prerequisite courses.

## Degree Requirements

### Prerequisites

The following courses are prerequisites of the required courses. Elective courses may have additional prerequisites. All prerequisites must be completed with grades of "B" or better.

- One programming class such as CIST 1400 or equivalent
- One semester of undergraduate database management or equivalent, e.g.,
  - ISQA 3310 Managing the database environment
  - CSCI 4850 Database Management Systems
  - ISQA 8040 An overview of systems development

No more than two courses (6 credit hours maximum) can be used on two MIS-related certificates (Data Analytics, Information Assurance, Project Management, and Systems Analysis and Design).

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8306	DATABASE ADMINISTRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	3
<b>Electives</b>		<b>6</b>
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8600	FROM DATA TO DECISIONS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> Topic must be related to data management. Prior approval from the GPC is required to use this course.

Topic of ISQA 8080 and ISQA 8086 must be related to data management. Prior approval from the GPC is required to use this course. Other courses related to data management that are not included in the list of electives may count towards the certificate after approval by the GPC.

## Information Assurance Certificate

Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology

### Vision Statement

The goal of the ISQA graduate certificate program is to allow post-baccalaureate students and working professionals to expand their educational background and complete work that could count towards a graduate degree. Earning the graduate certificate will enhance skill sets; provide exposure to new information technologies, theories and practices; allow individuals to work toward various professional certifications; increase growth potential with employers; and increase prospects of obtaining a graduate degree. The graduate certificate program offers existing technical and managerial professionals the chance to improve and hone their communication skills to aide in their professional development.

The information assurance (IA) certificate will provide students with the technical, organizational and managerial background to assist in planning, deploying, and managing security technologies to achieve information assurance.

### Program Contact Information

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php>)

### Other Program Related Information

The certificate in information assurance can be obtained online, but students will need to consult with the GPC on course offerings.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

### Other Requirements

- The minimum undergraduate grade point average requirement for the Information Assurance certificate program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
    - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **OPTIONAL Statement of Purpose:**
  - Applicants may submit a statement of purpose with a maximum of 750 words that address:
    - motivations for pursuing graduate education
    - relevant qualifications or work experience that demonstrate potential for success in the graduate program

- career goals
- why you want to study at UNO

## Degree Requirements

### Prerequisite Courses

The following courses are prerequisite courses for the required courses. Elective courses may have additional prerequisites. All prerequisites must be completed with grades of "B" or better.

Code	Title	Credits
Select one of the following:		3
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
or equivalent		
Select one of the following:		3-9
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	

### Requirements

No more than two courses (6 credit hours maximum) can be used on two MIS-related certificates (Data Analytics, Information Assurance, Project Management, and Systems Analysis and Design).

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8546	COMPUTER SECURITY MANAGEMENT	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
ISQA 8580	SECURITY RISK MANAGEMENT AND ASSESSMENT	3
<b>Electives</b>		
Select one of the following:		3
ISQA 8530	E-COMMERCE SECURITY	
ISQA 8560	INFORMATION WARFARE AND SECURITY	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> Topic must be related to information assurance. Prior approval from the GPC is required to use this course.

### Completion of the Certificate

During what is expected to be the semester the certificate is completed and prior to the posted deadline, students should apply for the certificate through MavLINK on or before the deadline. If students complete the application form and do not complete all of the requirements for the certificate, contact the Office of Graduate Studies as soon as possible. Applicants must reapply during the next semester in which you expect to complete the certificate; no additional fee is charged to reactivate your application.

The following requirements are due 12 working days prior to commencement:

- "Incomplete" and "NR" grades from previous terms must be removed so that the grade will be in the Office of Graduate Studies.
- All fees, fines, and other obligations due the university must be settled.

For students currently enrolled in courses that are a part of their plan of study, enrollment must be maintained in order to complete the certificate. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the fifteenth working day following the end of a semester.

### Awarding of Graduate Certificates

The Office of Graduate Studies will mail the certificate to students when all requirements are completed and all obligations to the university are satisfied. The Graduate College will not approve any changes in the student's permanent record once the certificate is awarded.

## Project Management Certificate

Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology

### Vision Statement

The goal of the ISQA graduate certificate program is to allow post-baccalaureate students and working professionals to expand their educational background and complete work that could count towards a graduate degree. Earning the graduate certificate will enhance skill sets; provide exposure to new information technologies, theories and practices; allow individuals to work towards various professional certifications; increase growth potential with employers; and increase prospects of obtaining a graduate degree. The graduate certificate programs offer existing technical and managerial professionals the chance to improve and hone their communication skills to aide in their professional development.

The project management certificate will provide students with the technical, organizational and managerial background to become project managers, project leaders, information technology managers, and software engineers.

### Program Contact Information

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- The minimum undergraduate grade point average requirement for the project management certificate program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a 4-year undergraduate degree.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Resume:** Submit a detailed resume indicating your work experience and background.
- Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- OPTIONAL Statement of Purpose:**
  - Applicants may submit a statement of purpose with a maximum of 750 words that address:
    - motivations for pursuing graduate education
    - relevant qualifications or work experience that demonstrate potential for success in the graduate program
    - career goals
    - why you want to study at UNO

## Prerequisite Requirements

The following courses are prerequisites for the required courses. Elective courses may have additional prerequisites. All prerequisites must be completed with grades of "B" or better.

Code	Title	Credits
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	3
or equivalent		
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	

ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT
---	---

or equivalent

## Degree Requirements

No more than two courses (six credit hours maximum) can be used on two MIS-related certificates (Data Analytics, Information Assurance, Project Management, and Systems Analysis and Design).

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
<b>Electives</b>		
Select one of the following:		3
ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY	
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	
ISQA 8420	MANAGING THE I.S. FUNCTION	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> Topic must be related to project management. Prior approval from the GPC is required to use this course.

## Completion of the Certificate

During what is expected to be the semester the certificate is completed and prior to the posted deadline, students should apply for the certificate through MavLINK on or before the deadline. Information can be found here (<http://www.ses.unomaha.edu/registrar/graduate.php>). If you complete the application form and do not complete all of the requirements for the certificate, contact the Office of Graduate Studies as soon as possible. You must reapply during the next semester in which you expect to complete the certificate; no additional fee is charged to reactivate your application.

The following requirements are due 12 working days prior to commencement:

- "Incomplete" and "NR" grades from previous terms must be removed so that the grade will be in the Office of Graduate Studies.
- All fees, fines, and other obligations due the university must be settled.

For students currently enrolled in courses that are a part of their plan of study, enrollment must be maintained in order to complete the certificate. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the fifteenth working day following the end of a semester.

## Awarding of Graduate Certificates

The Office of Graduate Studies will mail the certificate to students when all requirements are completed and all obligations to the university are

satisfied. The Graduate College will not approve any changes in the student's permanent record once the certificate is awarded.

# Systems Analysis and Design Certificate

Department of Information Systems and Quantitative Analysis,  
College of Information Science & Technology

## Vision Statement

The goal of the ISQA graduate certificate program in systems analysis and design is to allow post-baccalaureate students and working professionals to expand their educational background and complete work that could count towards a graduate degree. Earning the graduate certificate will enhance students' skill sets; provide exposure to new information technologies, theories and practices; allow individuals to work towards various professional certifications; increase growth potential with employers; and increase prospects of obtaining a graduate degree. The graduate certificate program offers existing technical and managerial professionals the chance to improve and hone their communication skills to aide in their professional development.

The systems analysis and design certificate will provide students with the advanced technical, organizational and managerial background to become systems or business analysts and software developers.

## Program Contact Information

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
mgreiner@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: December 1
- Summer: April 1

## Other Requirements

- The minimum undergraduate grade point average requirement for the Systems Analysis & Design certificate is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a 4-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission. Minimum scores required for this program are:
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- **Resume:** Submit a detailed resume indicating your work experience and background.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- **OPTIONAL Statement of Purpose:** Applicants may submit a statement of purpose with a maximum of 750 words that address:
  - why you want to study at UNO
  - career goals
  - relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - motivations for pursuing graduate education

## Degree Requirements

### Prerequisite Requirements

The following courses are prerequisites for the required courses. Elective courses may have additional prerequisites. All prerequisites must be completed with grades of "B" or better.

Code	Title	Credits
ISQA 3900 or equivalent	WEB APPLICATION DEVELOPMENT	3
ISQA 8030 or equivalent	INFORMATION SYSTEMS AND ETHICS	3
Select one of the following:		3-9
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	

## Requirements

No more than two courses (6 credit hours maximum) can be used on two MIS-related certificates (Data Analytics, Information Assurance, Project Management, and Systems Analysis and Design).

Code	Title	Credits
<b>Required Courses</b>		
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8410	DATA MANAGEMENT	3
<b>Electives</b>		
Select one of the following:		3

ISQA 8420	MANAGING THE I.S. FUNCTION	
ISQA 8106	INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION	
ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS <sup>1</sup>	
ISQA 8900	INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS <sup>1</sup>	
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> Topic must be related to systems analysis and design. Prior approval from the GPC is required to use this course.

## Completion of the Certificate

During what is expected to be the semester the certificate is completed and prior to the posted deadline, students should apply for the certificate through MavLINK on or before the deadline. If you complete the application form and do not complete all of the requirements for the certificate, contact the Office of Graduate Studies as soon as possible. You must **reapply** during the next semester in which you expect to complete the certificate; no additional fee is charged to reactivate your application.

The following requirements are due 12 working days prior to commencement:

- "Incomplete" and "NR" grades from previous terms must be removed so that the grade will be in the Office of Graduate Studies.
- All fees, fines, and other obligations due the university must be settled.

For students currently enrolled in courses that are a part of their plan of study, enrollment must be maintained in order to complete the certificate. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the fifteenth working day following the end of a semester.

## Awarding of Graduate Certificates

The Office of Graduate Studies will mail the certificate to students when all requirements are completed and all obligations to the university are satisfied. The Graduate College will not approve any changes in the student's permanent record once the certificate is awarded.

# Mathematics

## Degree Programs Offered

- Mathematics, MA (p. 1266)
- Mathematics, MS (p. 1270)
- Mathematics, MAT (p. 1269)

## Certificates Offered

- Secondary Mathematics Specialist Certificate (p. 1274)

### MATH 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with CSCI 4010, CSCI 8016, MATH 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

### MATH 8036 MODERN ALGEBRA (3 credits)

Algebra is the study of mathematical manipulations that preserve something (like equality - when solving equations). The areas in which Algebra finds application are quite diverse, from Ancient Greek Geometry through to Modern Information Protection and Security (error correcting codes, data compression, and cryptography). This course begins with topics that should be familiar (such as ruler-and-compass constructions, and modular arithmetic) and builds upon this foundation through polynomial rings up to finite fields and basic group theory. (Cross-listed with MATH 4030).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better

### MATH 8050 ALGORITHMIC GRAPH THEORY (3 credits)

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with CSCI 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

### MATH 8056 LINEAR ALGEBRA (3 credits)

Linear algebra is extensively utilized in the mathematical modeling of many natural phenomena. Many scientific and engineering disciplines, such as data science, chemical engineering and biology, make extensive use of the theory and techniques commonly present in basic to advanced linear algebra courses. The goal of this course is to help students to grasp a solid theoretical understanding of vectors, vector spaces, inner product spaces, linear transformations, eigenvalues, canonical forms, complex vectors, matrices, and orthogonality. By going through the materials in a mathematically rigorous way, students will develop deeper and more accurate intuitions of the basic concepts in linear algebra. Consequently, the applications of linear algebra will become much more transparent. (Cross-listed with MATH 4050).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a grade of C- or better; MATH 2030 or MATH 2230 or equivalent with a grade of C- or better; or permission

### MATH 8060 ALGORITHMIC COMBINATORICS (3 credits)

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with CSCI 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

### MATH 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with CSCI 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**MATH 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with CSCI 3100, CSCI 8105, MATH 3100).

**MATH 8116 ABSTRACT ALGEBRA I (3 credits)**

An introduction to group theory. Various classes of group are studied: symmetric groups, abelian, cyclic, and permutation groups. Basic tools are developed and used: subgroups, normal subgroups, cosets, the Lagrange theorem, group homomorphisms, quotient groups, direct products, and group actions on a set. The course culminates with the Sylow theorems in finite group theory. The theory is illustrated with examples from geometry, linear algebra, number theory, crystallography, and combinatorics. (Cross-listed with MATH 4110).

**Prerequisite(s)/Corequisite(s):** MATH 4050/MATH 8056 with a C- or better or MATH 4560/MATH 8566 with a C- or better or permission of instructor

**MATH 8126 ABSTRACT ALGEBRA II (3 credits)**

An introduction to ring and field theory. Various classes of commutative rings are considered including polynomial rings, and the Gaussian integers. Examples of fields include finite fields and various extensions of the rational numbers. Concepts such as that of an ideal, integral domain, characteristic and extension field are studied. The course culminates with an introduction to Galois theory. Applications include the resolution of two classical problems: the impossibility of angle-trisection and the general insolubility of polynomial equations of degree 5 or higher. (Cross-listed with MATH 4120)

**Prerequisite(s)/Corequisite(s):** MATH 4110/MATH 8116 with a C- or better or permission of instructor

**MATH 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, CSCI 8156, MATH 4150).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**MATH 8235 INTRODUCTION TO ANALYSIS (3 credits)**

This course provides a theoretical foundation for the concepts of elementary calculus. Topics include real number system, topology of the real line, limits, functions of one variable, continuity, differentiation. (Cross-listed with MATH 3230).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2230 each with a grade of C- or better.

**MATH 8236 MATHEMATICAL ANALYSIS I (3 credits)**

Provides a theoretical foundation for the concepts of elementary calculus. Topics include ordered fields and the real number system, basic properties of complex numbers, metric space topology, sequences and series in  $\mathbb{R}^k$ , limits and continuity in a metric space, monotonic functions. (Cross-listed with MATH 4230).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or equivalent

**MATH 8246 MATHEMATICAL ANALYSIS II (3 credits)**

Provides a theoretical foundation for the concepts of classical Calculus (vector calculus included). Topics include sequences and series of functions, uniform convergence, power series, Fourier series, multivariable real differential and integral calculus, the Implicit Function Theorem, integration of different forms, and the important formulas, connecting those integrals, due to: Green, Gauss, Riemann, and Ostrogradski. (Cross-listed with MATH 4240).

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236

**MATH 8250 PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

Partial differential equations (PDEs) are fundamental in the application of mathematics to science and engineering. Topics to be covered will include: Linear and nonlinear first-order equations, classification of second-order linear equations, elliptic, hyperbolic and parabolic equations and boundary value problems, and Green's functions.

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or instructor's permission. MATH 4330/MATH 8336 is recommended, but not required.

**MATH 8276 COMPLEX ANALYSIS (3 credits)**

This course is an introduction to the theory of functions of a complex variable, a fundamental area of mathematics with multiple applications to science and engineering. Topics include the field of complex numbers, complex differentiation, the complex contour integral and Cauchy's integral formula, Taylor expansions and analytic functions, conformal mapping and Riemann's conformal equivalence theorem, residue theory and Laurent series, harmonic functions, and applications. (Cross-listed with MATH 4270).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or permission of the instructor.

**MATH 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, CSCI 8305, MATH 3300).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor.

**MATH 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, CSCI 8306, MATH 4300).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**MATH 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, CSCI 8316, MATH 4310).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**MATH 8326 COMPUTATIONAL OPERATIONS RESEARCH (3 credits)**

Survey of computational methods used in the solution of operations research problems. Topics include scripting to guide optimization software, metaheuristics for optimization, and basic machine learning algorithms. (Cross-listed with MATH 4320).

**Prerequisite(s)/Corequisite(s):** MATH 3200 and MATH 4300 each with a grade of C- or better or permission of instructor.

**MATH 8336 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

This course introduces the basic methods of PDEs guided by applications in physics and engineering. The main topics to be covered include The Linear First order PDEs, Transport equations, Characteristics, Classification of PDEs, Separation of variables, Heat conduction, vibrating membranes, boundary value problems, Maximum principle, Sturm-Liouville problems, Fourier series, Fourier integrals, Harmonic functions, Legendre polynomials, Distributions, Green's functions. (Cross-listed with MATH 4330).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better and MATH 2350 with a C- or better, or permission of instructor; MATH 2050 recommended, not required.

**MATH 8356 ORDINARY DIFFERENTIAL EQUATIONS (3 credits)**

This course covers the theory of initial-, boundary-, and eigenvalue problems, existence theorems, real and complex linear systems of differential equations, and stability theory. There will be a strong emphasis on methods for finding solutions of initial and boundary value problems and analyzing properties of these solutions for various ordinary differential equations. (Cross-listed with MATH 4350).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better, MATH 2050 with a C- or better, and MATH 2350 with a C-, or better or instructor's permission.

**MATH 8400 DYNAMICAL SYSTEMS AND CHAOS (3 credits)**

Review of difference equations and differential equations, stability theory, periodic orbits, Lyapunov exponents, fractals, chaos, state reconstruction from time series data.

**Prerequisite(s)/Corequisite(s):** Permission from Instructor

**MATH 8406 THE FINITE ELEMENT METHOD (3 credits)**

Introduction to finite elements methods for solving ordinary and partial differential equations. Theoretical foundations of finite element methods for boundary value problems, approximation by piecewise polynomial functions, variation formulation of partial differential equations, basic error estimates. The Rayleigh-Ritz-Galerkin method, convergence of approximations, time-dependent problems, error analysis, discretization and computer implementation, applications to problems in elasticity, heat transfer, and fluid mechanics. (Cross-listed with MATH 4400).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2050 and MATH 2350 all with a C- or better or instructor permission. MATH 3300/ MATH 8305 and MATH 4330/ MATH 8336 recommended. Students should be able to use a programming language (ie MATLAB) to complete computational assignments

**MATH 8410 BOOLEAN NETWORKS (3 credits)**

This course is focused on introduction to discrete dynamical networks, in particular logical networks, and their applications.

**Prerequisite(s)/Corequisite(s):** MATH 1960 (Calculus II), MATH 2230 (proof writing skills), MATH 4740 or equivalent (basic probability theory), basic computer skills; or permission of the instructor.

**MATH 8430 LINEAR PROGRAMMING (3 credits)**

This course includes a complete development of theoretical and computational aspects of linear programming. Basic theoretical foundations covered include polyhedra, convexity, linear inequalities and duality. Advanced topics such as decomposition and column generation are covered. Both simplex methods and interior point methods are included.

**Prerequisite(s)/Corequisite(s):** MATH 4300/ MATH 8306

**MATH 8440 NETWORK PROGRAMMING (3 credits)**

A presentation of network flow models and optimization algorithms. Topics include pure, generalized, integer, and constrained network problems, plus special cases of each, including transportation, assignment, shortest-path, transshipment, and multicommodity.

**Prerequisite(s)/Corequisite(s):** MATH 4300/ MATH 8306

**MATH 8456 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, STAT 4450, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**MATH 8460 INTEGER PROGRAMMING (3 credits)**

Advanced study in mathematical programming with integer or mixed integer variables. Topics include integer programming, model creation, developing solution algorithms, and applications of integer programming.

**Prerequisite(s)/Corequisite(s):** MATH 2030 or MATH 2230 Not open to non-degree graduate students.

**MATH 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with CSCI 8480).

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**MATH 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with CSCI 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with CSCI 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with CSCI 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**MATH 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, CSCI 8566, MATH 4560).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**MATH 8616 INTRODUCTION TO TOPOLOGY (3 credits)**

This is a proof-oriented course presenting the foundations of topology. Metric spaces and general topological spaces are introduced. The course explores the properties of connectedness, compactness and completeness, and operations of Tychonoff product and hyperspace. (Cross-listed with MATH 4610).

**Prerequisite(s)/Corequisite(s):** MATH 3230/8235 with a C- or better or permission of instructor.

**MATH 8620 GENERAL TOPOLOGY (3 credits)**

General topology has roots in geometry and analysis through the study of spaces, dimensions, and transformations. Its development was influenced by the parallel development of (axiomatic) set theory. This course introduces topological spaces from the point of view of separation axioms, countability axioms, compactifications, Baire property, and other completeness properties. Basic concepts of Descriptive Set Theory are also introduced.

**Prerequisite(s)/Corequisite(s):** MATH 4610/8616 or permission of instructor.

**MATH 8626 ITERATED FUNCTION SYSTEMS AND FRACTALS (3 credits)**

This is a proof-oriented course presenting the foundations of fractal geometry. It introduces students to the beauty, magic, and applications of fractals and iterated function systems, with emphasis on the mathematics behind it all. Topics range from contractions on hyperspaces and their fixed points to fractal dimensions to Julia and Mandelbrot sets. (Cross-listed with MATH 4620).

**Prerequisite(s)/Corequisite(s):** MATH 8616 with a C or better or permission of instructor.

**MATH 8645 MODERN GEOMETRY (3 credits)**

This course will study the modern foundations of Euclidean and Non-Euclidean Geometry. Included will be a study of the principles of axiomatic systems. Euclidean Geometry will be investigated using Hilbert's axioms for Euclidean geometry (or another equivalent Euclidean geometry axiom set). Hyperbolic geometry will be encountered through the models of Klein and Poincare. Neutral geometry with Lambert and Saccheri quadrilaterals will be studied. Finite geometries and projective geometries will also be explored. (Cross-listed with MATH 3640).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a grade of C- or better.

**MATH 8650 INTRODUCTION TO PROBABILITY MODELS (3 credits)**

This is an introduction to probability modeling including Poisson Processes, Markov chains, birth-death processes, queueing models and renewal theory. Applications will be an important part of the course.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746 or STAT 3800/STAT 8805 or permission of instructor.

**MATH 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, CSCI 8666, MATH 4660).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/CSCI 8325.

**MATH 8670 TOPICS IN PROBABILITY AND STATISTICS (3 credits)**

A variable topics course in probability and or statistics. Topics covered will include one or more of the following: reliability theory and applications in engineering and science, advanced probability and statistical models, theory of parametric estimation and applications, and advanced probability theory and application.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8740 or STAT 3800/STAT 8800 or permission from instructor

**MATH 8720 RELIABILITY THEORY (3 credits)**

This course covers the probabilistic and statistical aspects of reliability theory. Reliability theory is concerned with the probability that a component or system is successfully working over a given time period or at a specific time instance. (Cross-listed with STAT 8720).

**MATH 8746 INTRODUCTION TO PROBABILITY AND STATISTICS I (3 credits)**

A mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments; specific discrete and continuous distributions; and transformations of random variables. (Cross-listed with MATH 4740).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and either MATH 2230 or MATH 2030 or permission of instructor.

**MATH 8756 INTRODUCTION TO PROBABILITY AND STATISTICS II (3 credits)**

Theory and methods of statistical inference including sampling distributions, estimators, estimation, and statistical hypotheses. (Cross-listed with MATH 4750).

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746

**MATH 8766 TOPICS IN APPLIED MATHEMATICS (3 credits)**

Selection of such topics such as dynamical systems and chaos, Boolean networks, modeling of discrete or continuous systems, matrix theory, difference equations, information theory, discrete events simulation and other approved by Upper Curriculum Committee. (Cross-listed with MATH 4760).

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 8855 HISTORY OF MATHEMATICS (3 credits)**

An overview of the history of mathematics and famous mathematicians via studying and solving famous mathematical problems, exploring famous mathematical theorems, and studying the biographies of famous mathematicians. (Cross-listed with MATH 3850).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and MATH 2230

**MATH 8960 MASTER'S PROJECT (1-6 credits)**

An applied project, designed and executed under the supervision of both a faculty and industry advisor. In the project the student will apply their mathematical and/or statistical skills to an applied problem. The student will present their results via a written report and oral presentation. (Cross-listed with STAT 8960).

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and graduate program chair. Not open to non-degree graduate students.

**MATH 8970 INDEPENDENT GRADUATE STUDIES (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available to him/her in a formal course. The topics studied will be a graduate area in mathematics to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of instructor and graduate classification.

**MATH 8980 GRADUATE SEMINAR (1-3 credits)**

A graduate seminar in mathematics.

**MATH 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of mathematics. Approval of the topic and the completed project by thesis committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by thesis committee is required.

**MATH 9110 ADVANCED TOPICS IN APPLIED MATHEMATICS (3 credits)**

Advanced treatment of a specific topic in the area of applied mathematics not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MATH 9230 THEORY OF FUNCTION OF REAL VARIABLES (3 credits)**

A theoretical foundation for the concepts of measure theory and integration on a measure space as developed by Henry Leon Lebesgue (followed by others) starting the first decade of the 20th century including a comparison with Riemann's classical construction of integration theory known from classical calculus. Topics include: Real number system, convergence, continuity, bounded variation, differentiation, Lebesgue-Stieltjes integration, abstract measure theory, and the  $L_p$  spaces.

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236 or permission of the instructor

# Mathematics, MA

Department of Mathematics, College of Arts & Sciences

## Vision Statement

The Master of Arts in mathematics is designed to achieve two objectives:

- Provide a strong program of course work in mathematics beyond the undergraduate level and
- Be flexible enough to accommodate a wide variety of student interests and backgrounds. There are no required courses in the program, but students are strongly encouraged to develop an emphasis in the

courses which make up their individual plan of study; such an emphasis provides both focus and depth in the graduate experience.

Whatever their objectives in their graduate programs, students should form a close working relationship with a faculty member having similar mathematical interests as soon as possible. This will ensure good advice in planning a coherent plan of study. In addition, an advisor may be able to suggest special topics courses, independent study, or the thesis option which could all be used to pursue one's interests in greater depth.

Finally, students who plan to pursue a doctoral degree in mathematics should include a sequence in analysis and a sequence in algebra in their plans of study.

## Program Contact Information

Andrew Swift, DSc, Graduate Program Chair, (GPC)  
237 Durham Science Center (DSC)  
402.554.3637  
aswift@unomaha.edu

Program Website (<http://www.unomaha.edu/math/>)

## Other Program Related Information

### Graduate Assistantships

The Department of Mathematics annually awards graduate assistantships for work within the department. There are also several joint UNO/MCC positions where the teaching assignments are at Metropolitan Community College. All of these positions pay an annual stipend plus a waiver of tuition. For the details of the nature of the work, please visit the assistantships page of the Department of Mathematics website.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 31
- Spring: November 30
- Summer: April 15

## Other Requirements

For unconditional admission, an applicant should:

- Have completed a bachelor's degree with a grade point average of at least 3.0 in mathematics courses taken.
- Have completed 15 credit hours of mathematics courses beyond calculus, including MATH 3230/MATH 8235 or equivalent.
- Applicants lacking the 15 credit hours beyond calculus may be eligible for admission in a provisional or unclassified status with a deficiency to be made up in addition to the degree requirements listed.
- Applicants who satisfy the admission requirements above except for the GPA requirement may be granted provisional admission to the graduate program. They will be granted unconditional admission upon completion of 12 graduate hours with a grade of "B" or better in each course.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

## Degree Requirements

### Required Courses

There are no required courses. Choose mathematics courses with a MATH or STAT prefix numbered 8000 or above and ending in the digit zero or six, excluding MATH 8880. At least 15 of these hours must be in courses with a number ending in the zero digit. These 15 hours may include the six hours of thesis, MATH 8990, and three hours of independent study, MATH 8970.

### Electives

Since all courses are electives with the exception of the six thesis credit hours, all courses taken must satisfy the above requirements for the 30 credit hours. Up to 12 hours of graduate work electives may be taken in areas related to mathematics such as physics, computer science, and economics, if permission is obtained from the Graduate Program Committee.

### Exit Requirements

Students are required to take six hours of MATH 8990. All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms, and final approval and submission of the thesis.

### Concentrations

Students may choose (although there is no requirement to do so) to add a concentration to their Mathematics MA degree. There are currently three available concentrations:

Mathematics, MA with Computational Mathematics Concentration  
Mathematics, MA with Operations Research Concentration  
Mathematics, MA with Statistics Concentration

**Total Credit Hours: 30**

## Concentrations

### Computational Mathematics Concentration

Code	Title	Credits
<b>Core Courses</b>		
Select at least 5 of the following:		15
MATH 8336	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS <sup>1</sup>	
MATH 8250	PARTIAL DIFFERENTIAL EQUATIONS	
MATH/CSCI 8500	NUMERICAL LINEAR ALGEBRA	
MATH/CSCI 8510	NUMERICAL DIFFERENTIAL EQUATIONS	
MATH 8406	THE FINITE ELEMENT METHOD <sup>1</sup>	
MATH 8970	INDEPENDENT GRADUATE STUDIES	
<b>Electives</b>		
Select at least 9 credit hours of courses related to computational mathematics (see below).		9
MATH 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4330, or MATH 4400 may not take MATH 8336 or MATH 8406 at the graduate level. Students will replace these requirements with additional elective courses.

## Electives

At least 9 credit hours of courses related to computational mathematics. Students must have at least 15 hours of courses ending on 0, including the core courses and the 6 hours of thesis, MATH 8990.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
MATH 8356	ORDINARY DIFFERENTIAL EQUATIONS <sup>1</sup>	3
MATH 8056	LINEAR ALGEBRA <sup>1</sup>	3
MATH 8236	MATHEMATICAL ANALYSIS I <sup>1</sup>	3
MATH 8246	MATHEMATICAL ANALYSIS II <sup>1</sup>	3
MATH 8276	COMPLEX ANALYSIS <sup>1</sup>	3
MATH 8400	DYNAMICAL SYSTEMS AND CHAOS	3
MATH/CSCI 8766	TOPICS IN APPLIED MATHEMATICS	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4350, MATH 4050, MATH 4230, MATH 4240 or MATH 4270 may not take MATH 8356, MATH 8056, MATH 8236, MATH 8246, or MATH 8276 at the graduate level.

## Exit Requirement

Students are required to take 6 hours of MATH 8990. All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms, and final approval and submission of the thesis.

## Operations Research Concentration

Code	Title	Credits
<b>Core Courses</b>		
Select at least 5 of the following:		15
MATH/CSCI 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	
MATH 8326	COMPUTATIONAL OPERATIONS RESEARCH <sup>1</sup>	
MATH 8430	LINEAR PROGRAMMING	
MATH 8440	NETWORK PROGRAMMING	
MATH 8460	INTEGER PROGRAMMING	
<b>Electives</b>		
Select at least 9 credit hours of courses related to operations research (see below).		9
MATH 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4300, MATH 4310, or MATH 4320 may not take MATH 8306, MATH 8316, or MATH 8326 at the graduate level. Students will replace these requirements with additional elective courses.

## Electives

At least 9 credit hours of courses related to operations research. Students must have at least 15 hours of courses ending on 0, including the core courses and the 6 hours of thesis, MATH 8990.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
MATH/CSCI 8520	ADVANCED TOPICS IN OPERATIONS RESEARCH	3
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I <sup>1</sup>	3
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II <sup>1</sup>	3
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	3
MATH/CSCI 8156	GRAPH THEORY & APPLICATIONS <sup>1</sup>	3
STAT 8416	INTRODUCTION TO DATA SCIENCE <sup>1</sup>	3
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION <sup>1</sup>	3
STAT 8436	LINEAR MODELS <sup>1</sup>	3
STAT 8446	TIME SERIES ANALYSIS <sup>1</sup>	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4740, MATH 4750, MATH 4150, STAT 4410, STAT 4420, STAT 4430, or STAT 4440 may not take MATH 8746, MATH 8756, MATH 8156, STAT 8416, STAT 8426, STAT 8436, or STAT 8446 at the graduate level.

## Exit Requirement

Students are required to take 6 hours of MATH 8990. All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms, and final approval and submission of the thesis.

## Statistics Concentration

Code	Title	Credits
<b>Core Courses</b>		
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I <sup>1</sup>	3
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II <sup>1</sup>	3
STAT 8436	LINEAR MODELS <sup>1</sup>	3
STAT 8710	DESIGN AND ANALYSIS OF EXPERIMENTS	3
<b>Electives</b>		
Select at least 12 credit hours of courses with a statistical nature (see below)		12
MATH 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4740, MATH 4750, or STAT 4430 may not take MATH 8746, MATH 8756, or STAT 8436 at the graduate level. Students will replace these requirements with additional elective courses.

## Electives

At least 12 credit hours of courses with a statistical nature, with at least 6 credit hours of courses ending in 0.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
STAT 8700	BAYESIAN STATISTICS	3
STAT 8446	TIME SERIES ANALYSIS <sup>1</sup>	3
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	3
STAT 8720	RELIABILITY THEORY	3
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	3
MATH 8670	TOPICS IN PROBABILITY AND STATISTICS	3
STAT 8730	ADVANCED STATISTICAL MACHINE LEARNING	3
MATH/CSCI 8766	TOPICS IN APPLIED MATHEMATICS	3
STAT 8416	INTRODUCTION TO DATA SCIENCE <sup>1</sup>	3
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION <sup>1</sup>	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4310, STAT 4410, STAT 4420, or STAT 4440 may not take MATH 8316, STAT 8416, STAT 8426 or STAT 8446 at the graduate level.

### Exit Requirement

Students are required to take 6 hours of MATH 8990. All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms, and final approval and submission of the thesis.

## Mathematics, MAT

Department of Mathematics, College of Arts & Sciences

### Vision Statement

The Master of Arts for Teachers of Mathematics degree is ideal for:

- Current high school teachers who are planning on teaching advanced secondary mathematics such as Dual-Enrollment calculus at their high school.
- Any student interested in teaching freshman/sophomore level mathematics courses at local universities.
- Any student interested in pursuing a PhD in education with an emphasis in mathematics.

NOTE: This program does not help a student get a state certification to teach high school math. For those students with an undergraduate degrees already interested in pursuing a degree to teach high school math, but do not yet have a state certification to teach, consider the Teacher Academy Project (<http://www.unomaha.edu/college-of-education/moec/projects/teacher-academy-project/>).

### Program Contact Information

Michael Matthews, PhD, Graduate Program Chair (GPC)  
231 Durham Science Center (DSC)  
402.554.3558  
[michaelmatthews@unomaha.edu](mailto:michaelmatthews@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/mathematics/>)

### Other Program-Related Information

#### Graduate Assistantships

The Department of Mathematics annually awards a few graduate assistantships for work within the department. These positions pay an annual stipend plus a waiver of tuition. For the details of

the nature of the work, please contact the graduate chair, Andrew Swift, [aswift@unomaha.edu](mailto:aswift@unomaha.edu)

### Teachers of Mathematics Scholarship

The Teacher of Mathematics Scholarship is awarded to teachers of high school mathematics who are interested in obtaining a graduate degree in mathematics (MS, MA, or MAT) at UNO for the purpose of becoming eligible to teach UNO calculus dual enrollment courses. These scholarships are awarded to teachers in school districts that are participating in the Dual Enrollment program. They will provide for the reimbursement of resident tuition for up to six graduate credit hours per semester for one year. No scholarship award becomes final until UNO graduate admission status is obtained. Continuation beyond the first year depends upon satisfactory academic progress and funds available. For further information contact Dr. Janice Rech, [jrech@unomaha.edu](mailto:jrech@unomaha.edu)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- Have obtained at least a "B" (3.0 on a 4.0 scale) average in previous mathematics courses, including two courses beyond elementary calculus.
- Hold state certification for teaching secondary school mathematics
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
Complete the Mathematics for Teachers sequence:		
MTCH 8020	MATHEMATICAL MODELING FOR SECONDARY TEACHERS	3
MTCH 8030	ALGEBRA FOR ALGEBRA TEACHERS	3
MTCH 8040	TOPICS IN MATHEMATICAL COMPUTING	3
<b>Education Courses</b>		
Graduate only courses TED 8xx0 to be selected in consultation with your advisor		9
<b>Mathematic Sequences</b>		
Complete two advisor approved Mathematics (not MTCH) sequence of courses (total of 18 hours). Each sequence must consist of three connected courses (as defined by the MAT advisors). <sup>1</sup>		18
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> For example: Applied Modern Algebra, Algebra 1, and Algebra 2. If one of the courses has been taken previously as an undergraduate the course will not count toward the 36 credits, however it will count in terms of completed the three course sequence. Such a situation would in effect enable the MAT student to finish the three course sequence quicker and free up one class for an elective in mathematics.

## Exit Requirements

### • Comprehensive Examination

- Pass the mathematics comprehensive examination. The examination is offered three times a year; on April 15, July 15, and November 15th (or the proceeding Friday if any of these dates falls on a weekend). The mathematics exam is three hours in length and covers the terminal course of each of the two math sequence of courses. Each course instructor will write a 1.5 hour exam and grade the exam as pass or fail. To pass the overall MAT mathematics portion comprehensive exam, the student must pass both.

### MTCH 8010 STATISTICAL RESEARCH FOR MATHEMATICS TEACHERS (3 credits)

This course is designed for graduate students in the MAT program who select the statistics option to complete their degree. The student will do a literature review, design a study involving mathematics education, gather and analyze the data, and prepare a manuscript for submission to a refereed journal. (The course will not count toward a major in the MA or MS program.) To prepare for the course, interested students should contact the instructor of the course several months before (8 is the norm) to have time to do the groundwork for the study.

**Prerequisite(s)/Corequisite(s):** STAT 8015 and TED 8010.

### MTCH 8020 MATHEMATICAL MODELING FOR SECONDARY TEACHERS (3 credits)

This course will examine the mathematics underlying several problem situations found in a variety of societal settings. Mathematical models of problems in current literature will be examined and other models will be constructed based on data collected through course activities. Topics relevant to these problems will include function analysis, algebra, geometry, trigonometry and probability and statistics. The role of mathematics in society will be evidenced as problems considered will be timely and sources utilized will include original documentation whenever possible (i.e. recent research reports, government reports and publications).

### MTCH 8030 ALGEBRA FOR ALGEBRA TEACHERS (3 credits)

This course will use study interesting mathematical systems related to key algebraic ideas and study habits of mind that are key to effective problem solving. The properties about numbers and operations discovered will connect to the same properties taught in school algebraic course. Special attention will be paid to linear, quadratic, exponential, and logarithmic, polynomial functions in connection to their importance in school algebra.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate Program

### MTCH 8040 TOPICS IN MATHEMATICAL COMPUTING (3 credits)

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. (Cross-listed with STEM 8040)

**Prerequisite(s)/Corequisite(s):** MATH 2200 or equivalent or approval of instructor.

### MTCH 8880 ADVANCED PLACEMENT INSTITUTE: CALCULUS (3 credits)

A workshop for teachers planning to offer an advanced placement course in calculus. Objectives include increasing teacher competencies in single-variable calculus, discussion and study of AP calculus exams, implementations of AP courses in calculus, and development and presentation of projects for graduate credit. (This course will not count toward the M.A. or M.S. degrees in Mathematics, or the Secondary Mathematics Specialist Graduate Certificate.)

**Prerequisite(s)/Corequisite(s):** Graduate in mathematics or mathematics education.

## Mathematics, MS

Department of Mathematics, College of Arts & Sciences

### Vision Statement

The Master of Science in mathematics is designed to achieve two objectives:

- Provide a strong program of course work in mathematics beyond the undergraduate level and
- Be flexible enough to accommodate a wide variety of student interests and backgrounds. There are no required courses in the program, but students are strongly encouraged to develop an emphasis in the courses which make up their individual plan of study; such an emphasis provides both focus and depth in the graduate experience.

Whatever their objectives in their graduate programs, students should form a close working relationship with a faculty member having similar mathematical interests as soon as possible. This will ensure good advice in planning a coherent plan of study. In addition, an advisor may be able to suggest special topics courses, independent study, or the thesis option which could all be used to pursue one's interests in greater depth. Finally, students who plan to pursue a doctoral degree in mathematics should include a sequence in analysis and a sequence in algebra in their plans of study.

### Program Contact Information

Dr. Andrew Swift, DSc, Graduate Program Chair (GPC)  
237 Durham Science Center (DSC)  
402.554.3637  
aswift@unomaha.edu

Program Website (<http://www.unomaha.edu/math/>)

### Other Program Related Information

#### Graduate Assistantships

The Department of Mathematics annually awards graduate assistantships for work within the department. There are also several joint UNO/MCC positions where the teaching assignments are at Metropolitan Community College. All of these positions pay an annual stipend plus a waiver of tuition. For the details of the nature of the work, please visit the assistantships page of the Department of Mathematics website.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

**Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Fall: July 31
- Spring: November 30
- Summer: April 15

## Other Requirements

For unconditional admission, an applicant should:

- Have completed a bachelor's degree with a grade point average of at least 3.0 in mathematics courses taken.
- Have completed 15 credit hours of mathematics courses beyond calculus, including MATH 3230/MATH 8235 or equivalent.
- Applicants lacking the 15 credit hours beyond calculus may be eligible for admission in a provisional or unclassified status with a deficiency to be made up in addition to the degree requirements listed.
- Applicants who satisfy the admission requirements above except for the GPA requirement may be granted provisional admission to the graduate program. They will be granted unconditional admission upon completion of 12 graduate hours with a grade of "B" or better in each course.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

## Degree Requirements

### Required Courses

There are no required courses. Choose mathematics courses with a MATH or STAT prefix numbered 8000 or above and ending in the digit zero or six, excluding MATH 8880. At least 18 of these hours must be in courses with a number ending in a zero digit. These 18 may include three hours of independent study, MATH 8970. Courses numbered 8xx5 will not count towards the MS degree in Mathematics.

If the project option is chosen, the six required hours of MATH 8960 or STAT 8960 will count towards the overall credit hour total, and the required 18 hours of courses ending in a zero digit.

If a student chooses to add a concentration to their degree program (see below) then there will be specific courses that will be needed to be completed to fulfill the concentration requirements.

### Electives

Since there are no required courses, all courses are electives which must satisfy the requirements given above for the 36 credit hours. Up to 12 hours of graduate work electives may be taken in areas related to mathematics, physics, computer science, and economics, if permission is obtained from the Graduate Program Committee.

## Exit Requirements

Select One:

- **Comprehensive Examination**
  - The comprehensive examination is based on three related courses (one of which must have a number ending in a zero digit) consisting of two parts. The first part is a one-week take-home examination. The second part is a three hour examination which may be open book, at the discretion of the instructor(s). The examination is normally taken in the student's final semester and should be scheduled well in advance of the graduate college deadlines.
- **Project**
  - A mathematical or statistical project undertaken under the supervision of both a faculty advisor and an external (industry) advisory. The purpose of the project is for the student to work on a

'real-world' problem. The student will produce a written report and give an oral presentation of their work. Students are required to register for six hours of MATH 8960 or STAT 8960.

## Concentrations

Students may choose (although there is no requirement to do so) to add a concentration to their Mathematics MS degree. There are currently four available concentrations:

Mathematics, MS with Computational Mathematics Concentration  
 Mathematics, MS with Data Science Concentration  
 Mathematics, MS with Operations Research Concentration  
 Mathematics, MS with Statistics Concentration

### Total Credit Hours: 36

## Concentrations

Courses numbered 8–5 will not count towards the MS degree in Mathematics.

### Computational Mathematics Concentration

Code	Title	Credits
<b>Core Courses</b>		
Select at least 5 of the following:		15
MATH 8336	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS <sup>1</sup>	
MATH 8250	PARTIAL DIFFERENTIAL EQUATIONS	
MATH/CSCI 8500	NUMERICAL LINEAR ALGEBRA	
MATH/CSCI 8510	NUMERICAL DIFFERENTIAL EQUATIONS	
MATH 8406	THE FINITE ELEMENT METHOD <sup>1</sup>	
MATH 8970	INDEPENDENT GRADUATE STUDIES	
<b>Electives</b>		
Select at least 21 credit hours of courses related to computational mathematics (see below).		21
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> Students who were undergraduates at UNO and took MATH 4330 or MATH 4400 may not take MATH 8336 or MATH 8406 at the graduate level. Students can replace these requirements with additional elective courses.

### Electives

At least 21 credit hours of courses related to computational mathematics. Students must have at least 18 hours of courses ending on 0, including the core courses.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
MATH 8356	ORDINARY DIFFERENTIAL EQUATIONS <sup>1</sup>	3
MATH 8056	LINEAR ALGEBRA <sup>1</sup>	3
MATH 8236	MATHEMATICAL ANALYSIS I <sup>1</sup>	3
MATH 8246	MATHEMATICAL ANALYSIS II <sup>1</sup>	3
MATH 8276	COMPLEX ANALYSIS <sup>1</sup>	3
MATH 8400	DYNAMICAL SYSTEMS AND CHAOS	3
MATH/CSCI 8766	TOPICS IN APPLIED MATHEMATICS	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4350, MATH 4050, MATH 4230, MATH 4240, or MATH 4270 may not take MATH 8356, MATH 8056, MATH 8236, MATH 8246, or MATH 8276 at the graduate level.

## Exit Requirements

### Comprehensive Examination

The comprehensive examination is based on three related courses (one of which must have a number ending in a zero digit) consisting of two parts. The first part is a one-week take-home examination. The second part is a 3-hour examination which may be open book, at the discretion of the instructor(s). The examination is normally taken in the student's final semester and should be scheduled well in advance of the graduate college deadlines.

(Note: The project exit requirement is not available for those students wishing to complete the Computational Mathematics concentration, only the comprehensive exam exit requirement is allowed).

## Data Science Concentration

### Prerequisites

Some statistics and computer programming are highly recommended.

### Required Courses

Code	Title	Credits
<b>Introductory Courses</b>		
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I <sup>1</sup>	3
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II <sup>1</sup>	3
<b>Core Courses</b>		
STAT 8416	INTRODUCTION TO DATA SCIENCE <sup>2</sup>	3
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION <sup>2</sup>	3
MATH/CSCI 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS <sup>2</sup>	3
<b>Approved Electives</b>		
Select at least 15 credit hours from the following: <sup>3</sup>		15
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS <sup>4</sup>	
MATH 8430	LINEAR PROGRAMMING	
MATH 8440	NETWORK PROGRAMMING	
MATH 8460	INTEGER PROGRAMMING	
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	
MATH 8670	TOPICS IN PROBABILITY AND STATISTICS	
STAT 8436	LINEAR MODELS <sup>4</sup>	
STAT 8446	TIME SERIES ANALYSIS <sup>4</sup>	
STAT 8456	INTRODUCTION TO MACHINE LEARNING AND DATA MINING <sup>4</sup>	
STAT 8700	BAYESIAN STATISTICS	
STAT 8710	DESIGN AND ANALYSIS OF EXPERIMENTS	
STAT 8720	RELIABILITY THEORY	
MATH 8970	INDEPENDENT GRADUATE STUDIES	
STAT 8730	ADVANCED STATISTICAL MACHINE LEARNING	
STAT/MATH 8960	MASTER'S PROJECT	6
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4740 or MATH 4750 may not take MATH 8746 or MATH 8756. For those students who can demonstrate previous statistical exposure can appeal to the graduate program chair to waive the MATH 8746/MATH 8756 requirements. Students can replace these requirements with additional elective courses.

<sup>2</sup> Students who were undergraduates at UNO and took STAT 4410, STAT 4420, or MATH 4300 may not take STAT 8416, STAT 8426, or MATH 8306 at the graduate level. Students can replace these requirements with additional elective courses.

<sup>3</sup> If any of the introductory or core course requirements were waived, then additional electives should be taken in their place. Other elective courses may be possible with the prior permission of the graduate program chair.

<sup>4</sup> Students who were undergraduates at UNO and took MATH 4310, STAT 4430, or STAT 4440 may not take MATH 8316, STAT 8436, or STAT 8446 at the graduate level.

### Exit Requirement

Each student is required to complete a project involving working with real-world data. The student will be advised by both a faculty and external advisor, and a completed written and oral report is required.

Students are required to sign up for 6 hours of MATH 8960 or STAT 8960.

(Note: The comprehensive exam exit requirement is not available for those students wishing to complete the Data Science concentration, only the project exit requirement is allowed).

## Operations Research Concentration

Code	Title	Credits
<b>Core Courses</b>		
Select at least 5 of the following:		15
MATH/CSCI 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	
MATH 8326	COMPUTATIONAL OPERATIONS RESEARCH <sup>1</sup>	
MATH 8430	LINEAR PROGRAMMING	
MATH 8440	NETWORK PROGRAMMING	
MATH 8460	INTEGER PROGRAMMING	
<b>Electives</b>		
Select one of the following (see below):		21
For students choosing the comprehensive exam option, at least 21 credit hours of courses related to operations research		
For students choosing the project option, at least 15 credit hours of courses related to operations research and 6 credit hours of MATH 8960		
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4300, MATH 4310, or MATH 4320 may not take MATH 8306, MATH 8316, or MATH 8326 at the graduate level. Students can replace these requirements with additional elective courses.

### Electives

For students choosing the comprehensive exam option, at least 21 credit hours of courses related to operations research.

For students choosing the project option, at least 15 credit hours of courses related to operations research.

Students must have at least 18 hours of courses ending on 0, including the core courses and, for those choosing the project option, the 6 hours of project, MATH 8960.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
MATH/CSCI 8520	ADVANCED TOPICS IN OPERATIONS RESEARCH	3
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I <sup>1</sup>	3
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II <sup>1</sup>	3
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	3
MATH/CSCI 8156	GRAPH THEORY & APPLICATIONS <sup>1</sup>	3
STAT 8416	INTRODUCTION TO DATA SCIENCE <sup>1</sup>	3
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION <sup>1</sup>	3
STAT 8436	LINEAR MODELS <sup>1</sup>	3
STAT 8446	TIME SERIES ANALYSIS <sup>1</sup>	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4740, MATH 4750, MATH 4150, STAT 4410, STAT 4420, STAT 4430, or STAT 4440 may not take MATH 8746, MATH 8756, MATH 8156, STAT 8416, STAT 8426, STAT 8436, or STAT 8446 at the graduate level.

### Exit Requirements

Code	Title	Credits
Comprehensive Examination or		
MATH/STAT 8960	MASTER'S PROJECT	6

The comprehensive examination is based on three related courses (one of which must have a number ending in a zero digit) consisting of two parts. The first part is a one-week take-home examination. The second part is a 3-hour examination which may be open book, at the discretion of the instructor(s). The examination is normally taken in the student's final semester and should be scheduled well in advance of the graduate college deadlines.

A project undertaken under the supervision of both a faculty advisor and an external (industry) advisory. The purpose of the project is for the student to work on a 'real-world' problem using the skills learned during their coursework. The student will produce a written report and give an oral presentation of their work. Students are required to register for 6 hours of MATH 8960.

### Statistics Concentration

Code	Title	Credits
<b>Core Courses</b>		
MATH 8746	INTRODUCTION TO PROBABILITY AND STATISTICS I <sup>1</sup>	3
MATH 8756	INTRODUCTION TO PROBABILITY AND STATISTICS II <sup>1</sup>	3
STAT 8436	LINEAR MODELS <sup>1</sup>	3
STAT 8710	DESIGN AND ANALYSIS OF EXPERIMENTS	3
<b>Electives</b>		
Select one of the following (see below):		24

For students choosing the comprehensive exam option, at least 24 credit hours of courses with a statistical nature, with at least 15 hours of courses ending in 0

For students choosing the project option, at least 18 credit hours of courses with a statistical nature, with at least 9 hours of courses ending in 0. Six hours of MATH 8960 are required.

### Total Credits

**36**

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4740, MATH 4750, or STAT 4430 may not take MATH 8746, MATH 8756, or STAT 8436 at the graduate level. Students can replace these requirements with additional elective courses.

### Electives

For students choosing the comprehensive exam option, at least 24 credit hours of courses with a statistical nature, with at least 15 hours of courses ending in 0.

For students choosing the project option, at least 18 credit hours of courses with a statistical nature, with at least 9 hours of courses ending in 0.

Some suggested courses are provided below. Other elective courses may be possible with the prior permission of the graduate program chair.

If any of the core course requirements were waived, then additional electives should be taken in their place.

Code	Title	Credits
STAT 8700	BAYESIAN STATISTICS	3
STAT 8720	RELIABILITY THEORY	3
STAT 8446	TIME SERIES ANALYSIS <sup>1</sup>	3
MATH 8650	INTRODUCTION TO PROBABILITY MODELS	3
MATH 8670	TOPICS IN PROBABILITY AND STATISTICS	3
MATH/CSCI 8316	PROBABILISTIC OPERATIONS RESEARCH MODELS <sup>1</sup>	3
STAT 8416	INTRODUCTION TO DATA SCIENCE <sup>1</sup>	3
STAT 8426	EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION <sup>1</sup>	3
STAT 8730	ADVANCED STATISTICAL MACHINE LEARNING	3
MATH 8970	INDEPENDENT GRADUATE STUDIES	1-3

<sup>1</sup> Students who were undergraduates at UNO and took MATH 4310, STAT 4410, STAT 4420, or STAT 4440 may not take MATH 8316, STAT 8416, STAT 8426, or STAT 8446 at the graduate level.

### Exit Requirements

Code	Title	Credits
Comprehensive Examination or		
STAT/MATH 8960	MASTER'S PROJECT	6

The comprehensive examination is based on three related courses (one of which must have a number ending in a zero digit) consisting of two parts. The first part is a one-week take-home examination. The second part is a 3-hour examination which may be open book, at the discretion of the instructor(s). The examination is normally taken in the student's final semester and should be scheduled well in advance of the graduate college deadlines.

A statistical project undertaken under the supervision of both a faculty advisor and an external (industry) advisory. The purpose of the project is for the student to work on a 'real-world' problem. The student will produce a written report and give an oral presentation of their work.

Students are required to register for 6 hours of STAT 8960.

# Secondary Mathematics Specialist Certificate

Department of Mathematics, College of Arts & Sciences

## Vision Statement

The Secondary Mathematics Specialist certificate is ideal for:

- Current high school teachers who are planning on teaching advanced secondary mathematics such as Dual-Enrollment calculus at their high school and already have a masters degree in a STEM or education field or would like to get one.
- Any student interested in teaching freshman/sophomore level mathematics courses at local universities.
- Any student interested in pursuing a PhD in education with an emphasis in mathematics.

**NOTE:** This program does not help a student get a state certification to teach high school math. For those students with an undergraduate degrees already interested in pursuing a degree to teach high school math, but do not yet have a state certification to teach, consider the Teacher Academy Project (<http://www.unomaha.edu/college-of-education/moec/projects/teacher-academy-project/>).

## Program Contact Information

Michael Matthews, PhD, Graduate Program Chair (GPC)  
231 Durham Science Center (DSC)  
402.554.3558  
[michaelmatthews@unomaha.edu](mailto:michaelmatthews@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/mathematics/>)

## Other Program Related Information

### Graduate Assistantships

The Department of Mathematics annually awards a few graduate assistantships for work within the department. These positions pay an annual stipend plus a waiver of tuition. For the details of the nature of the work, please contact the graduate department chair, Andrew Swift, [aswift@unomaha.edu](mailto:aswift@unomaha.edu).

### Teachers of Mathematics Scholarship

The Teacher of Mathematics Scholarship is awarded to teachers of high school mathematics who are interested in obtaining a graduate degree in mathematics (MS, MA, or MAT) at UNO for the purpose of becoming eligible to teach UNO calculus dual enrollment courses. These scholarships are awarded to teachers in school districts that are participating in the Dual Enrollment program. They will provide for the reimbursement of resident tuition for up to six graduate credit hours per semester for one year. No scholarship award becomes final until UNO graduate admission status is obtained. Continuation beyond the first year depends upon satisfactory academic progress and funds available. For further information contact Dr. Janice Rech, [jrech@unomaha.edu](mailto:jrech@unomaha.edu).

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

## Other Requirements

Individuals applying must satisfy the following requirements which are the same as for the Mathematics MAT degree.

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Have obtained at least a "B" (3.0 on a 4.0 scale) average in previous mathematics courses, including two courses beyond elementary calculus
- Hold state certification for teaching secondary school mathematics
- Course prerequisites will be determined at admission

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
Complete the Mathematics for Teachers sequence:		
MTCH 8020	MATHEMATICAL MODELING FOR SECONDARY TEACHERS	3
MTCH 8030	ALGEBRA FOR ALGEBRA TEACHERS	3
MTCH 8040	TOPICS IN MATHEMATICAL COMPUTING	3
<b>Mathematic Sequences</b>		
Complete one advisor approved Mathematics (not MTCH) sequence of courses (total of 9 hours). One sequence must include MATH 8756 and one of the following: STAT 8416 or STAT 8426. One additional MATH/STAT elective is required and can be part of either sequence.)		9
<b>Total Credits</b>		<b>18</b>

## Music, MM

### Degree Programs Offered

- Music, MM (p. 1278)

## Certificates Offered

- Kodaly Certificate (p. 1279)

### MUS 815A APPLIED BASSOON (1-3 credits)

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815B APPLIED CELLO (1-3 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for 1-3 credits. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the string faculty.

**MUS 815C APPLIED CLARINET (1-3 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815D APPLIED DOUBLE BASS (1-3 credits)**

This course, applied bass, is intended for private study of the double bass at the university graduate level. This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring bass as their major instrument. Not open to non-degree graduate students.

**MUS 815E APPLIED EUPHONIUM (1-3 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815F APPLIED FLUTE (1-3 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors), two credit hours (music education majors), or three credit hours (music performance majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty, or successful completion of at least 1 credit of MUS 815F. Students enrolled in this course must also enroll in an instrumental ensemble.

**MUS 815G APPLIED FRENCH HORN (1-3 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815H APPLIED GUITAR (1-3 credits)**

This course, applied guitar, is intended for private study of the guitar at the university graduate level. This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring guitar as their major instrument. Not open to non-degree graduate students.

**MUS 815I APPLIED HARP (1-3 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for 1-3 credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring harp as their major instrument. Not open to non-degree graduate students.

**MUS 815J APPLIED OBOE (1-3 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815K APPLIED PERCUSSION (1-3 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Admission into the graduate college. Enrollment in this course requires an audition performed for and approved by the percussion faculty. Must attend the weekly masterclass. Not open to non-degree graduate students.

**MUS 815L APPLIED PIANO (1-3 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 815M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 815N APPLIED SAXOPHONE (1-3 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815O APPLIED TROMBONE (1-3 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815P APPLIED TRUMPET (1-3 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815Q APPLIED TUBA (1-3 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815R APPLIED VIOLA (1-3 credits)**

This course, applied bass, is intended for private study of the viola at the university graduate level. This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring viola as their major instrument. Not open to non-degree graduate students.

**MUS 815S APPLIED VIOLIN (1-3 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for 1-3 credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring violin as their major instrument. Not open to non-degree graduate students.

**MUS 815T VOICE (1-3 credits)**

This course provides graduate level individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one or two credit hour (MM Education candidates) or three credit hours (MM Performance candidates). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All students must attend the weekly masterclass.

**MUS 8006 SPECIAL STUDIES IN MUSIC (1-3 credits)**

Seminars or workshops in Theory, History, Performance, and Music Education designed to meet specific interests and needs of students. Topics and number of credits for each specific offering will be announced during the prior semester. (Cross-listed with MUS 4000).

**Prerequisite(s)/Corequisite(s):** Graduate and permission of department.

**MUS 8160 PERFORMING ENSEMBLES (0-1 credits)**

This course is designed to provide high quality performance experience for the graduate level string, voice, and instrumental students. In addition to the series concerts on campus, there are frequent appearances at professional music conferences and community/statewide events. Students will be exposed to a wide variety of music from appropriate style periods.

**Prerequisite(s)/Corequisite(s):** Graduate standing, audition. Not open to non-degree graduate students.

**MUS 8246 ADVANCED AUDIO RECORDING TECHNIQUES (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering. (Cross-listed with MUS 4240).

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 8436 ARRANGING FOR JAZZ ENSEMBLE (3 credits)**

Techniques of writing for jazz ensembles of various combinations of instruments. (Cross-listed with MUS 4430).

**Prerequisite(s)/Corequisite(s):** MUS 2480 or MUS 2420

**MUS 8446 MUSIC SINCE 1945 (3 credits)**

This course covers important developments in music in the United States and Europe since 1945. (Cross-listed with MUS 4440).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of the instructor.

**MUS 8460 MUSIC ANALYSIS FOR PERFORMANCE (3 credits)**

Advanced study of performance practice and music analysis.

**Prerequisite(s)/Corequisite(s):** Graduate Student in Music

**MUS 8536 HISTORY OF WESTERN OPERA (3 credits)**

This course will consist of significant music theater works in the Western world from 1600 to the present. (Cross-listed with MUS 4530).

**Prerequisite(s)/Corequisite(s):** Music major or permission of instructor

**MUS 8546 RENAISSANCE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature c. 1350-1600. (Cross-listed with MUS 4540).

**Prerequisite(s)/Corequisite(s):** MUS 2550, 2560, 2570 and graduate. Not open to non-degree graduate students.

**MUS 8556 BAROQUE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1600-1750. (Cross-listed with MUS 4550).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560 and graduate.

**MUS 8566 CLASSICAL MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1750-1815. (Cross-listed with MUS 4560).

**Prerequisite(s)/Corequisite(s):** MUS 2550, 2560, 2570 and graduate

**MUS 8576 ROMANTIC MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of Music literature from c. 1815-1912. (Cross-listed with MUS 4570).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560 and graduate.

**MUS 8586 MUSIC FROM 1900 - 1945 (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from the post-romantic period to 1945. The objective will be to provide the student with a broad overview with special attention given to composers and individual works which typify a style or form. (Cross-listed with MUS 4580).

**Prerequisite(s)/Corequisite(s):** MUS 2560.

**MUS 8596 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 4590, BLST 8596, BLST 4590).

**Prerequisite(s)/Corequisite(s):** Music major standing or permission of instructor.

**MUS 8600 PEDAGOGY OF WORLD MUSIC (3 credits)**

This class will cover the two primary approaches to teaching world musics; the world music curriculum and the music in America curriculum. Pedagogical approaches to the case study and the cultural survey will be included. Activities relating to performing and listening to world musics are also part of the course.

**Prerequisite(s)/Corequisite(s):** Graduate

**MUS 8606 PIANO PEDAGOGY (3 credits)**

This course is a survey of the art of teaching the piano. Course content will include a survey of beginning and intermediate piano methods, literature for the beginning/intermediate piano student, studio business practice, professional organizations, and group piano instruction pedagogy. (Cross-listed with MUS 4600).

**MUS 8610 ORGANIZATION AND ADMINISTRATION IN MUSIC (3 credits)**

Course is designed to acquaint students with the knowledge and concepts necessary for understanding and developing music education programs in the public schools and specific knowledge pertaining to policies and procedures for administering and supervising programs of music education.

**MUS 8616 VOICE PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of the vocal mechanism and of the various techniques used in developing the singing voice. Also, it will apply knowledge acquired about the voice through studio teaching and observations of other voice teachers. (Cross-listed with MUS 4610).

**Prerequisite(s)/Corequisite(s):** Voice Music Major or permission of instructor.

**MUS 8630 RESEARCH AND BIBLIOGRAPHY IN MUSIC (3 credits)**

A study of research techniques and literature in music toward the objectives of reading and evaluating music research and doing independent work in the area.

**Prerequisite(s)/Corequisite(s):** Graduate standing in the UNO School of Music.

**MUS 8640 FOUNDATIONS OF MUSIC EDUCATION (3 credits)**

A study of psychological and historical backgrounds of music education through attention to relevant topics in the psychology of music and learning theory and through relevant readings in the history of music education as well as sociological trends in American schools.

**Prerequisite(s)/Corequisite(s):** Graduate.

**MUS 8660 PEDAGOGY OF MUSIC THEORY (3 credits)**

Designed to introduce teachers to the techniques and problems of teaching music theory in elementary and secondary schools and colleges. This will be accomplished through a variety of methods to include a review of texts, teaching, and research.

**Prerequisite(s)/Corequisite(s):** Acceptance to the graduate program in music.

**MUS 8670 KODALY I: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level I courses focus specifically on pedagogy, repertoire, and materials for grades prekindergarten through grade 1.

**MUS 8680 KODALY 2: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level I courses focus specifically on pedagogy, repertoire, and materials for grades 2 through grade 4.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 8670

**MUS 8690 KODALY 3: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level III courses focus specifically on pedagogy, repertoire, and materials for grades 5-6.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 8680.

**MUS 8696 HEALTH AND WELLNESS FOR MUSICIANS (3 credits)**

Health and Wellness for Musicians gives an overview of the dimensions of wellness and common health/wellness challenges for musicians. The course provides students with a toolbox of ideas and strategies for the development, design, and implementation of a music wellness campaign for non-musicians and individualized wellness plans for specific instruments and voice types. (Cross-listed with MUS 4660).

**MUS 8700 CONDUCTING PRACTICUM (1-3 credits)**

Private instruction in conducting and an intense study of the various disciplines in music and their relationship and application to the art of conducting. Course may include a group seminar component. This course may be repeated for credit.

**Prerequisite(s)/Corequisite(s):** Acceptance into the graduate program for conducting majors. Permission of instructor for performance or music education majors.

**MUS 8710 KODALY 4: METHODOLOGY AND ADVANCED STUDIES (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. It is designed for students who have completed Kodaly certification (levels I-III). The course assists students in continual development of individual musicianship, mentoring, and research skills.

**MUS 8720 KODALY 1: MUSICIANSHIP (1 credit)**

This course provides basic musicianship skills through singing, conducting, and dictating simple rhythms, melodies and folk songs.

**Prerequisite(s)/Corequisite(s):** Requires concurrent enrollment in MUS 8670

**MUS 8726 CHORAL LITERATURE (3 credits)**

A survey course in the study of significant choral genre of the various periods of music from plain song to contemporary music. (Cross-listed with MUS 4720).

**Prerequisite(s)/Corequisite(s):** Graduate music major standing or permission of the instructor.

**MUS 8730 KODALY 2: MUSICIANSHIP (1 credit)**

This course provides intermediate musicianship skills through singing, conducting, and dictating simple rhythms, melodies and folk songs.

**Prerequisite(s)/Corequisite(s):** Prerequisites: MUS 8670 and MUS 8720; Requires concurrent enrollment in MUS 8680

**MUS 8736 KEYBOARD LITERATURE (3 credits)**

This course will examine literature written for keyboard (piano) from the 16th century to the present. Emphasis will be placed on solo literature of the Baroque, Classic, Romantic, and Contemporary periods. Included are keyboard concertos with orchestra and works for four hands and two pianos. (Cross-listed with MUS 4730).

**MUS 8740 KODALY 3: MUSICIANSHIP (1 credit)**

This course provides advanced musicianship skills through singing, conducting, and dictation of rhythms, melodies and folk songs in multiple meters, scales, and modes.

**Prerequisite(s)/Corequisite(s):** Prerequisite must have completed MUS 8680 and MUS 8730; Requires concurrent enrollment in MUS 8690

**MUS 8746 VOICE LITERATURE (3 credits)**

This course is a study of the development of art song in Europe and America. Emphasis will be given to German and French song literature and their influences on English and American song. (Cross-listed with MUS 4740).

**Prerequisite(s)/Corequisite(s):** MUS 815T or permission of graduate instructor.

**MUS 8770 KODALY 4: MUSICIANSHIP (1 credit)**

This course provides advanced musicianship skills through singing, conducting, and dictation of rhythms, melodies and folk songs in multiple meters, scales, and modes.

**Prerequisite(s)/Corequisite(s):** Prerequisites: completion of MUS 8690 and MUS 8740; Corequisites: Requires concurrent enrollment in MUS 8710

**MUS 8970 GRADUATE PROJECT (3 credits)**

Completion of a graduate project relevant to the student's major area of study under the supervision of an advisor. The project must demonstrate competency in writing and research/creative activity as it pertains to appropriate aspects of music.

**Prerequisite(s)/Corequisite(s):** A committee comprised of three full-time faculty members, with graduate standing in the School of Music must approve the project.

**MUS 8980 RECITAL (3 credits)**

This course involves the selection, preparation and public performance of a full recital in the student's major applied area. The recital should demonstrate the student's competency in a variety of styles and make advanced technical and interpretative demands. The course also includes related Electronic Press Kit: program, press release and photo.

**Prerequisite(s)/Corequisite(s):** Students are required to pay a Recital Fee which covers costs for programs and recording. Students must be concurrently enrolled in applied lessons (MUS 815) on the instrument/voice on which they are performing the recital.

**MUS 8990 THESIS (3 credits)**

The purpose of this course is to allow graduate students in Music Education the opportunity to develop a substantive thesis which employs and mirrors research or original thought of a quality and quantity appropriate to advanced work in music education. This course will be handled on an individual study basis with aid and consultation from a faculty thesis advisor and thesis committee. Method of grading will be a designation of "satisfactory" or "unsatisfactory".

**Prerequisite(s)/Corequisite(s):** MUS 8630 and 24 hours of graduate coursework. A Proposed Supervisory Committee Form and Thesis Proposal Approval Form filed with the Office of Graduate Studies before initiating the thesis at least one semester prior to the anticipated graduation date.

## Music, MM

School of Music, College of Communication, Fine Arts & Media

### Vision Statement

The Master of Music degree at the University of Nebraska at Omaha (UNO) is divided into four concentrations: music education, music performance, jazz and conducting. The music performance and jazz concentrations are 30 hour programs that emphasize performance and applied music. Courses dealing with history, theory, and pedagogy are included, and opportunities for internships and performances in local professional organizations such as Opera Omaha, Omaha Performing Arts, the Jewell and the Omaha Symphony are enjoyed by students at UNO. The music education concentration is a 30 hour program with courses that emphasize pedagogy, practical application of music skills, and research for teachers at all levels. The class times and offerings are scheduled with the current practitioner in mind and include the option to complete much of the coursework online or during summer sessions. The conducting concentration is a thirty-hour program that emphasizes individualized instruction in conducting and maximizes experiences in front of an ensemble. Courses in music history, literature, and theory supplement the practical experience to help produce well-rounded graduates with considerable knowledge of techniques and literature. The conducting concentration is available through in-person instruction, online/remote instruction, or hybrid instruction. In order to pursue the online/remote delivery option students must have an off-campus lab ensemble approved by graduate conducting faculty as part of the audition process.

### Program Contact Information

Pete Madsen, DMA, Graduate Program Chair (GPC)  
226 Strauss Performing Arts (SPAC)  
402.554.2297  
petermadsen@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/music/>)

## Admissions

General Application Requirements and Admission Criteria

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 15
- Spring: November 15
- Summer: April 15

### Other Requirements

- Applicants must have an undergraduate degree in music from an accredited institution and have an undergraduate cumulative GPA of 3.0 or a GPA of 3.0 or better in all music courses.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume**
- If the applicant does not have an undergraduate degree in music, the applicant must take the School of Music Graduate Diagnostic Exam before enrolling in any graduate courses in order to determine which undergraduate foundation courses may be necessary.
- An audition for a panel of three graduate faculty members is required for all applicants wishing to pursue the **Performance, Jazz or Conducting** concentration.

## Degree Requirements

Student must select an area of concentration.

### Conducting Concentration

Code	Title	Credits
<b>Required Concentration Courses</b>		
MUS 8630	RESEARCH AND BIBLIOGRAPHY IN MUSIC	3
MUS 8700	CONDUCTING PRACTICUM (Nine hours required)	9
MUS 8460	MUSIC ANALYSIS FOR PERFORMANCE	3
<b>Music History and Literature</b>		
Select 3 hours from the following:		3
MUS 8546	RENAISSANCE MUSIC LITERATURE	
MUS 8556	BAROQUE MUSIC LITERATURE	
MUS 8566	CLASSICAL MUSIC LITERATURE	
MUS 8576	ROMANTIC MUSIC LITERATURE	
MUS 8586	MUSIC FROM 1900 - 1945	
MUS 8446	MUSIC SINCE 1945	
<b>Electives in Music</b>		
The electives are approved by the graduate advisor during the advising process. Students pursuing the choral conducting option must complete MUS 8726 as an elective.		6
MUS 8980	RECITAL (Six hours required)	6
<b>Total Credits</b>		<b>30</b>

### Jazz Concentration

Code	Title	Credits
<b>Required Concentration Courses</b>		
Select nine (9) hours in MUS 815 Applied Music A-Z		9

MUS 8630	RESEARCH AND BIBLIOGRAPHY IN MUSIC	3
MUS 8436	ARRANGING FOR JAZZ ENSEMBLE	3
MUS 8596	AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP	3

#### Electives in Music 6

Electives are approved by the Graduate Advisor during the advising process. See the UNO Graduate Catalog for a complete list of graduate music courses.

#### Option A 6

MUS 8970	GRADUATE PROJECT	
MUS 8980	RECITAL	

#### Option B 6

MUS 8980	RECITAL (This option required 2 recitals)	
----------	---	--

#### Total Credits 30

## Music Education Concentration

Code	Title	Credits
------	-------	---------

#### Required Concentration Courses

MUS 8630	RESEARCH AND BIBLIOGRAPHY IN MUSIC	3
MUS 8610	ORGANIZATION AND ADMINISTRATION IN MUSIC	3
MUS 8640	FOUNDATIONS OF MUSIC EDUCATION	3
MUS 8600	PEDAGOGY OF WORLD MUSIC	3
MUS 8660	PEDAGOGY OF MUSIC THEORY	3

#### Required Music Theory Course

MUS 8460	MUSIC ANALYSIS FOR PERFORMANCE	3
----------	--------------------------------	---

#### Required Music History and Literature Course

Select 3 hours from the following: 3

MUS 8546	RENAISSANCE MUSIC LITERATURE	
MUS 8556	BAROQUE MUSIC LITERATURE	
MUS 8566	CLASSICAL MUSIC LITERATURE	
MUS 8576	ROMANTIC MUSIC LITERATURE	
MUS 8586	MUSIC FROM 1900 - 1945	
MUS 8446	MUSIC SINCE 1945	

#### Electives in Music 6

#### Electives in Music or Education 3

The electives must be approved by the graduate advisor during the advising process.

#### Total Credits 30

## Music Performance Concentration

Code	Title	Credits
------	-------	---------

#### Required Concentration Courses

#### Select nine (9) hours in MUS 815 A-Z 9

MUS 8630	RESEARCH AND BIBLIOGRAPHY IN MUSIC	3
MUS 8460	MUSIC ANALYSIS FOR PERFORMANCE	3

#### Required Music History and Literature

Select 3 hours from the following: 3

MUS 8546	RENAISSANCE MUSIC LITERATURE	
MUS 8556	BAROQUE MUSIC LITERATURE	
MUS 8566	CLASSICAL MUSIC LITERATURE	
MUS 8576	ROMANTIC MUSIC LITERATURE	
MUS 8586	MUSIC FROM 1900 - 1945	
MUS 8446	MUSIC SINCE 1945	

#### Electives in Music

Electives are approved by the graduate advisor during the advising process. 6

#### Select one of the following options: 6

#### Option A:

MUS 8970	GRADUATE PROJECT	3
MUS 8980	RECITAL	3

#### Option B:

MUS 8980	RECITAL	6
----------	---------	---

#### Total Credits 30

## Exit Requirements

All students must take final comprehensive examinations. Students can take comprehensive exams before the semester in which they intend to graduate; however, all required coursework in the program must be completed. The exception is if a student has not completed one required course and is enrolled in that course during the semester in which they are taking their comprehensive exams. Comprehensive exams will be offered three times during the course of the year—Fall, Spring and Summer. Normally the exams are administered on the last Saturday of October or first Saturday in November (Fall Semester), the last Saturday of March or first Saturday in April (Spring Semester), and the last Friday of June or the first Friday of July (Summer Term).

## Kodaly Certificate

School of Music, College of Communication, Fine Arts & Media

## Vision Statement

The Kodály graduate certificate program is designed provide music educators with an opportunity to enhance their pedagogical skills with a program that promotes music literacy through experiential learning in singing, movement, and reading activities. The Kodály program—named for the methods developed by Zoltán Kodály, a Hungarian composer and ethnomusicologist—includes courses that provide classroom applications of the method, folksong literature research, conducting experiences, and instruction in solfege.

## Program Contact Information

Shelly Cooper, DMA, Music Education Area Coordinator  
Strauss Performing Arts (SPAC) 211  
402.554.4897  
sccooper@unomaha.edu

Pete Madsen, DMA, Graduate Program Chair (GPC)  
226 Strauss Performing Arts (SPAC)  
402.554.2297  
petermadsen@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-communication-fine-arts-and-media/music/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 15
- Spring: November 15
- Summer: April 15

## Other Requirements

- Student must have an undergraduate degree in music from an accredited institution and have an undergraduate cumulative GPA of 3.0 or a GPA of 3.0 or better in all music courses.
- If the student does not have an undergraduate degree in music, the student must take the School of Music Graduate Diagnostic Exam before enrolling in any graduate courses in order to determine which undergraduate foundation courses may be necessary.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Resume**

### Degree Requirements

Code	Title	Credits
<b>Core Courses</b>		
MUS 8670	KODALY I: METHODOLOGY	3
MUS 8680	KODALY 2: METHODOLOGY	3
MUS 8690	KODALY 3: METHODOLOGY	3
MUS 8720	KODALY 1: MUSICIANSHIP	1
MUS 8730	KODALY 2: MUSICIANSHIP	1
MUS 8740	KODALY 3: MUSICIANSHIP	1
<b>Select Track One or Two:</b>		
Track One		4
MUS 8710	KODALY 4: METHODOLOGY AND ADVANCED STUDIES (One hour of MUS 8006 is also required for this track)	
MUS 8770	KODALY 4: MUSICIANSHIP	
Track Two		3
MUS 8610	ORGANIZATION AND ADMINISTRATION IN MUSIC	
MUS 8630	RESEARCH AND BIBLIOGRAPHY IN MUSIC	
MUS 8640	FOUNDATIONS OF MUSIC EDUCATION	
<b>TOTAL</b>		<b>15-16 Hours</b>

## Political Science

### Degree Programs Offered

- Political Science, MS (p. 1284)

### Certificates Offered

- Government Certificate (p. 1289)
- Global Information Operations Certificate (p. 1288)
- Intelligence and National Security Certificate (p. 1291)

#### PSCI 8000 SEMINAR IN THE RESEARCH METHODS IN POLITICAL SCIENCE (3 credits)

This course introduces students to the methods of data collection and analysis for political science research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

#### PSCI 8005 QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE (3 credits)

This course introduces students to the techniques that political scientists use to answer research questions with quantitative data, as well as issues of research design, hypothesis formation, and causation. The course emphasizes the methods used to collect, analyze, and extract information from data using statistical computer software. (Cross-listed with PSCI 3000)

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

#### PSCI 8015 URBAN POLITICS (3 credits)

This course introduces students to the development, powers, forms of government, and functions of cities and their suburbs as well as the problems faced by elected officials, business and community leaders, and citizens in the urban setting. (Cross-listed with PSCI 3010)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

#### PSCI 8036 THE PRESIDENCY (3 credits)

This course introduces students to the development and modern application of presidential leadership through examination of presidential selection, presidential decision-making, the relationship of the presidency with other governmental and non-governmental actors, and the role of the presidency in making public policy. (Cross-listed with PSCI 4030)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

#### PSCI 8040 SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (3 credits)

This course introduces students to classic and contemporary scholarship on the principles, institutions, processes, and policies of national government in the United States with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

#### PSCI 8045 GOVERNMENT AND POLITICS OF NEBRASKA (3 credits)

This course introduces students to the development, structures, functions and public policies of the government of the state of Nebraska.. (Cross-listed with PSCI 3040)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

#### PSCI 8046 CONGRESS AND THE LEGISLATIVE PROCESS (3 credits)

This course introduces students to the development of the Congress and modern application of the legislative process through examination of congressional elections, congressional leadership, congressional decision-making, legislative rules and procedures, the relationship of the Congress with other governmental and non-governmental actors, and the role of the Congress in making public policy. (Cross-listed with PSCI 4040)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

#### PSCI 8055 STATE GOVERNMENT AND POLITICS (3 credits)

This course introduces students to the development, structures, functions and public policies of states. (Cross-listed with PSCI 3050)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

#### PSCI 8056 THE JUDICIAL PROCESS (3 credits)

This course introduces students to the administration of law in federal and state courts with respect to the organization of the courts, judicial selection, judicial powers, judicial decision-making, judicial policy-making, the bar, and reform movements in the pursuit of justice. (Cross-listed with PSCI 4050)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

#### PSCI 8100 SEMINAR IN POLITICAL ECONOMY (3 credits)

A comprehensive study of theories of political economy, linkages between politics and economics, and major contemporary issues.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate adviser

#### PSCI 8105 LGBT POLITICS (3 credits)

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 3100, WGST 3100, WGST 8105)

**PSCI 8116 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSC I 4110, PSYC 4110, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**PSCI 8120 SEMINAR IN LEADERSHIP (3 credits)**

This course introduces students to classical and contemporary scholarship on leadership theory, research, and application. Students gain a foundation in models of leadership, assess their own leadership styles, and learn to integrate what they learn in corporate, governmental, non-profit, or community organizations. (Cross-listed with CACT 8510)

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**PSCI 8126 PUBLIC OPINION AND POLLING (3 credits)**

This course introduces students to the origins, nature, measurement, and consequences of public opinion on policymaking. (Cross-listed with PSCI 4120)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8135 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 3130, WGST 3130, WGST 8135)

**PSCI 8145 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 3140, LLS 3140, LLS 8145)

**PSCI 8146 CONSTITUTIONAL LAW: CIVIL RIGHTS (3 credits)**

This course introduces students to the history, principles, and judicial interpretation of key constitutional provisions and federal statutes regarding civil rights in the United States. (Cross-listed with PSCI 4140)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or equivalent.

**PSCI 8150 SEMINAR IN CONSTITUTIONAL LAW (3 credits)**

This course introduces students to the Constitution and the Supreme Court's exercise of judicial review in relation to governmental powers, civil rights, and civil liberties.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8165 POLITICAL PARTIES (3 credits)**

This course introduces students to the origin, development, structure, and functions of political parties in the United States as political organizations, coalitions of voters, and governing coalitions that seek to hold office and influence public policy. (Cross-listed with PSCI 3160)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8175 INTEREST GROUPS (3 credits)**

This course introduces students to the theories, formation, organization, and activities of interest groups and their impact on public policy, particularly through their role in campaigns and elections and lobbying. (Cross-listed with PSCI 3170)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8176 CONSTITUTIONAL LAW: FOUNDATIONS (3 credits)**

This course introduces students to the principles, design and operation of the American constitutional system with emphasis on analysis of the Declaration of Independence, the Articles of Confederation, the proceedings of the Constitutional Convention, and the Federalist Papers. (Cross-listed with PSCI 4170)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 8185 CAMPAIGNS AND ELECTIONS (3 credits)**

This course introduces students to the evolution and modern application of campaigns and elections in the United States through examination of campaign management and campaign strategy in congressional and presidential elections. (Cross-listed with PSCI 3180)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8186 CONSTITUTIONAL LAW: THE FEDERAL SYSTEM (3 credits)**

This course introduces students to American constitutional law as it relates to issues of federalism, the relation of the nation and the states, and separation of powers, the relation of the three branches of the national government. (Cross-listed with PSCI 4180)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8196 CONSTITUTIONAL LAW: CIVIL LIBERTIES (3 credits)**

This course introduces students to the philosophy, history, and development of the personal liberties guaranteed by the Constitution including freedom of speech, religion, assembly, petition, and the right of privacy, primarily through examination of Supreme Court decisions. (Cross-listed with PSCI 4190)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8200 SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY (3 credits)**

This course introduces students to classic and contemporary scholarship on the formulation and implementation of foreign and national security policy in the United States with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate adviser.

**PSCI 8206 INTERNATIONAL RELATIONS OF EAST ASIA (3 credits)**

This course introduces students to the international politics of East Asia with an emphasis on the contemporary relations among major East Asian states (China, Japan, the Korean peninsula) and the United States. (Cross-listed with PSCI 4200)

**PSCI 8216 INTERNATIONAL RELATIONS OF THE MIDDLE EAST (3 credits)**

This course focuses on the international politics of the Middle East region, specifically looking at conditions for peace and causes of war. It examines how the international system, domestic politics, ideologies, and leaders influence international politics in the Middle East. (Cross-listed with PSCI 4210)

**PSCI 8220 SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY (3 credits)**

This course introduces students to international leadership and strategy theory, research, and application.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8225 INTERNATIONAL ORGANIZATIONS (3 credits)**

This course introduces students to the history, principles, structures, and processes developed to organize and legitimize peaceful reconciliation of the differences of nation-states and to advance their mutual interests in the contemporary global political and economic system. (Cross-listed with PSCI 3220)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8235 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 3230, WGST 3230, WGST 8235)

**PSCI 8245 THE POLITICS AND PRACTICE OF HUMAN RIGHTS (3 credits)**

This course introduces students to human rights issues across the globe and explores the theoretical foundations of human rights as well as human rights institutions and transitional justice. (Cross-listed with PSCI 3240)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8246 INTERNATIONAL CONFLICT RESOLUTION (3 credits)**

This course introduces students to different approaches to peace, their basic assumptions, and their application to current conflicts.. (Cross-listed with PSCI 4240)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8250 SEMINAR IN INTERNATIONAL RELATIONS (3 credits)**

This course introduces students to classic and contemporary scholarship on the issues, theories, and methodological approaches associated with the study of the nation-state system, international law, international organizations, international security, and globalization.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8255 GLOBAL SECURITY ISSUES (3 credits)**

This course introduces students to issues of national and international security that cross boundaries and threaten all countries including issues such as climate change, environmental deterioration, population and demographics, gender issues, disease and public health, the media, asymmetrical warfare, drugs/organized crime, and cyberthreats. (Cross-listed with PSCI 3250)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8256 INTELLIGENCE AND NATIONAL SECURITY (3 credits)**

This course introduces students to the United States intelligence services, and their relation to broader U.S. national security policy. (Cross-listed with PSCI 4250)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8265 UNITED STATES FOREIGN POLICY (3 credits)**

This course introduces students to the analysis of foreign and defense policy processes in the United States, including the role of the President, Congress, Departments of State and Defense, the intelligence community, and other actors/factors affecting policy formulation and implementation. (Cross-listed with PSCI 3260)

**Prerequisite(s)/Corequisite(s):** PSCI 2210.

**PSCI 8266 INTERNATIONAL LAW (3 credits)**

The course introduces students to the general principles of international law, including the key actors, the creation and sources of international law, the interpretation of international law by courts and tribunals, and its enforcement. (Cross-listed with PSCI 4260)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8276 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with ENVN 4270, PSCI 4270)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8286 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with PSCI 4280, LLS 4280, LLS 8286)

**PSCI 8296 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 4290, CACT 8306)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8300 SEMINAR IN POLITICAL THEORY (3 credits)**

This course introduces students to the history of political theory, from its origins in ancient Greece to its manifestations in contemporary thought. (Cross-listed with CACT 8200)

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8316 CLASSICAL POLITICAL THOUGHT (3 credits)**

This course introduces students to key works representative of premodern political thought. Authors examined may include Plato, Aristotle, Xenophon, Cicero, Augustine, and Aquinas. (Cross-listed with PSCI 4310).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8326 EARLY MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key works of the 16th through mid-18th centuries. Authors examined may include Machiavelli, Hobbes, Hume, Smith and Montesquieu. (Cross-listed with PSCI 4320)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8336 LATE MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key texts of the mid-18th through 19th centuries. Authors to be examined may include Rousseau, Burke, Mill, Tocqueville, Marx, and Nietzsche. (Cross-listed with PSCI 4330).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8345 AMERICAN POLITICAL THOUGHT (3 credits)**

This course introduces students to the ideals, ideologies, identities, and institutions of American political thought from the country's origins to the present. Topics to be covered may include the political thought of the early American settlers and of the founding generation, the debates over the creation and implementation of the Constitution, the 19th century arguments over slavery, the rise of progressivism, the New Deal and its critics, and contemporary American conservatism and liberalism. (Cross-listed with PSCI 3340)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 is recommended.

**PSCI 8346 CONTEMPORARY POLITICAL THOUGHT (3 credits)**

This course introduces students to leading works of contemporary political thought, including Marx, Spencer, Dahl, Rawls, feminism, and rational choice. The theories, their interrelationships, the theorists, and the manifestations of these works will be discussed and analyzed. (Cross-listed with PSCI 4340)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8356 DEMOCRACY (3 credits)**

A basic study of theory, practice and practitioners of political democracy, its roots, development, present application and problems and future. (Cross-listed with PSCI 4350)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 8366 AUTHORITARIAN REGIMES (3 credits)**

An analysis of various types of authoritarian regimes, their differences from democratic governments, and the causes of their establishment, maintenance, and failure. (Cross-listed with PSCI 4360).

**PSCI 8376 GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS (3 credits)**

This course introduces students to civil-military relations and military politics across the globe. (Cross-listed with PSCI 4370).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 8500 SEMINAR IN COMPARATIVE POLITICS (3 credits)**

This course introduces students to classic and contemporary scholarship on the issues, theories, and methodological approaches associated with the systematic and comparative study of nation-states and their political systems with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**PSCI 8505 EUROPEAN POLITICS (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Europe, including the European Union. (Cross-listed with PSCI 3500)

**PSCI 8506 GOVERNMENT AND POLITICS OF GREAT BRITAIN (3 credits)**

A comprehensive study of British politics and government. Emphasis will be focused on the formal institutions and informal customs and practices of the British political system. (This course satisfies the department's comparative politics requirement). (Cross-listed with PSCI 4500)

**PSCI 8526 POLITICS OF FRANCE (3 credits)**

This course introduces students to the political heritage of France, contemporary political institutions and problems, and political and policy responses to these problems. (Cross-listed with PSCI 4520)

**PSCI 8556 POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM (3 credits)**

This course is a survey on the types of violence used within a political context, focusing on its causes, forms and consequences. Specifically, this course details why and how violence occurs, and its impact on institutions and the people operating within that system. (Cross-listed with PSCI 4550).

**PSCI 8585 GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES (3 credits)**

This course introduces students to the political cultures, institutions, processes, and public policies of Russia and the states of the former Soviet Union. (Cross-listed with PSCI 3580)

**PSCI 8626 ISLAM AND POLITICS (3 credits)**

This course introduces students to the interaction between religion and politics in the Muslim world, covering various political ideologies in the Muslim world and different experiences of Muslim-majority countries such as Saudi Arabia, Pakistan, Iran, Turkey, Indonesia, and Egypt. It will also analyze mainstream and radical transnational Islamic movements. (Cross-listed with PSCI 4620)

**PSCI 8645 GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies, and other characteristics of China and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 3640)

**PSCI 8665 GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies and other characteristics of Japan and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 3660)

**PSCI 8685 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with PSCI 3680, LLS 3680, LLS 8685)

**PSCI 8705 GOVERNMENT AND POLITICS OF THE MIDDLE EAST (3 credits)**

This course introduces students to government and politics in the contemporary Middle East, including considerations of state formation, authoritarianism and democratization, state-society relations, religion, culture, gender, and economy. (Cross-listed with PSCI 3700)

**PSCI 8716 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with PSCI 4710, ENTR 4710, ENTR 8716).

**PSCI 8776 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, SOC 4770, SOC 8776).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**PSCI 8826 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with JMC 4820, JMC 8826, PSCI 4820)

**PSCI 8900 READINGS IN POLITICAL SCIENCE (1-3 credits)**

This course provides students an opportunity to study an advanced and specialized subject matter in the field of political science not covered in existing courses. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8910 POLITICAL SCIENCE INTERNSHIP (3 credits)**

This course offers students an opportunity to experience the resolution of public issues through direct involvement in career-oriented policy organizations. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 8920 SEMINAR IN SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of twelve credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8926 ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours. (Cross-listed with PSCI 4920)

**PSCI 8980 RESEARCH IN POLITICAL SCIENCE (3 credits)**

This course provides students an opportunity to conduct research in a specialized subject matter in the field of political science. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor, not open to non-degree graduate students.

**PSCI 8990 THESIS (3-6 credits)**

A research project, written under the supervision of a graduate adviser in the Department of Political Science, in which the students establish their capacity to design, conduct and complete an original, independent, scholarly investigation of a high order. The research topic and the completed project must be approved by the student's departmental committee.

**Prerequisite(s)/Corequisite(s):** Permission of graduate program chair. Not open to non-degree graduate students.

## Political Science, MS

Department of Political Science, College of Arts & Sciences

### Vision Statement

The Department of Political Science's vision is to provide quality research, teaching, and service for our students, community, and academic field in order to produce qualified individuals and advanced knowledge to benefit communities regionally, nationally, and internationally. UNO is recognized by the Carnegie Foundation for the Advancement of Teaching as a doctoral and research institution. We value diversity among faculty, staff, and students and recognize its essential contribution to campus culture and development of knowledge. The Master of Science in political science offers a broad foundation in the discipline with a high degree of interdisciplinary collaboration, if desired. Some students enter the program with the intention of continuing on with their PhD, while others use the program to prepare themselves as practitioners in the fields of education, government, intelligence, law, journalism, non-profit, or lobbying. Students can earn the degree completely on-line, on-campus, or blended (on-line/on-campus).

### Program Contact Information

Gregory Petrow, PhD, Graduate Program Chair (GPC)  
275 Arts & Sciences Hall (ASH)  
402.554.3991  
gpetrow@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/political-science/>)

### Other Program Related Information

#### Online Delivery

- The Department of Political Science offers a program to earn a master's degree for which *all required courses can be taken online*. Many of our students are mid-career professionals seeking a better understanding of the subject matter from fields such as; education, military, and public service. Others are more traditional students who intend to continue onto a PhD. Our program has been in place since 1969 and we currently have over 80 active students. There are several advantages to UNO's online MS in political science (PSCI):
  - High-quality curriculum from a distinguished university. UNO is one of 88 institutions of higher education nationally classified as a doctoral/research university, according to the Carnegie Foundation for the Advancement of Teaching—out of the 4000 academic institutions it categorizes. In addition, UNO received a first-tier regional best ranking in the U.S. News & World Report's 2010 edition of America's Best Colleges.
  - Low tuition from a convenient, accessible location—your computer. Students can select courses that are taught entirely online. It is very rare for our courses to have specific times in which you are required to be online.
  - The UNO PSCI master's program affords its students an environment that serves as an incubator for acquiring the skills necessary for students' desired careers, and for developing a self-understanding that will enable students to succeed both professionally and personally.

Students are assured of a high-quality degree program that not only meets but exceeds national standards of education in political science.

- Our Flexibility: our program offers flexibility to tailor an area of specialization. This flexibility encourages students to create an approved program of study that incorporates interests in other disciplines, such as communications, criminal justice, economics, geography, history, psychology, public administration, social work, sociology, teacher education, and urban studies. We accept up to 9 hours of graduate-level transfer credit, graded at a B or above, from another accredited institution that has not been applied towards another degree or completed program. In addition, students can apply up to 12 approved elective credit hours of UNO-taught courses outside the field of political science.

### Fast Track Program

The Department of Political Science has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students pursuing BA/BS in Political Science or BA in International Studies desiring to pursue a MS in Political Science.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - The admit term must be after the completion term of the undergraduate degree.

#### Notes:

- 8000-level courses taken at the undergraduate level without having been accepted into the integrated program will not count towards a graduate program.
- Students accepted into the Fast Track program may be denied entry into the graduate program due to, but not limited to poor performance, academic integrity issues, and other violations of the student code of conduct.
- Before starting graduate work, students are expected to complete all PSCI subfield introductory courses (1100, 2000, 2210, 2310, and 2500) and 2-3 (3000/4000) level political science courses.
- Please inquire with the Department of Political Science academic program coordinator for more information about this program.

## Admissions

General Application Requirements and Admission Criteria

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 15 (February 15 if interested in scholarship or graduate assistantship, contact the academic program coordinator for details)
- Spring: October 15 (September 15 if interested in scholarship or graduate assistantship, contact the academic graduate program chair for details)
- Summer: March 15

## Other Requirements

- Baccalaureate degree or previous master's degree with a minimum of 3.0 GPA.
- Fifteen credit hours in political science-related courses is preferred. The selection committee looks for previous coursework in American government, political theory, international relations, comparative politics, and social science (quantitative) methodology. Applicants without the above undergraduate background in political science may be admitted on a provisional basis and be required to take prerequisite courses before starting graduate work. A grade of B or above is required in each of these courses.
- **English-Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80 with no sub-score under 15, IELTS: 6.5, PTE: 53, Duolingo: 105
  - Passing with a minimum score does not guarantee admission into the program.
- **Statement of Purpose:** A personal statement (1-2 pages) explaining why the applicant is seeking admission into this program, how his/her academic/professional experiences can contribute to his/her success in this program, and how this program will contribute to his/her future academic/professional ambitions.
- **Writing Sample:** Submission of an academic, research-based writing sample. The sample must be written in English, include citations, and be a minimum of five pages in length. This writing sample can be a previous assignment. If no such paper exists, the applicant should contact the academic program coordinator for an alternative assignment.
- **Resume:** Submit a professional resume
- **Letters of Recommendation:** Submit two letters of recommendation from a former professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program. If applicants have recently graduated from UNO, it is expected that one of the letters will be from a UNO political science faculty member. It is preferred that applicants use their references' institutional (.edu) or professional email.
- GRE scores are not required for admission, however, applicants are welcome to submit them.
- Official transcripts from all attended institutions. Please note that although the Office of Graduate Studies forwards applications to departments for review with unofficial transcripts, students cannot enroll until all official transcripts have been received. Due to this, the Department of Political Science has elected to wait for official transcripts before reviewing applications.

## Degree Requirements

Code	Title	Credits
<b>Required: Methods Seminar</b>		<b>3</b>
PSCI 8000	SEMINAR IN THE RESEARCH METHODS IN POLITICAL SCIENCE	
<b>Required: Three Core Subfield Seminars</b>		<b>9</b>
PSCI 8040	SEMINAR IN AMERICAN GOVERNMENT AND POLITICS	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
PSCI 8300	SEMINAR IN POLITICAL THEORY	
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS	
<b>Required for Non-thesis Students: Two Additional Seminars (from list below or remaining subfield seminar)</b>		<b>6</b>
PSCI 8100	SEMINAR IN POLITICAL ECONOMY	
PSCI 8120	SEMINAR IN LEADERSHIP	
PSCI 8150	SEMINAR IN CONSTITUTIONAL LAW	
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY	
PSCI 8220	SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY	
PSCI 8920	SEMINAR IN SPECIAL TOPICS IN POLITICAL SCIENCE	
<b>Required: Four Elective Courses (from remaining seminars or list below)</b>		<b>12</b>
PSCI 8005	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	
PSCI 8015	URBAN POLITICS	
PSCI 8036	THE PRESIDENCY	
PSCI 8045	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 8046	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 8055	STATE GOVERNMENT AND POLITICS	
PSCI 8056	THE JUDICIAL PROCESS	
PSCI 8105	LGBT POLITICS	
PSCI 8116	POLITICAL PSYCHOLOGY	
PSCI 8126	PUBLIC OPINION AND POLLING	
PSCI 8135	WOMEN AND POLITICS	
PSCI 8145	LATINO/-A POLITICS	
PSCI 8146	CONSTITUTIONAL LAW: CIVIL RIGHTS	
PSCI 8165	POLITICAL PARTIES	
PSCI 8175	INTEREST GROUPS	
PSCI 8176	CONSTITUTIONAL LAW: FOUNDATIONS	
PSCI 8185	CAMPAIGNS AND ELECTIONS	
PSCI 8186	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM	
PSCI 8196	CONSTITUTIONAL LAW: CIVIL LIBERTIES	
PSCI 8206	INTERNATIONAL RELATIONS OF EAST ASIA	
PSCI 8216	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 8225	INTERNATIONAL ORGANIZATIONS	
PSCI 8235	GENDER AND GLOBAL POLITICS	
PSCI 8245	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
PSCI 8246	INTERNATIONAL CONFLICT RESOLUTION	

PSCI 8255	GLOBAL SECURITY ISSUES
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY
PSCI 8265	UNITED STATES FOREIGN POLICY
PSCI 8266	INTERNATIONAL LAW
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS
PSCI 8286	INTERNATIONAL RELATIONS OF LATIN AMERICA
PSCI 8296	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY
PSCI 8316	CLASSICAL POLITICAL THOUGHT
PSCI 8326	EARLY MODERN POLITICAL THOUGHT
PSCI 8336	LATE MODERN POLITICAL THOUGHT
PSCI 8345	AMERICAN POLITICAL THOUGHT
PSCI 8346	CONTEMPORARY POLITICAL THOUGHT
PSCI 8356	DEMOCRACY
PSCI 8366	AUTHORITARIAN REGIMES
PSCI 8376	GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS
PSCI 8505	EUROPEAN POLITICS
PSCI 8506	GOVERNMENT AND POLITICS OF GREAT BRITAIN
PSCI 8526	POLITICS OF FRANCE
PSCI 8556	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM
PSCI 8585	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES
PSCI 8626	ISLAM AND POLITICS
PSCI 8645	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA
PSCI 8665	GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA
PSCI 8685	GOVERNMENT AND POLITICS OF LATIN AMERICA
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST
PSCI 8716	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION
PSCI 8776	POLITICAL SOCIOLOGY
PSCI 8826	POLITICS AND FILM
PSCI 8900	READINGS IN POLITICAL SCIENCE
PSCI 8926	ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE
PSCI 8910	POLITICAL SCIENCE INTERNSHIP
PSCI 8980	RESEARCH IN POLITICAL SCIENCE
PSCI 8990	THESIS (if approved by GPC)

**Total Credits****30**

## Notes on Courses:

- Courses may not be available every term or may only be offered on-campus or online for said term.
- Students must successfully complete PSCI 8000 within the first 15 credit hours/five courses of their program.
- A student who does not have sufficient background in one or more subfields may be required to take a provisional undergraduate course before taking its equivalent graduate seminar.
- Electives may be taken outside of the political science department with approval from the graduate chair. The course must be related to political science.

- Students who were undergraduate students at UNO cannot take a dual-listed course at the graduate level if they have already taken the course at the undergraduate level. For example, if they completed PSCI 4270/ENVN 4270 Global Environmental Politics as an undergraduate student, they cannot take PSCI 8276 Global Environmental Politics as part of their MS degree.
- Students may not count more than six credit hours of courses ending in 8-5 (for example, 8265) towards the completion of their degree.
- Any concentration or certificate a student would like to add-on to his/her MS-PSCI program must be officially added within the first 15 credit hours.

## Notes on Exit Requirements

All students begin this program as a non-thesis student. Students who would like to complete a thesis may petition to do so after completing 15 credit hours, but at least one term before he/she plans on starting his/her thesis. To petition to change to the thesis track, a student must request an application from, and submit it to the academic program coordinator during the time specified above. The graduate chair will then evaluate whether a thesis track is the best option for the petitioning student. If denied, a student may appeal once in a following term by going through the same process. During a petition, the graduate program committee will review the application.

### Non-Thesis Exit Requirement: Comprehensive Exam

Graduating political science master's degree students will complete a written comprehensive essay synthesizing their knowledge of at least three political science subfields to answer one prompt. Passing answers must demonstrate proficiency in each of the four MS-PSCI student learning objectives: research methods, writing in the discipline, critical thinking and proficiency of subfields.

Students must notify the APC at the beginning of their graduating term, noting the three subfields to be included in the comprehensive essay. The essay is open book, open note. Students will have 72 hours to complete their essay(s) within a designated window of time.

Students must write their exam during the spring or fall semester of the year in which they graduate. Students graduating in the summer may write their essay the prior spring if they have 6 or less credit hours remaining to complete in the degree program to be taken over the summer term, AND they have completed at least three subfield seminars.

### Thesis Exit Requirement (6 credit hours)

PSCI 8990: The first term of thesis includes the forming of the thesis committee and approval of one's thesis proposal. The second three credit hours will focus on writing and defending the thesis.

Students must have a minimum of three voting committee members. All committee members must be graduate faculty members with a PhD and employed by UNO. One of the committee members must be from a non-political science field. Distance students may work with a faculty member outside of UNO, however, this member cannot be a voting member on the committee. Please refer to the graduate catalog's thesis guidelines for more detailed information.

Students must follow UNO's Graduate College's thesis submission guidelines and ensure that all paperwork has been submitted to the graduate office on time.

### American Government and Politics Concentration

The American government and politics concentration is a 15 credit hour/5 course subset of the MS in political science program (MS-PSCI). If students wish to add this concentration onto their program, they must do so within the first 15 credit hours of their MS-PSCI program following the proper change-of-program procedures.

Code	Title	Credits
Required Seminar		3
PSCI 8040	SEMINAR IN AMERICAN GOVERNMENT AND POLITICS	
Select One Additional Seminar from the following:		3
PSCI 8120	SEMINAR IN LEADERSHIP	
PSCI 8150	SEMINAR IN CONSTITUTIONAL LAW	
Select three hours from the following:		3
PSCI 8036	THE PRESIDENCY	
PSCI 8046	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 8056	THE JUDICIAL PROCESS	
PSCI 8146	CONSTITUTIONAL LAW: CIVIL RIGHTS	
PSCI 8176	CONSTITUTIONAL LAW: FOUNDATIONS	
PSCI 8186	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM	
PSCI 8196	CONSTITUTIONAL LAW: CIVIL LIBERTIES	
Select six hours from the following or from an above seminar not already taken		6
PSCI 8005	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	
PSCI 8015	URBAN POLITICS	
PSCI 8045	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 8055	STATE GOVERNMENT AND POLITICS	
PSCI 8105	LGBT POLITICS	
PSCI 8116	POLITICAL PSYCHOLOGY	
PSCI 8126	PUBLIC OPINION AND POLLING	
PSCI 8135	WOMEN AND POLITICS	
PSCI 8145	LATINO/-A POLITICS	
PSCI 8165	POLITICAL PARTIES	
PSCI 8175	INTEREST GROUPS	
PSCI 8185	CAMPAIGNS AND ELECTIONS	
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY	
PSCI 8265	UNITED STATES FOREIGN POLICY	
PSCI 8345	AMERICAN POLITICAL THOUGHT	
PSCI 8346	CONTEMPORARY POLITICAL THOUGHT	
PSCI 8356	DEMOCRACY	
PSCI 8776	POLITICAL SOCIOLOGY	
Other American government-related courses may be approved by the Graduate Program Committee.		
A student's capstone is expected to reflect the concentration.		
<b>Total Credits</b>		<b>15</b>

## International Affairs Concentration

The international affairs concentration is a 15 credit hour/5 course subset of the MS in political science program. If students wish to add this concentration onto their program, they must do so within the first 15 credit hours of their MS-PSCI program following the proper change of program procedures.

Code	Title	Credits
Required Seminars		6
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS	

Required: Three Elective Courses		9
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY	
PSCI 8206	INTERNATIONAL RELATIONS OF EAST ASIA	
PSCI 8216	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 8220	SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY	
PSCI 8225	INTERNATIONAL ORGANIZATIONS	
PSCI 8235	GENDER AND GLOBAL POLITICS	
PSCI 8245	THE POLITICS AND PRACTICE OF HUMAN RIGHTS	
PSCI 8246	INTERNATIONAL CONFLICT RESOLUTION	
PSCI 8255	GLOBAL SECURITY ISSUES	
PSCI 8266	INTERNATIONAL LAW	
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS	
PSCI 8286	INTERNATIONAL RELATIONS OF LATIN AMERICA	
PSCI 8296	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY	
PSCI 8356	DEMOCRACY	
PSCI 8366	AUTHORITARIAN REGIMES	
PSCI 8376	GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS	
PSCI 8505	EUROPEAN POLITICS	
PSCI 8506	GOVERNMENT AND POLITICS OF GREAT BRITAIN	
PSCI 8526	POLITICS OF FRANCE	
PSCI 8556	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM	
PSCI 8585	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES	
PSCI 8626	ISLAM AND POLITICS	
PSCI 8645	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA	
PSCI 8665	GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA	
PSCI 8685	GOVERNMENT AND POLITICS OF LATIN AMERICA	
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST	
PSCI 8716	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION	

\*Other courses as approved by Graduate Chair.

**Total Credits** **15**

## Academic Progress Policy

Students may be dismissed from the program after:

1. Not enrolling and/or successfully completing a course after two consecutive years.
2. Earning three or more W grades.
3. Earning two or more grades of C+ or below.

Under extenuating circumstances, students may apply for a waiver through the GPC. If a waiver is granted, students may be updated to the most recent catalog year.

Students who do not successfully complete a course during their admit term, or allowed deferment time, will be dismissed from the program.

Students may reapply to the program if dismissed for inactivity.

## Incomplete Policy

The Department will comply with the UNO's Incomplete Policy (<https://www.unomaha.edu/registrar/faculty-and-staff/grading/incomplete.php>).

In line with the UNO graduate policy on **incomplete grades**, the grade "I" is only to be issued due to a student's illness, military service, hardship, or death in the immediate family after the student has completed a substantial amount of the course. The professor reserves the right to use his/her discretion in determining additional situations where a grade of "I" may apply and what "substantial" means for that course. It is expected that the student discuss this matter with the professor and create a plan of action towards the completion of this course in a timely manner. The professor also reserves the right to decide the consequences for a student who does not finish the course in the time agreed. Consequences may include, but are not limited to, an extended deadline, a permanent incomplete, or a failing grade for the course.

**In-progress grades (IP)** are only to be issued during the second part of a thesis project when a student is actively working towards its completion.

## Standing I/IP Grades

Students with an I/IP can have a maximum number of 9 'active' credit hours.

If a student has 9 credit hours of I/IP grades (total from past terms), he/she may not enroll in new courses. A student may start enrolling in new courses as he/she reduces his/her credit hours of I/IP grades. Any student with an I/IP cannot have more than 9 'active' credit hours at one time (includes current courses as well as I/IP grades).

I/IP Credit Hours	New Credit Hour Allowance	Total 'Active' Credit Hour Load
0	9 (full time)	9
3	6	9
6	3	9
9	0	9

The graduate program chair reserves the right to waive this policy for a student, based on compelling circumstances.

## Academic Dishonesty Policy

Academic dishonesty is a violation of the student code of conduct and is cause for a student to be dismissed from the program. Graduate students are expected to know what counts as academic dishonesty (<https://www.unomaha.edu/student-life/student-conduct-and-community-standards/policies/academic-integrity.php>).

Instructors reserve the right to decide how to address issues of academic dishonesty in their courses. Students may be subject to (including, but not limited to): the failure on the specific assignment or failure of the entire course.

Faculty will report all instances of graduate student academic dishonesty to the Graduate Program Chair.

The student has the right to appeal this decision through the appropriate channels. Please see the student code of conduct for further information.

# Global Information Operations Certificate

Departments of Political Science, Computer Science, and Religion,  
College of Arts and Sciences and Information Science & Technology

## Vision Statement

The certificate in global information operations is a program designed to meet the need for a broad-based, interdisciplinary understanding of international cultures and related issues in today's global society by graduate students, active duty military and civilian professionals working in the fields of public service, national security, defense policy and intelligence analysis. The program seeks to satisfy varying academic, career, and professional post graduate goals of traditional and non-traditional students that prepare them for their responsibility as active citizens through leadership, participation and employment in diverse environments throughout the nation and the world. At this point in time, this certificate is not offered for online students.

## Program Contact Information

Gregory Petrow, PhD, Graduate Program Chair (GPC)  
275 Arts & Sciences Hall (ASH)  
402.554.3991  
[gpetrow@unomaha.edu](mailto:gpetrow@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/political-science/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

**Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Fall: June 15
- Spring: October 15
- Summer: March 15

## Other Requirements

**For students applying to, or who are a current MS-PSCI student in good standing:**

- Minimum of 3.0 GPA

**For students applying for this certificate as a stand-alone program:**

- Baccalaureate degree or previous master's degree with a minimum of 3.0 GPA.
- Nine credit hours in relevant fields is preferred. Students without the necessary background may be admitted on a provisional basis and be required to take prerequisite courses before starting graduate work. Students must earn a grade of B or above in each of these courses.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80 (with no sub-score under 15), IELTS: 6.5, PTE: 53, Duolingo: 105
- Passing with a minimum score does not guarantee admission into the the program. program
- **Statement of Purpose:** The personal statement (1-2 pages) should explain why the applicant is seeking admission into this program, how his/her academic/professional experiences can contribute to his/her success in this program, and how this program will contribute to his/her future academic/professional ambitions.
- **Professional Resume**
- **Letters of Recommendation:** Two letters of recommendation are required from a former professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program. If the applicant has recently graduated from UNO, it is expected that one of the letters will be from a UNO political science faculty member. graduate program program It is preferred that applicants use their references' institutional (.edu) or professional email.
- GRE scores are not required for admission, however, students are welcome to include them.
- Official transcripts from all previously attended institutions. Please note that although the Office of Graduate Studies forwards applications to departments for review with unofficial transcripts, students cannot enroll until all official transcripts have been received. Due to this, the Department of Political Science has elected to wait for official transcripts before reviewing applications.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>9</b>
CSCI/CYBR 8366	FOUNDATIONS OF CYBERSECURITY	
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY <sup>1</sup>	
RELI 8900	READINGS IN RELIGION	
<b>Select 3 hours from the following:</b>		<b>3</b>
ISQA 8420	MANAGING THE I.S. FUNCTION	
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY	
<b>Total Credits</b>		<b>12</b>

Note: Students who took undergraduate courses at UNO may not take cross-listed courses they took at the 3000-4000 level at the 8000 level.

Students may be required to take prerequisite courses before their ISQA, CYBR, PSCI, and/or RELI graduate courses. Such requirements are to be determined by the specific department in question.

## Exit Requirements

Students must earn a 3.0 GPA to graduate with this certificate.

## Academic Progress Policy

Students may be dismissed from the program after:

1. Not enrolling and/or successfully completing a course after two consecutive years.
2. Earning three or more W grades.
3. Earning two or more grades of C+ or below.

Under extenuating circumstances, students may apply for a waiver through the GPC. If a waiver is granted, students may be updated to the most recent catalog year.

Students who do not successfully complete a course during their admit term, or allowed deferment time, will be dismissed from the program.

Students may reapply to the program if dismissed for inactivity.

## Government Certificate

**Department of Political Science, College of Arts and Sciences**

### Vision Statement

UNO's Department of Political Science offers an 18 credit hour graduate certificate in government for educators and other professionals who already have an advanced degree in another field and wish to expand their knowledge in political science. This certificate is designed to help educators meet the new requirements set by the Higher Learning Commission to teach government-related courses in institutions of higher education or dual enrollment/concurrent enrollment courses in high schools. This certificate can be earned completely online. This certificate can be earned as a stand-alone program, or in conjunction with the MS in political science.

### Program Contact Information

Gregory Petrow, PhD, Graduate Program Chair (GPC)  
275 Arts & Sciences Hall (ASH)  
402.554.3991  
gpetrow@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-arts-and-sciences/political-science/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

**Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)**

- Fall: June 15
- Spring: October 15
- Summer: March 15

### Other Requirements

**For current students in good standing in UNO's Master of Science in Political Science Program:**

- Minimum GPA of 3.0
- Students must be accepted into this certificate program within their first 15 credit hours. Students starting this program after 15 credit hours may not be able to count previous completed coursework towards this certificate.

**For students applying for this certificate as a stand-alone program:**

- Baccalaureate degree or previous master's degree with a minimum of 3.0 GPA.
- Nine credit hours in political science-related courses is preferred. The selection committee looks for previous coursework and/or professional experience in American government, political theory, international relations, comparative politics, and social science (quantitative) methodology. Students without the noted background may be admitted on a provisional basis and be required to take prerequisite courses

before starting graduate work. Students must earn a grade of B or above in each of these courses.

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80 (with no sub-score under 15), IELTS: 6.5, PTE: 53, Duolingo: 105
  - Passing with a minimum score does not guarantee admission into the program.
- **Statement of Purpose:** The personal statement (1-2 pages) should explain why the applicant is seeking admission into this program, how his/her academic/professional experiences will contribute to his/her success in this program, and how this program will contribute to his/her future academic/professional ambitions.
- **Professional Resume**
- **Letters of Recommendation:** Two letters of recommendation from a former professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program. If applicants have recently graduated from UNO, it is expected that one of the letters will be from a UNO political science faculty member. It is preferred that applicants use their references' institutional (.edu) or professional email.
- GRE scores are not required for admission, however, candidates may include them.
- Official transcripts from all attended institutions. Please note that although the Office of Graduate Studies forwards applications to departments for review with unofficial transcripts, students cannot enroll until all official transcripts have been received. Due to this, the Department of Political Science has elected to wait for official transcripts before reviewing applications.

## Degree Requirements

Code	Title	Credits
<b>Required: Two Subfield Seminars</b>		<b>6</b>
PSCI 8040	SEMINAR IN AMERICAN GOVERNMENT AND POLITICS	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
PSCI 8300	SEMINAR IN POLITICAL THEORY	
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS	
<b>Required: Four Electives (selected from remaining seminars or list below)</b>		<b>12</b>
PSCI 8000	SEMINAR IN THE RESEARCH METHODS IN POLITICAL SCIENCE	
PSCI 8005	QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE	
PSCI 8015	URBAN POLITICS	
PSCI 8036	THE PRESIDENCY	
PSCI 8045	GOVERNMENT AND POLITICS OF NEBRASKA	
PSCI 8046	CONGRESS AND THE LEGISLATIVE PROCESS	
PSCI 8055	STATE GOVERNMENT AND POLITICS	
PSCI 8056	THE JUDICIAL PROCESS	
PSCI 8100	SEMINAR IN POLITICAL ECONOMY	
PSCI 8105	LGBT POLITICS	
PSCI 8116	POLITICAL PSYCHOLOGY	
PSCI 8120	SEMINAR IN LEADERSHIP	

PSCI 8126	PUBLIC OPINION AND POLLING
PSCI 8135	WOMEN AND POLITICS
PSCI 8145	LATINO/-A POLITICS
PSCI 8146	CONSTITUTIONAL LAW: CIVIL RIGHTS
PSCI 8150	SEMINAR IN CONSTITUTIONAL LAW
PSCI 8165	POLITICAL PARTIES
PSCI 8175	INTEREST GROUPS
PSCI 8176	CONSTITUTIONAL LAW: FOUNDATIONS
PSCI 8185	CAMPAIGNS AND ELECTIONS
PSCI 8186	CONSTITUTIONAL LAW: THE FEDERAL SYSTEM
PSCI 8196	CONSTITUTIONAL LAW: CIVIL LIBERTIES
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY
PSCI 8206	INTERNATIONAL RELATIONS OF EAST ASIA
PSCI 8216	INTERNATIONAL RELATIONS OF THE MIDDLE EAST
PSCI 8220	SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY
PSCI 8225	INTERNATIONAL ORGANIZATIONS
PSCI 8235	GENDER AND GLOBAL POLITICS
PSCI 8245	THE POLITICS AND PRACTICE OF HUMAN RIGHTS
PSCI 8246	INTERNATIONAL CONFLICT RESOLUTION
PSCI 8255	GLOBAL SECURITY ISSUES
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY
PSCI 8265	UNITED STATES FOREIGN POLICY
PSCI 8266	INTERNATIONAL LAW
PSCI 8276	GLOBAL ENVIRONMENTAL POLITICS
PSCI 8286	INTERNATIONAL RELATIONS OF LATIN AMERICA
PSCI 8296	INTERNATIONAL DEVELOPMENT & SUSTAINABILITY
PSCI 8316	CLASSICAL POLITICAL THOUGHT
PSCI 8326	EARLY MODERN POLITICAL THOUGHT
PSCI 8336	LATE MODERN POLITICAL THOUGHT
PSCI 8345	AMERICAN POLITICAL THOUGHT
PSCI 8346	CONTEMPORARY POLITICAL THOUGHT
PSCI 8356	DEMOCRACY
PSCI 8366	AUTHORITARIAN REGIMES
PSCI 8376	GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS
PSCI 8505	EUROPEAN POLITICS
PSCI 8506	GOVERNMENT AND POLITICS OF GREAT BRITAIN
PSCI 8526	POLITICS OF FRANCE
PSCI 8556	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM
PSCI 8585	GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES
PSCI 8626	ISLAM AND POLITICS
PSCI 8645	GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA
PSCI 8665	GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA

PSCI 8685	GOVERNMENT AND POLITICS OF LATIN AMERICA
PSCI 8705	GOVERNMENT AND POLITICS OF THE MIDDLE EAST
PSCI 8716	COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION
PSCI 8776	POLITICAL SOCIOLOGY
PSCI 8826	POLITICS AND FILM
PSCI 8920	SEMINAR IN SPECIAL TOPICS IN POLITICAL SCIENCE
PSCI 8926	ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE
<hr/>	
<b>Total Credits</b>	<b>18</b>

Note: Students who took undergraduate courses at UNO cannot take any dual-listed courses at the graduate level they took as an undergraduate. Students cannot have more than two courses ending in 8–5 counted towards their program. Other courses may be approved at the discretion of the graduate chair.

Courses may not be offered every term. Some courses may only be offered online or on-campus.

### Exit Requirements:

**Students must earn a 3.0 GPA or above to graduate with no more than one course graded as a C+ or below.**

### Academic Progress Policy

Students may be dismissed from the program after:

1. Not enrolling and/or successfully completing a course after two consecutive years.
2. Earning two or more W grades.
3. Earning more than one grade of C+ or below, even if GPA is a 3.0 or above.

Under extenuating circumstances, students may apply for a waiver through the GPC. If a waiver is granted, students may be updated to the most recent catalog year.

Students who do not successfully complete a course during their admit term, or allowed deferment time, will be dismissed from the program.

Students may reapply to the program if dismissed for inactivity.

## Intelligence and National Security Certificate

Department of Political Science, College of Arts and Sciences

### Vision Statement

The intelligence and national security certificate is a 15 credit hour program designed to meet the need for an in-depth and critical analysis of US foreign policy and national security by graduate students, active duty military, and civilian professionals working in the fields of public service, national security, defense policy, and intelligence analysis. The program of study seeks to satisfy varying academic, career, and personal post-graduate goals of traditional and non-traditional students that prepare them for their responsibility as active citizens through leadership, participation and employment in intelligence, military, and foreign relations careers. This certificate can be earned completely online. This certificate can be earned independently of the MS in political science or in conjunction with it.

### Program Contact Information

Gregory Petrow, PhD, Graduate Program Chair (GPC)

275 Arts & Sciences Hall (ASH)  
402.554.3991  
gpetrow@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-arts-and-sciences/political-science/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: June 15
- Spring: October 15
- Summer: March 15

### Other Requirements

**For students applying to, or who are a current MS-PSCI student in good standing:**

- 3.0 GPA (most recent GPA)
- Students must be accepted into this certificate program within their first 15 credit hours. Students starting this program after 15 credit hours may not be able to count previous completed coursework towards this certificate.

**For students applying for this certificate as a stand-alone program:**

- Baccalaureate degree or previous master's degree with a minimum of 3.0 GPA.
- Nine credit hours in political science-related courses is preferred. The selection committee looks for previous coursework and/or professional experience in American government, political theory, international relations, comparative politics, and social science (quantitative) methodology. Students without the above background in political science may be admitted on a provisional basis and be required to take prerequisite courses before starting graduate work. Students must earn a grade of B or above in each of these courses.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80 (with no sub-score under 15 is required), IELTS: 6.5, PTE: 53, Duolingo: 105
  - Passing with a minimum score does not guarantee admission into the program.

- **Statement of Purpose:** The personal statement (1-2 pages) should explain why the applicant is seeking admission into this program, how his/her academic/professional experiences can contribute to his/her success in this program, and how this program will contribute to his/her future academic/professional ambitions.

#### Professional Resume

- **Letters of Recommendation:** Two letters of recommendation from a former professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program. If applicants have recently graduated from UNO, it is expected that one of the letters will

be from a UNO political science faculty member. It is preferred that students use their references' institutional (.edu) or professional email.

- GRE scores are not required for admission, however, candidates are welcome to include them.
- Official transcripts from all previously attended institutions. Please note that although the Office of Graduate Studies forwards applications to departments for review with unofficial transcripts, students cannot enroll until all official transcripts have been received. Due to this, the Department of Political Science has elected to wait for official transcripts before reviewing applications.

## Degree Requirements

Code	Title	Credits
<b>Required Seminars</b>		<b>6</b>
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
<b>Electives-Select from the following:</b>		<b>9</b>
PSCI 8206	INTERNATIONAL RELATIONS OF EAST ASIA	
PSCI 8216	INTERNATIONAL RELATIONS OF THE MIDDLE EAST	
PSCI 8220	SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY	
PSCI 8255	GLOBAL SECURITY ISSUES	
PSCI 8256	INTELLIGENCE AND NATIONAL SECURITY	
PSCI 8265	UNITED STATES FOREIGN POLICY	
PSCI 8556	POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM	
PSCI 8286	INTERNATIONAL RELATIONS OF LATIN AMERICA	
PSCI 8366	AUTHORITARIAN REGIMES	
<b>Total Credits</b>		<b>15</b>

Note: Students who took undergraduate courses at UNO cannot take any dual-listed courses at the graduate level they took as an undergraduate. No more than two courses can end in 8–5. Additional courses may be approved at the discretion of the graduate chair.

Courses may not be offered every term. Some terms courses may only be offered online or on-campus.

## Exit Requirement

Students must earn a 3.0 GPA to graduate with no more than one course graded as a C+ or below.

## Academic Progress Policy

Students may be dismissed from the program after:

1. Not enrolling and/or successfully completing a course after two consecutive years.
2. Earning two or more W grades.
3. Earning more than one grade of C+ or below, even if GPA is a 3.0 or above.

Under extenuating circumstances, students may apply for a waiver through the GPC. If a waiver is granted, students may be updated to the most recent catalog year.

Students who do not successfully complete a course during their admit term, or allowed deferment time, will be dismissed from the program.

Students may reapply to the program if dismissed for inactivity.

## Psychology

### Degree Programs Offered

- Psychology, MA (p. 1298)
- Psychology, PhD (p. 1301)
- Industrial/Organizational Psychology, MS (p. 1303)
- School Psychology, MS (p. 1305)
- School Psychology, EdS (p. 1304)
- Applied Behavior Analysis, MS (p. 1306)

### Certificates Offered

- Applied Behavior Analysis Certificate (p. 1307)
- Human Resources and Training Certificate (p. 1065)

#### PSYC 8000 THE PROFESSION OF PSYCHOLOGY (0 credits)

Required non-credit course for graduate students in psychology. Intended to familiarize the beginning graduate student with the profession of psychology including such topics as ethics, professional organizations, job and educational opportunities, use of reference materials, licensing and certification and other relevant material.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

#### PSYC 8016 HISTORY OF PSYCHOLOGY (3 credits)

A study of the origins, development and nature of psychology and its relation to external events; emphasis on the period since 1875. (Cross-listed with PSYC 4010)

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Psychology or permission of instructor. Not open to non-degree students or students in other departments or programs.

#### PSYC 8116 POLITICAL PSYCHOLOGY (3 credits)

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 4110, PSCI 8116, PSYC 4110)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

#### PSYC 8156 AFRICAN AMERICAN PSYCHOLOGY (3 credits)

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with PSYC 4150, BLST 4150, BLST 8156).

**Prerequisite(s)/Corequisite(s):** Graduate standing

#### PSYC 8250 FAMILY ANALYSIS AND TREATMENT (3 credits)

This courses covers theories and techniques for family therapy, with special reference to adapting individual and group therapeutic, as well as consultation, principles for family interventions. Case analyses and evaluation methods are considered.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

#### PSYC 8256 LIMITS OF CONSCIOUSNESS (3 credits)

A course focusing on the scientific study of the psychology, neurology, and philosophy of mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 4250, PHIL 3250)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 8276 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with PSYC 4270, BIOL 4270, BIOL 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**PSYC 8286 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with PSYC 4280, BIOL 4280, BIOL 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273 and not open to non-degree graduate students.

**PSYC 8296 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, BIOL 8296, NEUR 4290).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**PSYC 8316 PSYCHOLOGICAL AND EDUCATIONAL TESTING (3 credits)**

The use of standardized tests in psychology and education is considered with special regard to their construction, reliability and validity. (Cross-listed with PSYC 4310)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior and not open to non-degree graduate students.

**PSYC 8326 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with PSYC 4320, BIOL 4320, BIOL 8326)

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of department.. Not open to non-degree graduate students.

**PSYC 8336 SOCIAL NEUROSCIENCE (3 credits)**

This course will evaluate the biological substrates of sociality and social behavior, and explore the impact of social environments on brain function and development. Students in the course will explore the molecular, cellular, neurotransmitter, and endocrine influences on social behavior, including affiliative care, aggression, social bonding, altruism, and social cognition. (Cross-listed with NEUR 4330)

**Prerequisite(s)/Corequisite(s):** Graduate status or permission of Instructor. Not open to non-degree graduate students.

**PSYC 8446 ABNORMAL PSYCHOLOGY (3 credits)**

A course designed to examine the aberrant behavior of individuals. Symptoms, dynamics, therapy and prognosis of syndromes are considered. (Cross-listed with PSYC 4440)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 8456 PERSONALITY THEORIES (3 credits)**

A comparative approach to the understanding and appreciation of personality theories considering history, assertions, applications, validations and prospects. (Cross-listed with PSYC 4450)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 8476 MENTAL HEALTH AND AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families also are discussed. (Cross-listed with PSYC 4470, GERO 4470, GERO 8476)

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**PSYC 8500 PROFESSIONAL, LEGAL, AND ETHICAL FOUNDATIONS OF SCHOOL PSYCHOLOGY (3 credits)**

This course covers the role description and job activities of a school psychologist, as well as theories, assessment and intervention techniques, certification requirements, employment opportunities, public policy, legislation, and ethics relevant to school psychology. School-based field experiences will also be included in the course.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of dept. Not open to non-degree graduate students.

**PSYC 8520 FOUNDATIONS OF ASSESSMENT (3 credits)**

Course content covers traditional psychometric concepts (e.g., norms, reliability, validity) and their application to various areas of human behavior that are assessed (e.g., cognitive ability, personality, achievement). Clinical considerations are applied to how assessment information is integrated into a problem-solving process.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8526 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with PSYC 4520)

**Prerequisite(s)/Corequisite(s):** Senior level or graduate level student or permission of the instructor. Not open to non-degree graduate students.

**PSYC 8530 EARLY CHILDHOOD ASSESSMENT (3 credits)**

This course is an introduction to the assessment of children during early development including infancy, toddler, preschool and early primary ages. Assessment will be discussed as it relates to problem-solving and data-based decision making (i.e., diagnosis, treatment, program evaluation). Students will learn the principles of working with young children and their families and how these principles will be used in conducting valid and reliable assessments that, in turn, lead to appropriate interventions.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8536 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4530, CACT 8106).

**Prerequisite(s)/Corequisite(s):** Enrollment in MA in Critical & Creative Thinking program or by permission of the instructor.

**PSYC 8540 SCHOOL AGE ASSESSMENT (3 credits)**

This course covers data-based decision-making as it applies to schools. Students will learn and practice the skills of reviewing records, interviewing, systematically observing, and testing. They will be exposed to the following types of assessments: academic, behavior, curriculum-based, intellectual, social-emotional, and screening measures.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8550 PSYCHOTHERAPEUTIC INTERVENTIONS (3 credits)**

This course provides graduate students knowledge in the application of evidence-based therapeutic interventions that can be utilized with children and adolescents in school, home, and family settings. Various approaches and techniques are presented along with supporting research. Observation and participation in clinical cases may be arranged.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8576 BEHAVIOR ANALYSIS AND INTERVENTIONS (3 credits)**

Introduction to experimental methodology, rationale and research literature of changing behavior through behavior modification techniques. Particular attention will be paid to methodological concerns regarding single subject design, ethical considerations and ramifications of behavior intervention with children and youth. (Cross-listed with PSYC 4570)

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8590 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3 credits)**

The content of this course will focus on children who are identified as "exceptional"; in terms of behavioral, cognitive, and learning problems. Exceptionality in this sense includes students who are in need of preventative and/or intervention-based services. The topics will be approached from a multidisciplinary perspective and emphasis will be placed on utilizing a response to intervention approach in working with exceptional individuals. The service-learning component of the course will require students to learn about the educational environment by spending time in an elementary classroom, consulting with school staff and addressing the educational needs of students.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8636 ORGANIZATIONAL PSYCHOLOGY (3 credits)**

This is a survey course which will cover the major concepts, theories and empirical research related to organizational psychology. Specific topics will include: work motivation, leadership, decision making and job satisfaction as well as more recent trends such as cultural diversity, work teams, work-family and quality issues. (Cross-listed with PSYC 4630)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or graduate certificate program. Not open to non-degree graduate students.

**PSYC 8646 PERSONNEL PSYCHOLOGY (3 credits)**

A survey of psychological principles, theories and research related to personnel issues. Course includes discussion of personnel selection, performance appraisal, recruitment, training and health and safety. (Cross-listed with PSYC 4640)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or graduate certificate program. Not open to non-degree graduate students.

**PSYC 8656 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4650, CACT 8506)

**PSYC 8700 ETHICS AND LAW FOR PSYCHOLOGY AND APPLIED BEHAVIOR ANALYSIS (3 credits)**

This course provides graduate students with advanced knowledge of ethical codes, legal statutes, and case law that guide the profession of psychology and related applied fields with particular attention to the practice of applied behavior analysis. The primary emphasis of the class is on clinic-, community-, and school-based practice with children and adolescents.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 8800 GRADUATE SEMINAR IN THE AGING BRAIN (3 credits)**

The Graduate Seminar in the Aging Brain is a graduate level gerontology course focused on understanding the changes to the brain due to normal aging and aging-related diseases. This is an elective course for the Gerontology graduate program at UNO. The content matter of this course also makes it a relevant fit for graduate students from disciplines such as biology, psychology, geriatric medicine, nursing, social work, and exercise science. By the end of the course, students should have a thorough understanding of the changes to the brain in healthy aging and aging-related disease that affect cognitive and emotional functioning. (Cross-listed with GERO 8800).

**Prerequisite(s)/Corequisite(s):** Graduate level standing

**PSYC 8806 LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE (3 credits)**

This course presents legal principles relevant to all psychological specialties, with special reference to mental health services. Ethical reasoning and the APA ethics code are considered. (Cross-listed with PSYC 4800)

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, NEUR 8896, BIOL 4890, BIOL 8896).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PSYC 8900 PROBLEMS IN PSYCHOLOGY (1-6 credits)**

A faculty-supervised research project, involving empirical or library work and oral or written reports.

**Prerequisite(s)/Corequisite(s):** Written permission of department. Not open to non-degree graduate students.

**PSYC 8950 PRACTICUM FOR MASTER'S STUDENTS (1-6 credits)**

Faculty-supervised experience in industry or business designed to bridge the gap between the classroom and a job, emphasizing use of previously acquired knowledge in dealing with practical problems for master's students.

**Prerequisite(s)/Corequisite(s):** Written permission of your practicum committee. Not open to non-degree graduate students.

**PSYC 8970 MASTER'S LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY (1-6 credits)**

Faculty-supervised experience designed to provide experience in academic and behavioral assessment and intervention with children, and consultation with parents and school personnel.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8980 PRACTICUM IN DEVELOPMENTAL PSYCHOLOGY (1-6 credits)**

Faculty-supervised experience in a setting designed to provide a practical understanding of theoretical concepts of human development. Emphasizes direct observation and or personal interaction as a means of training, and can be directed toward various populations within the developmental life span (e.g., infants, preschoolers, middle childhood, adolescents, adults, aged persons).

**Prerequisite(s)/Corequisite(s):** PSYC 9560 and permission of Developmental Psychology Area Committee. Not open to non-degree graduate students.

**PSYC 8990 THESIS (1-6 credits)**

Independent research project written under supervision of a faculty committee. May be repeated up to a total of six hours.

**Prerequisite(s)/Corequisite(s):** Written permission of your thesis committee. Not open to non-degree graduate students.

**PSYC 9010 PROSEMINAR: STATISTICAL METHODS I (3 credits)**

The purpose of this course is to introduce students to the statistical concepts of correlation and regression. The course will cover basic understanding of these techniques, their applications, and interpretations of results.

**Prerequisite(s)/Corequisite(s):** Graduate standing and an undergraduate course in basic statistics which included an introduction to correlation and linear regression. Not open to non-degree graduate students.

**PSYC 9020 PROSEMINAR: STATISTICAL METHODS II (3 credits)**

An advanced approach to experimental design and inferential statistics using the analysis of variance models.

**Prerequisite(s)/Corequisite(s):** A course in basic statistics which included an introduction to analysis of variance. Not open to non-degree graduate students.

**PSYC 9030 SEMINAR: TOPICS IN INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY (3-9 credits)**

A topic area within field of Industrial Organizational Psychology will be explored in depth.

**Prerequisite(s)/Corequisite(s):** Admission to Industrial Organizational graduate program and permission of instructor. Not open to non-degree graduate students.

**PSYC 9040 PROSEMINAR LEARNING (3 credits)**

A comprehensive and intensive coverage of experimental literature on learning in humans and animals.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PSYC 9050 APPLIED BEHAVIOR ANALYSIS IN EDUCATION (3 credits)**

The purpose of this course is to familiarize students with knowledge and skills in educational systems, educational assessment, educational interventions, and problem solving models with an emphasis on applied behavior analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9070 PROSEMINAR: COGNITIVE PSYCHOLOGY (3 credits)**

This course will be a comprehensive overview of the field of cognitive psychology including the topics of attention and performance, memory, problem solving, and language. In addition, there will be a more in-depth coverage of selected issues.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor. Not open to non-degree graduate students.

**PSYC 9090 PSYCHOMETRIC THEORY (3 credits)**

Study of theoretical and practical problems related to the development and use of psychological measures and research designs covering such topics as scaling, test development, reliability, validity, interpretation of results and generalizability.

**Prerequisite(s)/Corequisite(s):** PSYC 3130 or equivalent. Not open to non-degree graduate students.

**PSYC 9100 SMALL N RESEARCH DESIGNS (3 credits)**

This course uses applications of research methodology that involve direct observation and single-subject designs to identify evidence-based practices that address clinical problems experienced by individuals across a variety of settings. Topics covered include behavioral assessment techniques, graphing data, single subject experimental designs, and consumer satisfaction with interventions.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor.

**PSYC 9120 MULTIVARIATE STATISTICAL ANALYSIS (3 credits)**

An examination of statistical techniques for describing and analyzing multivariate data commonly collected in behavioral research. Analytic techniques derived from general linear model will be considered, focusing on proper interpretation and use. The course is intended for doctoral students in psychology and (selectively) for advanced masters students in behavioral sciences.

**Prerequisite(s)/Corequisite(s):** PSYC 9090, 9010 and 9020 or permission of instructor. Not open to non-degree graduate students.

**PSYC 9130 APPLICATIONS OF ADVANCED STATISTICS IN PSYCHOLOGY (3 credits)**

This course covers a variety of statistical tools that may be used to answer research questions for group designs. A primary focus of the class is the application of statistical tools to psychology research and practice.

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program in Psychology. Not open to non-degree graduate students.

**PSYC 9140 ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS (3 credits)**

The purpose of this course is to familiarize students with the diagnosis, assessment, and treatment of autism spectrum disorders (ASD). (Cross-listed with SPED 9140).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9230 PROSEMINAR: BEHAVIORAL NEUROSCIENCE (3 credits)**

A study of the biological substrates of behavior with emphasis upon neuroanatomy, neurophysiology and neuropharmacology.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9240 PROSEMINAR: EVOLUTIONARY PSYCHOLOGY (3 credits)**

A comprehensive overview of behavioral biology including topics of evolution and behavior, behavioral ecology, physiology and genetics of behavior, and learning.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9320 SEMINAR IN PROGRAM EVALUATION (3 credits)**

This course is intended to help advanced graduate students in the applied social sciences understand the literature and conduct evaluation research. The history of program evaluation and philosophies manifest in evaluation research are reviewed, alternative evaluation models are discussed, and relevant methodological and practical issues such as quasi-experimental design and utilization are explored.

**Prerequisite(s)/Corequisite(s):** Students should have prior graduate-level course work or experience in research design and statistics in the applied social sciences. Not open to non-degree graduate students.

**PSYC 9421 POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course is a graduate seminar on organizational psychology and leadership that focuses on the understanding and critical analysis of theory and practice pertaining to individual functioning at work. Positive organizational psychology theories and practices will provide the overarching framework in understanding potential solutions to challenges and problems facing leaders and their employees. (Cross-listed with CACT 8520)

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**PSYC 9430 PROSEMINAR: PERSONALITY (3 credits)**

A course considering the effects of personality variables on behavior. A historical, theoretical, psychometric and experimental approach will be emphasized.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9440 PROSEMINAR: SOCIAL PSYCHOLOGY (3 credits)**

Examination of theories, research findings and controversies in social psychology. Topics will include socialization; person perception; interpersonal attraction, leadership and group effectiveness; attitudes, attitude measurement, and attitude change; intergroup relations, power and social influence. New topics will be added as they become part of the research interests of social psychologists.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9460 SEMINAR IN AGING AND HUMAN BEHAVIOR (3 credits)**

This course will examine in detail age-related changes in psychological processes and explore the implications of these changes for behavior. The course is intended primarily for graduate students in psychology and gerontology. (Cross-listed with GERO 9460)

**Prerequisite(s)/Corequisite(s):** Graduate standing in gerontology or psychology.

**PSYC 9470 PRACTICUM IN APPLIED BEHAVIOR ANALYSIS (1-12 credits)**

The practicum in applied behavior analysis provides students with intensive supervised experience providing behavior analytic services to improve the well-being of children and their families. Students will be assigned to practicum sites based on their respective interests, career goals, and availability of positions.

**Prerequisite(s)/Corequisite(s):** One semester of coursework in the Applied Behavior Analysis Master's degree program or admission to the Applied Behavior Analysis Certificate program. Not open to non-degree graduate students.

**PSYC 9500 SOCIOEMOTIONAL DEVELOPMENT (3 credits)**

This seminar is designed to provide an in-depth examination of the research literature on socioemotional development (emotional development that influences social behavior & development), with particular emphasis on both classic issues and current topics of debate. The course topics cover issues of importance in infancy, childhood, and adolescence. Research methods, as they apply to socioemotional development, will be emphasized throughout the course.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PSYC 9560. Not open to non-degree graduate students.

**PSYC 9510 RESEARCH METHODS IN DEVELOPMENTAL PSYCHOLOGY (3 credits)**

This course is designed to provide graduate students in developmental psychology and school psychology with the necessary skills to enable them to frame a research question and to design a study to answer that question. In addition, students will become familiar with methodologies for specialized areas within developmental psychology. Research ethics is a major component in the course.

**Prerequisite(s)/Corequisite(s):** PSYC 9560. Not open to non-degree graduate students.

**PSYC 9530 COGNITIVE DEVELOPMENT (3 credits)**

This course covers contemporary issues in theory and research concerning the development of processes by which environmental information is perceived, attended to, stored, transformed and used. Both Piagetian and information processing orientations will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 9560. Not open to non-degree graduate students.

**PSYC 9550 PSYCHOSOCIAL DEVELOPMENT (3 credits)**

A seminar focusing on research methods, theory and the empirical literature as they apply to social and personality development across the life span. All students will be expected to design and conduct a mini-observational experimental study in some specific area of social and personality development.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PSYC 9560. Not open to non-degree graduate students.

**PSYC 9560 PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY (3 credits)**

A survey of developmental processes across the life-span, with a particular emphasis on the interface of biological, cognitive and social influences. Theories of human development and issues pertaining to developmental processes are examined. The primary focus in the course is on the research literature pertaining to developmental psychology. Special emphasis is given to the role of context in development and to the topics of research methods, multicultural factors in development and social policy.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PSYC 9570 APPLIED BEHAVIOR ANALYSIS (3 credits)**

A comprehensive introduction to experimental methodology in applied behavior analysis. Topics covered include observational recording systems, reliability indices, procedural implementation of behavioral techniques, single-subject research designs and a broad review of the research literature.

**Prerequisite(s)/Corequisite(s):** A minimum of one course in learning theory (PSYC 8560, PSYC 8576, PSYC 9040, or equivalent) and permission. Not open to non-degree graduate students.

**PSYC 9610 MOTIVATION & MORALE (3 credits)**

A course focusing on theory and research in the areas of work motivation, work behavior and job satisfaction. Emphasis is placed on such topics as expectancy theory, job redesign, leadership, absenteeism, turnover, goal setting and behavior modification.

**Prerequisite(s)/Corequisite(s):** Admission into industrial/organizational psychology graduate program and permission of instructor. Not open to non-degree graduate students.

**PSYC 9620 INDUSTRIAL TRAINING AND ORGANIZATIONAL DEVELOPMENT (3 credits)**

This course will review theory and research relevant to training and organizational development, with emphasis on diagnosis, design, implementation, and evaluation. Practical concerns associated with intervention will be addressed.

**Prerequisite(s)/Corequisite(s):** Admission into industrial/organizational psychology graduate program and PSYC 9090, PSYC 9010, and PSYC 9020. Not open to non-degree graduate students.

**PSYC 9630 LEADERSHIP THEORIES AND RESEARCH (3 credits)**

The purpose of this course is to provide the student with a thorough review of the theories and research in the area of leadership. Theories reviewed will be those that focus on the role of the individual in effective leadership, the role of the situation, and the role of the followers. Special attention will be given to the psychological theories of leadership. The application of leadership research and theory to areas such as selection and training will also be reviewed.

**Prerequisite(s)/Corequisite(s):** Admission into the psychology graduate program or graduate standing and instructor permission. Not open to non-degree graduate students.

**PSYC 9640 PROBLEM SOLVING & DECISION MAKING (3 credits)**

The primary objective of the course is to acquaint students with some of the major conceptual, methodological, and measurement issues within the field of problem solving and decision making. Due to the scope of this field, the course will focus on the psychological research on individual decision making, with special emphasis on the cognitive and motivational processes underlying problem solving and decision making. The second major objective of the course is to encourage students to creatively integrate and apply decision making approaches and findings to traditional areas of concern to the industrial-organizational psychologist (e.g., employee selection, performance appraisal, training, leadership, motivation). The third objective is to hone students' critical thinking skills and their ability to present their ideas in a clear and coherent manner using oral and written formats.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 9650 RESEARCH METHODS IN PSYCHOLOGY (3 credits)**

A course designed to allow students to integrate and extend their knowledge and understanding of psychological research. Students will develop skills in writing research proposals, conducting research, and preparing manuscripts for publications.

**Prerequisite(s)/Corequisite(s):** PSYC 9010 or PSYC 9020. Not open to non-degree graduate students.

**PSYC 9660 CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL (3 credits)**

An in-depth examination of the fundamentals of personnel psychology including job analysis, criterion development and performance measurement and appraisal in organizations. Practical experience in the application of techniques and procedures is emphasized through group and individual projects in organizational settings.

**Prerequisite(s)/Corequisite(s):** Admission to industrial/organizational psychology graduate program and PSYC 9090 (may be taken concurrently). Not open to non-degree graduate students.

**PSYC 9670 PERSONNEL SELECTION (3 credits)**

An exploration of current theory and practice in personnel selection. Problem solving strategies are emphasized through the design, analysis, and interpretation of selection research and the implementation of selection programs consistent with Equal Opportunity Guidelines and federal law.

**Prerequisite(s)/Corequisite(s):** Admission to industrial organizational psychology graduate program, PSYC 9660. Not open to non-degree graduate students.

**PSYC 9680 GROUPS AND TEAMS (3 credits)**

Teamwork is hard but inevitable; individuals must be able to work effectively in a team. Teamwork is only becoming more difficult and complex as organizations use technology to communicate across space and time, bringing together culturally and functionally diverse, physically distributed team members who are members of multiple teams or systems of teams. This course explores what it means to be a good team member, to help others work effectively in teams, and to diagnose and solve teamwork problems. Challenges such as communication, decision-making, conflict resolution, and leadership are explored.

**Prerequisite(s)/Corequisite(s):** Admission to industrial organizational psychology graduate program and PSYC 9660. Not open to non-degree graduate students.

**PSYC 9780 ADVANCED CONSULTATION IN PSYCHOLOGY AND EDUCATION (3 credits)**

The course is designed to provide education and psychology professionals a comprehensive understanding of foundational theories and processes of consultation applied to education and psychology problems of children. A major objective is to focus on developing consultation skills considered necessary to be an effective consultant through direct practice and feedback. The course will emphasize the relationship between the consultant and parents, teachers, and other professionals within the school and child mental health settings.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9910 TOPICAL SEMINAR IN PSYCHOLOGY (1-3 credits)**

A discussion of specific advanced topics which will be announced whenever the course is offered.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PSYC 9940 SCHOOL PSYCHOLOGY APPLIED RESEARCH PROJECT (1-7 credits)**

The applied research project consists of students conducting an independent research project from start to finish. This project should have relevance to a practical aspect of school psychology and provide a unique contribution to the field. It may be quantitative or qualitative in nature, and must rely on sound research methodology.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 9950 PRACTICUM FOR DOCTORAL STUDENTS (1-6 credits)**

Faculty-supervised experience in industry or business designed to bridge the gap between the classroom and a job, emphasizing use of previously acquired knowledge in dealing with practical problems for doctoral students.

**Prerequisite(s)/Corequisite(s):** Admission to industrial/organizational psychology graduate program. Not open to non-degree graduate students.

**PSYC 9960 RESEARCH OTHER THAN THESIS (1-12 credits)**

Research work under supervision of a faculty member. May be repeated up to a total of 12 credit hours.

**Prerequisite(s)/Corequisite(s):** Enrollment in a graduate program beyond the master's level. Not open to non-degree graduate students.

**PSYC 9970 ED.S. LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY (1-6 credits)**

School Psychology School-Based Practicum is a capstone course in school psychology intended for students who have completed their Master's degree in School Psychology. This course is designed to reflect the scientist-practitioner model of training and practice in School Psychology. To accomplish this goal, students will be assigned to a practicing school psychologist employed by the public schools. The content of this course will focus on integrating previous and concurrent training experiences from courses and field experiences.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9980 INTERNSHIP IN SCHOOL PSYCHOLOGY (3-6 credits)**

School Psychology Internship is the final course in school psychology intended for students who have completed all of their other coursework. It is a 1200 hour culminating experience leading to licensure/certification as a school psychologist in most states, and eligibility for the NCSP exam. The internship requires that students apply the domains of training and practice that are outlined in the School Psychology program philosophy and training objectives. University and site-based supervision is required.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9990 PSYCHOLOGY DISSERTATION (1-24 credits)**

The course provides doctoral candidates in Psychology with a process to complete a dissertation research plan. The course learning activities will focus on the completion of a candidate's dissertation. The course is designed to allow advanced doctoral candidates to demonstrate technical mastery of the discipline and to advance knowledge by completing an investigation.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

## Psychology, MA

Department of Psychology, College of Arts and Sciences

### Vision Statement

The Master of Arts in psychology is designed to give students a broad background in the field of psychology plus a sufficient degree of specialization to prepare them for either careers or further graduate training.

### Program Contact Information

Joseph Brown, PhD, Graduate Program Chair (GPC)  
347J Arts & Sciences Hall (ASH)  
402.554.2313  
josephbrown@unomaha.edu

Program Website (<http://www.unomaha.edu/psych/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: January 10

### Other Requirements

- Baccalaureate degree with a minimum of 3.0 GPA.
- A minimum of 15 undergraduate semester hours or the equivalent of psychology or related courses including: basic statistics and an

upper level laboratory course, independent research, or equivalent, emphasizing the experimental method, data collection, statistical analysis, and report writing are required.

- Entrance Exam:** Graduate Record Examination (GRE)
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- Statement of Purpose**
- Writing Sample** (preferred APA style)
- Resume**
- Letters of Recommendation:** Three letters of recommendation from professors and individuals who can speak to applicant's potential for success in a graduate program are required.

## Degree Requirements

Student must select an area of concentration.

### Required Course

Code	Title	Credits
PSYC 8000	THE PROFESSION OF PSYCHOLOGY	0

Total number of required credits is determined by the area of concentration completed.

### Other Requirements Needed for a Student to Complete the Program

Obtaining a score of at least 600 on the Advanced Psychology Test of the GRE. (NOTE: not required for the applied behavior analysis, neuroscience & behavior, developmental, cognitive areas of concentration).

**Total Credit Hours: 30-37**

## Concentrations

### Cognitive Concentration (Thesis Option 30 hours)

Code	Title	Credits
<b>Required Cognitive Concentration Proseminar Courses</b>		
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	3
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	3
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3

#### Advanced Cognitive Courses

Select three of the following:		9
PSYC 8526	PSYCHOLINGUISTICS	
PSYC 9040	PROSEMINAR LEARNING	
PSYC 9120	MULTIVARIATE STATISTICAL ANALYSIS	
PSYC 9530	COGNITIVE DEVELOPMENT	
PSYC 9910	TOPICAL SEMINAR IN PSYCHOLOGY <sup>1</sup>	

PSYC 8990	THESIS	6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> PSYC 9910: (Cognitive topic)

### Exit Requirements

- Comprehensive Examination
- Thesis
  - All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms and final approval of a thesis and final submission of the thesis.

## Developmental Concentration (31-37 hours) Plan A (Thesis Option 31 hours)

Plan A is recommended for students who plan to pursue a PhD and/or who wish to complete an independent research project (the thesis).

**This plan requires completion of a minimum of 31 credit hours, as listed below:**

Code	Title	Credits
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3
PSYC 9650	RESEARCH METHODS IN PSYCHOLOGY	3
PSYC 9960	RESEARCH OTHER THAN THESIS <sup>1</sup>	1

### Developmental Concentration Courses

Select two of the following: 6

PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY <sup>2</sup>	
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE <sup>2</sup>	
PSYC 9430	PROSEMINAR: PERSONALITY	
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	

### Advanced Developmental Concentration Seminars

Select two of the following: 6

PSYC 9500	SOCIOEMOTIONAL DEVELOPMENT	
PSYC 9510	RESEARCH METHODS IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 9530	COGNITIVE DEVELOPMENT	
PSYC 9550	PSYCHOSOCIAL DEVELOPMENT	

PSYC 8990	THESIS	6
<b>Total Credits</b>		<b>31</b>

<sup>1</sup> PSYC 9960: (1-6 credit hours)

<sup>2</sup> Note you must take either PSYC 9070 or PSYC 9230 as one of the options.

## Plan B (Non-Thesis Option 37 hours)

Plan B is recommended for students who plan to work in an applied setting involving children and/or families and who do not plan to pursue a PhD. This plan requires completion of a minimum of 37 credit hours. In addition to required course work, students choose 3 elective courses (within or outside the Department of Psychology).

**Instead of a thesis, students complete two applied practica (6 credit hours).**

Code	Title	Credits
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3

PSYC 9650	RESEARCH METHODS IN PSYCHOLOGY	3
PSYC 9960	RESEARCH OTHER THAN THESIS <sup>1</sup>	1

### Statistics Course

PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
or PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	

### Developmental Concentration Proseminars

Select two of the following: 6

PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	
PSYC 9430	PROSEMINAR: PERSONALITY	
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	

### Advanced Developmental Concentration Seminars

Select two of the following: 6

PSYC 9500	SOCIOEMOTIONAL DEVELOPMENT	
PSYC 9510	RESEARCH METHODS IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 9530	COGNITIVE DEVELOPMENT	
PSYC 9550	PSYCHOSOCIAL DEVELOPMENT	

### Developmental Concentration Electives

Select three of the following: 9

PSYC 8250	FAMILY ANALYSIS AND TREATMENT	
PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 8590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	
PSYC 9090	PSYCHOMETRIC THEORY	
PSYC 9320	SEMINAR IN PROGRAM EVALUATION	
PSYC 9570	APPLIED BEHAVIOR ANALYSIS	

### Additional Course

Select an additional course outside the Department of Psychology (e.g., SOWK, SOC, SPED, GERO, CJUS, COUN, and PA).

PSYC 8980	PRACTICUM IN DEVELOPMENTAL PSYCHOLOGY <sup>2</sup>	6
-----------	--	---

<b>Total Credits</b>		<b>37</b>
----------------------	--	-----------

<sup>1</sup> PSYC 9960: (1-6 credit hours)

<sup>2</sup> PSYC 8980: (6 credit hours)

### Exit Requirements

- Comprehensive Examination
- Thesis
  - All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms and final approval of a thesis and final submission of the thesis.

## Industrial Organizational Concentration (Thesis Option 36 hours)

Code	Title	Credits
------	-------	---------

### Required Industrial Organizational Concentration Proseminar Courses

PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	3

### Proseminar Required Course

Select one of the following: 3

PSYC 9040	PROSEMINAR LEARNING	
-----------	---------------------	--

PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE
PSYC 9240	PROSEMINAR: EVOLUTIONARY PSYCHOLOGY

**Breadth Requirement**

Select one additional course from list provided by area. 3

**Industrial Organizational Core Course**

Select one of the following: 3

PSYC 9610	MOTIVATION & MORALE
PSYC 9620	TRAINING AND DEVELOPMENT
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH
PSYC 9640	PROBLEM SOLVING & DECISION MAKING
PSYC 9680	GROUPS AND TEAMS

**Additional Required Industrial Organizational Courses**

PSYC 9090	PSYCHOMETRIC THEORY	3
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3
PSYC 9670	PERSONNEL SELECTION	3
PSYC 8990	THESIS	6

**Total Credits** 36

**Exit Requirements**

- Comprehensive Examination
- Thesis
  - All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms and final approval of a thesis and final submission of the thesis.

**Neuroscience and Behavior Concentration (Thesis Option 30 hours)**

Code	Title	Credits
------	-------	---------

**Required Neuroscience and Behavior Courses**

PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3

**Group I Proseminar** 3

PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE
PSYC 9240	PROSEMINAR: EVOLUTIONARY PSYCHOLOGY
PSYC 9040	PROSEMINAR LEARNING
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY

**Group II Proseminar**

Select one of the following: 3

PSYC 9430	PROSEMINAR: PERSONALITY
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY

**Breadth Requirement**

Breadth requirement in Psychology. From a list of approved courses provided by the area. 3

**Neuroscience and Behavior Field-related Electives**

To be determined in consultation with your graduate advisor, approved GBCA (UNMC) allowed, may be PSYC, BIOL, or NEUR 8- or 9- courses EXCEPT the following: 3

PSYC 8990	THESIS
PSYC 9960	RESEARCH OTHER THAN THESIS

**Neuroscience and Behavior Electives**

To be determined in consultation with your graduate advisor; approved GBCA (UNMC) allowed, may be PSYC, BIOL, or NEUR 8- or 9-level courses EXCEPT the following: 6

PSYC 8990	THESIS	6
-----------	--------	---

**Total Credits** 30

**Social/Personality Concentration (Thesis Option 30 hours)**

Code	Title	Credits
------	-------	---------

**Required Social/Personality Concentration Proseminar Courses**

PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	3
PSYC 9430	PROSEMINAR: PERSONALITY	3
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3

**Breadth Requirement**

Select one additional course from list provided by area.

**Additional Required Social/Personality Concentration Course**

PSYC 9550	PSYCHOSOCIAL DEVELOPMENT	3
-----------	--------------------------	---

**Social/Personality Concentration Electives**

(6 hours) to be determined in consultation with your graduate advisor any PSYC 8 — or 9 — level course. 6

PSYC 8990	THESIS	6
-----------	--------	---

**Total Credits** 27

**Social/Personality Exit Requirements**

- **Thesis**
  - All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval Forms and final approval of a thesis and final submission of the thesis.
- **Social/Personality MA Comps**
  - Option 1- PSYC GRE
    - Proseminar requirement (3 non-stat prosems or 2 non-stat prosems and a waiver/substitution) with a grade of B- or better.
    - PSYC GRE score of 600 or better.
  - Option 2- Research
    - Proseminar requirement (3 non-stat prosems or 2 non-stat prosems and a waiver/substitution) with a grade of B- or better.
    - Research requirement- one from the list below. All research must be conducted at UNO and be supervised by a faculty member from the social/personality psychology area.
      1. Co-author on a presentation or poster at an approved international or national level conference.
      2. First author on a presentation or poster at an approved regional level conference.
      3. Co-author on an accepted publication in a peer review journal.
    - We expect that the student will play a significant role in the research process for satisfaction of the comps requirement. If a co-author, the student must have contributed significantly and meaningfully to the paper or manuscript.
    - List of approved conferences (other conferences may be approved by request).
      1. International/National: APA, APS, SPSP, SPSSI, SES, EASP.
      2. Regional: regional APA conference (e.g., MPA).

- Student will submit an e-mail of request to the Social/Personality director and his/her advisor. Student letter must include citation (authors, title, and conference) and a letter or e-mail showing acceptance.
- Social/Personality area faculty will review the request in case there are any concerns, or the conference is not on the approved list.
- If approved, Social/Personality director will submit the comps completion form to the graduate office.

## Special Performance Quality Rule

If at any time a grade of "C", (2.0 on a 4.0 scale) in graduate courses become a matter of record, a graduate student in the Department of Psychology will be placed on probation. An unexcused grade of "W" in a proseminar course will be considered equivalent to a grade of "C" for purposes of this policy. An excused "W" must be approved by the chair of the department of psychology. Students placed on this probation will forfeit any departmental graduate assistantship they may have and any approved programs of study will be subject to re-evaluation and change. Before registering for additional courses, a student placed on probation must, with the assistance and approval of his/her advisor, submit a plan for remediation of his/her academic problems, and have that plan approved by the Graduate Program Committee. The Graduate Program Committee will review and, if appropriate, modify the plan. Further, any enrollment in graduate courses must be approved by the Graduate Program Committee. The student will remain on probation until the Graduate Program Committee approves termination of probation status. If a student earns a second "C", the student will be dismissed from the program and the GPC will work to come up with a plan, and evaluate if it is possible for the student to return to the program at some point.

## Psychology, PhD

### Department of Psychology, College of Arts & Sciences

Our PhD programs prepare students for applied, research, or teaching positions in the areas of developmental psychology, industrial/organizational psychology and neuroscience and behavior.

### Program Contact Information

Joseph Brown, PhD, Graduate Program Chair (GPC)  
347J Arts & Sciences Hall (ASH)  
402.554.2313  
josephbrown@unomaha.edu

Program Website (<http://www.unomaha.edu/psych/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: January 10

### Other Requirements

- **Entrance Exam:** Graduate Record Examination (GRE)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency->

[%20International.pdf](#)), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

#### • Statement of Purpose

#### • Writing Sample (preferred APA style)

#### • Resume

- **Letters of Recommendation:** Three letters of recommendation are required from professors and individuals who can speak to the applicant's potential for success in a graduate program.

## Degree Requirements

### Concentrations

Student must select an area of concentration.

Students have ten (10) years to complete the PhD in Psychology from the time of filing a program of study.

**Total Credit Hours: 90**

## Concentrations

### Industrial/Organizational Psychology Concentration

Noted courses are required as part of our MA concentration in industrial/organizational psychology. These courses or their equivalent will be required for students who have earned their MA from another institution.

Code	Title	Credits
<b>General Psychology Courses</b>		
<b>Included in MA concentration in industrial/organization psychology</b>		
(Required)		
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	3
Select one of the following:		3
PSYC 9040	PROSEMINAR LEARNING	
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	
<b>Included in MA concentration in industrial/organization psychology</b>		
<b>Breadth Requirement</b>		
From list provided by area		
<b>Included in MA concentration in industrial/organization psychology</b>		
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY <sup>1</sup>	3
PSYC 8000	THE PROFESSION OF PSYCHOLOGY <sup>2</sup>	0
<b>Statistics and Methods Courses</b>		
PSYC 9320	SEMINAR IN PROGRAM EVALUATION	3
<b>Included in MA concentration in industrial/organization psychology</b>		
(Required)		
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3
PSYC 9090	PSYCHOMETRIC THEORY	3
PSYC 9650	RESEARCH METHODS IN PSYCHOLOGY	3
PSYC 9120	MULTIVARIATE STATISTICAL ANALYSIS	3
<b>Required industrial/organizational courses</b>		

**Included in MA concentration in industrial/organization psychology**

PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3
PSYC 9670	PERSONNEL SELECTION	3

**Core industrial/organizational courses <sup>3</sup>**

PSYC 9620	TRAINING AND DEVELOPMENT	3
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	3
PSYC 9640	PROBLEM SOLVING & DECISION MAKING	3
PSYC 9610	MOTIVATION & MORALE	3

**Topical Seminar**

PSYC 9030	SEMINAR: TOPICS IN INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY	3-9
-----------	---	-----

**Practicum**

PSYC 9950	PRACTICUM FOR DOCTORAL STUDENTS <sup>5</sup>	1-6
-----------	--	-----

**Research Other than Thesis**

PSYC 9960	RESEARCH OTHER THAN THESIS <sup>6</sup>	1-12
-----------	---	------

**Thesis**

PSYC 8990	THESIS <sup>6</sup>	6
-----------	---------------------	---

**Dissertation**

PSYC 9990	PSYCHOLOGY DISSERTATION	12-24
-----------	-------------------------	-------

**Electives**

Any course that is not required can serve as an elective as approved by the chair of the PhD committee. It is recommended that one course be taken outside the psychology department.

<sup>1</sup> PSYC 9070: (May be waived and replaced)

<sup>2</sup> PSYC 8000: (required)

<sup>3</sup> Require all 4; 1 course taken as part of the MA

<sup>4</sup> PSYC 9030: (topics will change); 2 required

<sup>5</sup> PSYC 9950: (6 hours required for PhD); cannot be taken until AFTER completion of MA thesis

<sup>6</sup> 6 hours required.

**Developmental Psychology Concentration**

Code	Title	Credits
------	-------	---------

**Required Courses**

PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3
PSYC 9550	PSYCHOSOCIAL DEVELOPMENT	3
PSYC 9500	SOCIOEMOTIONAL DEVELOPMENT	3
PSYC 9530	COGNITIVE DEVELOPMENT	3
PSYC 8900	PROBLEMS IN PSYCHOLOGY <sup>1</sup>	1-6

**Additional Psychology Coursework**

Select at least 12 hours from the following (must include at least one additional proseminar course):

PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	
PSYC 9430	PROSEMINAR: PERSONALITY	
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	
PSYC 9040	PROSEMINAR LEARNING <sup>2</sup>	
PSYC 8446	ABNORMAL PSYCHOLOGY	
PSYC 8526	PSYCHOLINGUISTICS	
PSYC/GERO 9460	SEMINAR IN AGING AND HUMAN BEHAVIOR	

**Methods, Design and Evaluation Coursework**

Select at least 12 hour from the following:

Required:

PSYC 9650	RESEARCH METHODS IN PSYCHOLOGY	
-----------	--------------------------------	--

Eligible courses:

PSYC 9510	RESEARCH METHODS IN DEVELOPMENTAL PSYCHOLOGY	
PSYC 8316	PSYCHOLOGICAL AND EDUCATIONAL TESTING	
PSYC 8520	FOUNDATIONS OF ASSESSMENT	
PSYC 9320	SEMINAR IN PROGRAM EVALUATION	
PSYC 9090	PSYCHOMETRIC THEORY	
SOC 8060	QUALITATIVE METHODS	

**Statistical Analysis Coursework**

Select at least 12 hours from the following:

Required:

PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	

Eligible courses:

PSYC 9120	MULTIVARIATE STATISTICAL ANALYSIS	
GERO 8356	ISSUES IN AGING <sup>3</sup>	
PSYC 9910	TOPICAL SEMINAR IN PSYCHOLOGY	

**Human Diversity Coursework**

PSYC 8590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
-----------	------------------------------------	---

Course in Cross-Cultural Development 3

**Elective Coursework**

Select at least 12 hours of elective coursework. Students will also find eligible courses in (among other disciplines):

Child, Youth, and Family Studies

Sociology/Anthropology

Gerontology

Latino/Latin American Studies

**Empirical Research Coursework**

PSYC 9960	RESEARCH OTHER THAN THESIS <sup>3</sup>	1-12
-----------	---	------

**Included in MA concentration**

PSYC 8990	THESIS <sup>4</sup>	6
PSYC 9990	PSYCHOLOGY DISSERTATION <sup>5</sup>	12-24

<sup>1</sup> PSYC 8900: Readings, Presentation, Review Paper

<sup>2</sup> PSYC 9040: (in conjunction with MMI)

<sup>3</sup> PSYC 9960: (at least 3 hours)

<sup>4</sup> PSYC 8990: (6 hours; required for Master's degree)

<sup>5</sup> PSYC 9990: (12-24 hours)

Every student must complete a two-party qualifying examination consisting of:

- Psychology readings including a written and oral examination across domains
- Grant Proposal OR Course Development (child development, adolescent development or lifespan development)

Additionally, each student is expected to demonstrate proficiency with at least one research tool.

**Neuroscience and Behavior Concentration**

Code	Title	Credits
<b>Required Course</b>		
12 hours in graduate-level courses in biological and behavioral sciences		12

**Electives**

To be determined by the student's supervisory committee 15

**Exit Requirement**

PSYC 9990	PSYCHOLOGY DISSERTATION (12-30 Hours Required)
-----------	--

<sup>1</sup> PSYC 9990: (12-30 hours)**Exit Requirements for each Concentration**

- Comprehensive Examination
- Dissertation

**Special Performance Quality Rule**

If at any time a grade of "C", (2.0 on a 4.0 scale) in graduate courses become a matter of record, a graduate student in the Department of Psychology will be placed on probation. An unexcused grade of "W" in a proseminar course will be considered equivalent to a grade of "C" for purposes of this policy. An excused "W" must be approved by the chair of the department of psychology. Students placed on this probation will forfeit any departmental graduate assistantship they may have and any approved programs of study will be subject to re-evaluation and change. Before registering for additional courses, a student placed on probation must, with the assistance and approval of his/her advisor, submit a plan for remediation of his/her academic problems, and have that plan approved by the Graduate Program Committee. The Graduate Program Committee will review and, if appropriate, modify the plan. Further, any enrollment in graduate courses must be approved by the Graduate Program Committee. The student will remain on probation until the Graduate Program Committee approves termination of probation status. If a student earns a second "C", the student will be dismissed from the program and the GPC will work to come up with a plan, and evaluate if it is possible for the student to return to the program at some point.

# Industrial/Organizational Psychology, MS

Department of Psychology, College of Arts &amp; Sciences

**Vision Statement**

The MS in industrial/organizational psychology is designed to prepare students for work in applied settings as well as for continued education. Students are trained using the scientist-practitioner model advocated by Society for Industrial Organizational Psychology (SIOP).

**Program Contact Information**

Joseph Brown, PhD, Graduate Program Chair (GPC)  
347J Arts & Sciences Hall (ASH)  
402.554.2313  
josephbrown@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/>)

**Admissions**

General Application Requirements and Admission Criteria (p. 945)

**Program-Specific Requirements****Application Deadlines (Fall 2022)**

- Fall: January 10

**Other Requirements**

- A minimum of 15 undergraduate semester hours (or the equivalent) of psychology courses including: basic statistics and an upper level laboratory course, independent research, or equivalent, emphasizing the experimental method, data collection, statistical analysis, and report writing are required.
- **Entrance Exam:** Graduate Record Examination (GRE)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The statement of purpose should include: your purpose in applying for graduate study, your particular area of specialization within the major field, your plans for future occupation or profession, and any additional information that may aid the selection committee in evaluating your preparation and your aptitude for graduate study. You should specifically address your goals and objectives in pursuing graduate study.
- **Writing Sample**
- **Resume**
- **Letters of Recommendation:** Three letters are required

**Degree Requirements**

Code	Title	Credits
<b>Required Courses</b>		
PSYC 8000	THE PROFESSION OF PSYCHOLOGY	0
PSYC 9090	PSYCHOMETRIC THEORY	3
PSYC 9440	PROSEMINAR: SOCIAL PSYCHOLOGY	3
PSYC 9010	PROSEMINAR: STATISTICAL METHODS I	3
PSYC 9660	CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL	3
PSYC 9020	PROSEMINAR: STATISTICAL METHODS II	3
PSYC 9670	PERSONNEL SELECTION	3
PSYC 8950	PRACTICUM FOR MASTER'S STUDENTS	3
Select two of the following:		6
PSYC 9610	MOTIVATION & MORALE	
PSYC 9620	TRAINING AND DEVELOPMENT	
PSYC 9630	LEADERSHIP THEORIES AND RESEARCH	
PSYC 9640	PROBLEM SOLVING & DECISION MAKING	
PSYC 9680	GROUPS AND TEAMS	
Select one of the following:		3
PSYC 9070	PROSEMINAR: COGNITIVE PSYCHOLOGY	
PSYC 9040	PROSEMINAR: LEARNING	
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	
Breadth requirement: Select one from list provided by area.		3
<b>Electives</b>		
Selected from any department as approved by your advisor		3
<b>Total Credits</b>		<b>36</b>

**Exit Requirement:**

- Comprehensive Examination

## Special Performance Quality Rule

If at any time a grade of "C", (2.0 on a 4.0 scale) in graduate courses become a matter of record, a graduate student in the Department of Psychology will be placed on probation. An unexcused grade of "W" in a proseminar course will be considered equivalent to a grade of "C" for purposes of this policy. An excused "W" must be approved by the chair of the Department of Psychology. Students placed on this probation will forfeit any departmental graduate assistantship they may have and any approved programs of study will be subject to re-evaluation and change. Before registering for additional courses, a student placed on probation must, with the assistance and approval of his/her advisor, submit a plan for remediation of his/her academic problems, and have that plan approved by the graduate program committee. The graduate program committee will review and, if appropriate, modify the plan. Further, any enrollment in graduate courses must be approved by the graduate program committee. The student will remain on probation until the graduate program committee approves termination of probation status. If a student earns a second "C", the student will be dismissed from the program and the GPC will work to come up with a plan, and evaluate if it is possible for the student to return to the program at some point.

## School Psychology, EdS

Department of Psychology, College of Arts & Sciences

### Vision Statement

The UNO school psychology program's mission is to graduate students who have met high levels of academic excellence relevant to the knowledge and skills in the profession of school psychology and that are engaged in and committed to the community. The program is designed to prepare graduates to function as scientist-practitioners in service to children and their families, schools, and communities. The program emphasizes an indirect service delivery approach that is oriented in data-based problem-solving and is responsive to cultural and ecological contexts. Although indirect approaches are emphasized (e.g., consultation, assessment, prevention, and early intervention), graduates are prepared to apply direct psychological services (e.g., individual-, group-, and systems-level interventions) when conditions warrant.

### Program Contact Information

Joseph Brown, PhD, Graduate Program Chair (GPC)  
347J Arts & Sciences Hall (ASH)  
402.554.2313  
josephbrown@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: December 15

### Other Requirements

- Must have earned a master's degree in school psychology prior to admittance into the EdS program.
- **English Language Pathology:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency->

%20International.pdf), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
PSYC 8250	FAMILY ANALYSIS AND TREATMENT	3
PSYC 9320	SEMINAR IN PROGRAM EVALUATION	3
PSYC 9780	ADVANCED CONSULTATION IN PSYCHOLOGY AND EDUCATION	3
PSYC 9100	SMALL N RESEARCH DESIGNS	3
PSYC 9940	SCHOOL PSYCHOLOGY APPLIED RESEARCH PROJECT	3
PSYC 9970	ED.S. LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY	6
PSYC 9980	INTERNSHIP IN SCHOOL PSYCHOLOGY	6
Select one of the following (the other course is taken at the master's level):		3
PSYC 8576	BEHAVIOR ANALYSIS AND INTERVENTIONS	
or PSYC 8550	PSYCHOTHERAPEUTIC INTERVENTIONS	
<b>Electives</b>		
Graduate course in Education <sup>1</sup>		3
Graduate course in Counseling <sup>1</sup>		3
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> Elective courses must be approved by school psychology program committee. Students must submit a written justification to the program director at least one month before the start of the course stating how the proposed elective course fits into their plan of study. The course catalog description must be included in the justification.

36 hours is earned for the EdS in School Psychology  
36 hours is earned in a Master's degree in School Psychology

**Total Credit Hours: 72**

### Exit Requirement:

Must successfully complete the School Psychology PRAXIS Examination.

## Special Performance Quality Rule

If at any time a grade of "C", (2.0 on a 4.0 scale) in graduate courses become a matter of record, a graduate student in the Department of Psychology will be placed on probation. An unexcused grade of "W" in a proseminar course will be considered equivalent to a grade of "C" for purposes of this policy. An excused "W" must be approved by the chair of the Department of Psychology. Students placed on this probation will forfeit any departmental graduate assistantship they may have and any approved programs of study will be subject to re-evaluation and change. Before registering for additional courses, a student placed on probation must, with the assistance and approval of his/her advisor, submit a plan for remediation of his/her academic problems, and have that plan approved by the graduate program committee. The graduate program committee will review and, if appropriate, modify the plan. Further, any enrollment in graduate courses must be approved by the graduate program committee. The student will remain on probation until the graduate program committee approves termination of probation status. If a student earns a second "C", the student will be dismissed from the program and the graduate program

committee will work to come up with a plan, and evaluate if it is possible for the student to return to the program at some point.

## School Psychology, MS

Department of Psychology, College of Arts and Sciences

### Vision Statement

The UNO school psychology program's mission is to graduate students who have met high levels of academic excellence relevant to the knowledge and skills in the profession of school psychology and are engaged in and committed to the community. The program is designed to prepare graduates to function as scientist-practitioners in service to children and their families, schools, and communities. The program emphasizes an indirect service delivery approach that is oriented in data-based problem-solving and is responsive to cultural and ecological contexts. Although indirect approaches are emphasized (e.g., consultation, assessment, prevention, and early intervention), graduates are prepared to apply direct psychological services (e.g., individual-, group-, and systems-level interventions) when conditions warrant.

### Program Contact Information

Joseph Brown, PhD, Graduate Program Chair (GPC)  
347J Arts & Sciences Hall (ASH)  
402.554.2313  
josephbrown@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: December 15

### Other Requirements

- A minimum of 15 undergraduate semester hours or the equivalent of psychology courses including: basic statistics and an upper level laboratory course, independent research, or equivalent, emphasizing the experimental method, data collection, statistical analysis, and report writing, are required.
- **Entrance Exam:** Graduate Record Examination (GRE) is required
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose**
- **Writing Sample** (preferred APA style)
- **Resume**
- **Letters of Recommendation:** Three letters of recommendation from professors and individuals who can speak to applicant's potential for success in a graduate program

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
PSYC 8000	THE PROFESSION OF PSYCHOLOGY	0
PSYC 9230	PROSEMINAR: BEHAVIORAL NEUROSCIENCE	3
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3
PSYC 8500	PROFESSIONAL, LEGAL, AND ETHICAL FOUNDATIONS OF SCHOOL PSYCHOLOGY	3
PSYC 8520	FOUNDATIONS OF ASSESSMENT	3
PSYC 8530	EARLY CHILDHOOD ASSESSMENT	3
PSYC 8540	SCHOOL AGE ASSESSMENT	3
PSYC 8590	PSYCHOLOGY OF EXCEPTIONAL CHILDREN	3
PSYC 8970	MASTER'S LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY	1-6
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	3
PSYC 9130	APPLICATIONS OF ADVANCED STATISTICS IN PSYCHOLOGY	3
PSYC 8576	BEHAVIOR ANALYSIS AND INTERVENTIONS	3
MMI 904	Proseminar Learning	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> PSYC 8550: the other course is taken at the EdS level.

### Exit Requirement

#### Comprehensive Portfolio (CP)

Students are required to submit a Comprehensive Portfolio (CP) near the end of their master's work. A portfolio is a systematic and purposeful collection of work that documents a student's professional competencies within the program's training objectives. The CP meets the graduate school's master's-level comprehensive examination requirement. The portfolio is intended to represent the student's progress towards meeting program outcomes and his or her ability to effect positive change for children, schools, and families. Thus, it is a formative and summative evaluation of student progress through the program's training objectives.

### Special Performance Quality Rule

If at any time a grade of "C", (2.0 on a 4.0 scale) in graduate courses become a matter of record, a graduate student in the Department of Psychology will be placed on probation. An unexcused grade of "W" in a proseminar course will be considered equivalent to a grade of "C" for purposes of this policy. An excused "W" must be approved by the chair of the Department of Psychology. Students placed on this probation will forfeit any departmental graduate assistantship they may have and any approved programs of study will be subject to re-evaluation and change. Before registering for additional courses, a student placed on probation must, with the assistance and approval of his/her advisor, submit a plan for remediation of his/her academic problems, and have that plan approved by the graduate program committee. The graduate program committee will review and, if appropriate, modify the plan. Further, any enrollment in graduate courses must be approved by the graduate program committee. The student will remain on probation until the graduate program committee approves termination of probation status. If a student earns a second "C", the student will be dismissed from the program and the GPC will work to come up with a plan, and evaluate if it is possible for the student to return to the program at some point.

# Applied Behavior Analysis, MS

Department of Psychology, College of Arts and Sciences; Munroe Meyer Institute, UNMC

## Vision Statement

The University of Nebraska Omaha and Munroe Meyer Institute (MMI) Applied Behavior Analysis Program's mission is to graduate students who have met high levels of academic excellence in clinical and research skills in applied behavior analysis and mental/behavioral health. The ABA Program trains students in a behavior analytic orientation to provide much needed services for children and adolescents, including those with behavioral and neurodevelopmental disabilities. The MS degree is for those individuals with a bachelor's degree seeking a master's degree and a program of coursework and practicum leading to Board Certification in Behavior Analysis. There is also a certificate program [SK1] (p. 1) for those individuals who already have a masters, Educational Specialist or PhD degree and wish to acquire additional knowledge and skills in applied behavior analysis.

## Program Contact Information

Mark Shriver, PhD, Graduate Program Chair (GPC)  
Munroe Meyer Institute  
402.559.6408  
mshriver@unmc.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/aba-program/>)

## Other Program Related Information

The UNO and MMI ABA MS program leads to Board Certification in Behavior Analysis (BCBA). This involves completion of (1) the program's Association for Behavior Analysis International Verified Course Sequence (listed below) and (2) the Behavior Analyst Certification Board fieldwork experience (1500-2000 hours). See BACB website (<http://bacb.com/>) for more details on attaining BCBA.

The program coursework also addresses content areas required for license as a mental health practitioner in Nebraska. Upon completion of the program, students will have obtained necessary prerequisites for Provisional Licensure as a Mental Health Practitioner (PLMHP) in the state of Nebraska. See the Nebraska Department of Health and Human Services website for more details on attaining a PLMHP.

The majority of coursework is online. However, most online courses require a synchronous meeting, typically weekly, which students will join via Zoom video. All courses, including online courses, follow a semester schedule sequence.

## Admissions

General Application Requirements and Admissions Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Fall 2022)

- Fall: January 10

## Other Requirements

- A minimum of 15 undergraduate semester hours (or the equivalent) of psychology courses including: basic statistics and an upper level laboratory course, independent research, or equivalent, emphasizing the experimental method, data collection, statistical analysis, and report writing are required.
- Entrance Exam:** Graduate Record Examination (GRE)

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105

- Statement of Purpose:** The statement of purpose should include: the applicant's purpose in applying for graduate study, the particular area of specialization within the major field, the applicant's plans for future occupation or profession, and any additional information that may aid the selection committee in evaluating your preparation and your aptitude for graduate study. The applicant should specifically address your goals and objectives in pursuing graduate study.

- Writing Sample:** Senior authored writing sample

- Resume**

- Letters of Recommendation-** Three required

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
Grades of B or better are required for each course.		
PSYC 8000	THE PROFESSION OF PSYCHOLOGY	0
PSYC 9040	PROSEMINAR LEARNING <sup>1</sup>	3
PSYC 9560	PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY	3
PSYC 9130	APPLICATIONS OF ADVANCED STATISTICS IN PSYCHOLOGY	3
PSYC 8520	FOUNDATIONS OF ASSESSMENT	3
PSYC 8550	PSYCHOTHERAPEUTIC INTERVENTIONS <sup>1</sup>	3
PSYC 8576	BEHAVIOR ANALYSIS AND INTERVENTIONS <sup>1</sup>	3
PSYC 8700	ETHICS AND LAW FOR PSYCHOLOGY AND APPLIED BEHAVIOR ANALYSIS <sup>1</sup>	3
PSYC 9050	APPLIED BEHAVIOR ANALYSIS IN EDUCATION	3
PSYC 9570	APPLIED BEHAVIOR ANALYSIS <sup>1</sup>	3
PSYC 9100	SMALL N RESEARCH DESIGNS <sup>1</sup>	3
PSYC 9140	ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS	3
PSYC 9470	PRACTICUM IN APPLIED BEHAVIOR ANALYSIS <sup>1</sup>	12
Select one of the following:		3-6
PSYC 9960	RESEARCH OTHER THAN THESIS (3 hours)	
PSYC 8990	THESIS (6 hours)	
<b>Total Credits</b>		<b>48-51</b>

<sup>1</sup> Students may take these courses through UNMC, Munroe Meyer Institute (MMI) by completing an intercampus registration form.

## Exit Requirement

- Comprehensive Examination

The ABA Handbook (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/aba-program/>) is a comprehensive resource for prospective and current students in the Applied

Behavior Analysis program at UNO. Refer to this document for information concerning the program content, training, policies, research, and more.

# Applied Behavior Analysis Certificate

Department of Psychology, College of Arts and Sciences; Munroe Meyer Institute, UNMC

## Vision Statement

The University of Nebraska Omaha and Munroe Meyer Institute (MMI) Applied Behavior Analysis Program's mission is for graduate students who have met high levels of academic excellence in clinical and research skills in applied behavior analysis and mental/behavioral health. The ABA Program trains students in a behavior analytic orientation to provide much needed services for children and adolescents, including those with behavioral and neurodevelopmental disabilities. The certificate program complements the existing MS in Applied Behavior Analysis. The MS degree is for those individuals with a bachelor's degree seeking a master's degree and a program of coursework and practicum leading to Board Certification in Behavior Analysis. The certificate program is for those individuals who already have a masters, educational specialist or PhD degree and wish to acquire additional knowledge and skills in applied behavior analysis.

## Program Contact Information

Mark Shriver, PhD, Graduate Program Chair (GPC)  
Munroe Meyer Institute  
402.559.6408  
mshriver@unmc.edu

Program Website (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/aba-program/aba-cert.php>)

## Other Program Related Information

This UNO ABA certificate program *does not* lead to Board Certification in Behavior Analysis (BCBA) *unless* one takes all courses in the Association for Behavior Analysis International (ABAI) verified course sequence and completes 1500 or 2000 hours of required supervised fieldwork. The supervised fieldwork is not offered as a course in the ABA certificate program and must be arranged independently by the student. See BACB (<http://bacb.com/>) for more details on attaining BCBA and requirements for supervised fieldwork.

The majority of coursework is online. However, most online courses require a synchronous meeting, typically weekly, which students will join via Zoom video. All courses, including online courses, follow a semester schedule sequence.

Although a university practicum experience is offered, due to the intensity of the supervision requirements, full-time employees who are seeking BCBA and taking courses part-time are strongly encouraged to consider the supervised fieldwork experience option instead. See <https://www.bacb.com/experience-standards-monthly-system/>

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

## Other Requirements

- Applicants must have completed a master's degree with at least a 3.0 GPA, a major or a minor (or at least a 15 credit concentration) in psychology, education, or a related area.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Statement of Purpose:** a 1000-word essay describing why they seek admission to this program
- One letter of recommendation

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		<b>12</b>
Select four of the following: <sup>1,2</sup>		
PSYC 9040	PROSEMINAR LEARNING <sup>3</sup>	
PSYC 8550	PSYCHOTHERAPEUTIC INTERVENTIONS <sup>3</sup>	
PSYC 8576	BEHAVIOR ANALYSIS AND INTERVENTIONS <sup>3</sup>	
PSYC 8700	ETHICS AND LAW FOR PSYCHOLOGY AND APPLIED BEHAVIOR ANALYSIS <sup>3</sup>	
PSYC 9570	APPLIED BEHAVIOR ANALYSIS <sup>3</sup>	
PSYC 9100	SMALL N RESEARCH DESIGNS <sup>3</sup>	
PSYC 9050	APPLIED BEHAVIOR ANALYSIS IN EDUCATION	
PSYC 9140	ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS	
<b>Total Credits</b>		<b>12</b>

In order to enroll in each course, students must obtain instructor approval and permit prior to registration. All courses for the certificate must be completed with grades of "B" or better. Students may take these courses through UNMC, Munroe Meyer Institute (MMI) by completing an intercampus registration form.

## Exit Requirement

Students must create a portfolio that is reviewed and approved by the student's advisor before the certificate is awarded.

## Special Performance Quality Rule

The ABA Handbook (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/aba-program/>) is a comprehensive resource for prospective and current students in the Applied Behavior Analysis program at UNO. Refer to this document for information concerning the program content, training, policies, research, and more.

## Special Performance Quality Rule

The ABA Handbook (<https://www.unomaha.edu/college-of-arts-and-sciences/psychology/academics/graduate-programs/aba-program/>) is a comprehensive resource for prospective and current students in the Applied Behavior Analysis program at UNO. Refer to this document for information concerning the program content, training, policies, research, and more.

## Public Administration Degree Programs Offered

- Public Administration, MPA (p. 1312)
- Public Administration, PhD (p. 1315)
- Public Administration, MPA and Management Information Systems, MS (MPA/MIS (p. 1254)) (p. 1254)
- Public Administration, MPA and Social Work, MSW (MPA/MSW) (p. 1317)

## Certificates Offered

- Public Management Certificate (p. 1322)
- Nonprofit Management Certificate (p. 1323)

### PA 8010 THE PUBLIC ECONOMY (3 credits)

This course focuses on microeconomics and its application to policy and management in the public and non-profit sectors. The concept of efficiency is developed along with the goal of social equity to help determine the roles of the public, private, and non-profit sectors. Some key issues examined are: the balance between equity and efficiency, government intervention in the market, privatization of public services, and cost benefit analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### PA 8020 AVIATION MANAGEMENT AND POLICY (3 credits)

The purpose of the course is to acquaint students with advanced concepts of aviation administration and the implementation of aviation policy within the public sector and to identify key concepts and critical issues both domestic and international. The primary focus is to explore the various effects that have resulted from the formation and enactment of major aviation and transportation regulatory issues. (Cross-listed with AVN 8020).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### PA 8030 INTERNSHIP IN PUBLIC ADMINISTRATION (1-6 credits)

Maximum of 3 hours to be granted upon completion of written report on internship. Internship in some government: national, state, local or nonprofit agency and in some instances public-oriented private agencies. Students will take course as Satisfactory/Unsatisfactory. An additional 3 hours may be taken through PA 8040.

**Prerequisite(s)/Corequisite(s):** Nine hours of MPA coursework and permission of school. Not open to non-degree graduate students.

### PA 8040 INTERNSHIP IN PUBLIC ADMINISTRATION (1-6 credits)

Maximum of 3 hours to be granted upon completion of written report on internship. Internship in some government: national, state, local or nonprofit agency and in some instances public-oriented private agencies. Students will take the course as Satisfactory/Unsatisfactory. An additional 3 hours may be taken through PA 8030.

**Prerequisite(s)/Corequisite(s):** Nine hours of MPA course work and permission of the school. Not open to non-degree graduate students.

### PA 8050 FOUNDATIONS OF PUBLIC ADMINISTRATION (3 credits)

The purpose of this course is to introduce the student to the art and science of public administration and to enable the student to develop the knowledge, skills and abilities requisite to the pursuit of graduate education in public administration.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

### PA 8090 ORGANIZATION THEORY AND BEHAVIOR (3 credits)

A study of the various approaches to understanding public organizations and people in them with special emphasis on the design, functioning and management of public agencies.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

### PA 8100 ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS (3 credits)

This course is designed to advance students' understanding and techniques about the role of leadership and ethics in the public and nonprofit sectors. Special attention will be paid on the application of theories of leadership and ethics to manage various boundary spanning activities including managing external relationships, collaborations/networks, performance, and innovation and change. (Cross-listed with AVN 8100)

**Prerequisite(s)/Corequisite(s):** PA 8050 and PA 8090. Not open to non-degree graduate students.

### PA 8106 MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS (3 credits)

This course will focus on developing a working knowledge of marketing and its component parts as they may be applied to non-profit organizations.

Emphasis will be placed on understanding the marketing process and applying marketing principles to real organizational settings. (Cross-listed with PA 4100).

**Prerequisite(s)/Corequisite(s):** Graduate and permission of instructor, and PA 8010, PA 8090; or permission of department.

### PA 8110 MANAGING INFORMATION IN THE PUBLIC SECTOR (3 credits)

This course is directed toward in-career and pre-career students in public administration who wish to acquire knowledge of issues in the management of information in the public sector and the basics of computing applications in the public sector. Its primary focus is on special issues in the management of information.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090, or permission of school. Not open to non-degree graduate students.

### PA 8120 ANALYSIS AND DECISION MAKING (3 credits)

This course assists students to develop their skills in research design and data analysis, covering both qualitative and quantitative data relevant to public affairs. The course introduces students to the fundamentals of research design, data collection, data and statistical analysis, and drawing pertinent policy and management recommendations. (Cross-listed with AVN 8120).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**PA 8130 MANAGING DIGITAL GOVERNANCE (3 credits)**

This course equips current and future public and nonprofit managers with capabilities and strategies to evaluate, participate in, and/or lead an information technology (digital governance) project to improve or even transform public service and governance. Because information technology has become increasingly integrated into public service and governance, understanding the role of information and information technology in government has become a necessity. This course provides the concepts and tools for public and nonprofit managers to succeed in the information age by better managing information as a resource and information technology as an enabler for public services and governance. The topics include digital divide, online participation, strategic IT management and change management, information resource and knowledge management, financing IT projects, IT project and performance management, management of IT outsourcing, and business process management. Basic literacy in computing and information technology is an integral part of the course. The discussion of these topics will address the growing use of information and communication technologies such as social media, smart mobile devices, and internet of things. Moreover, this course addresses the interplay of management, technology, and policy in the context of public service organizations, including governmental and non-profit organizations. This course offers the best of both practical and academic worlds via assigned readings and exercises, discussions, and a service-oriented project. The emphasis is on research-based knowledge and best practices informing one another. The class discussion is aimed at integrating professional experience with quality research to generate additional insights.

**Prerequisite(s)/Corequisite(s):** PA 8050. Not open to non-degree graduate students.

**PA 8206 COMMUNITY ORGANIZING & SOCIAL CHANGE (3 credits)**

This course will focus on various theories and applications of organizing communities and neighborhoods to effect change. Of particular interest is the role of engaging citizens in improving their communities. (Cross-listed with PA 4200).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PA 8300 POLICY DESIGN AND IMPLEMENTATION (3 credits)**

This course examines the formulation, adoption, implementation and evaluation of public policy. Important topics include the basic features of American government, the causes and determinants of public policies, the dynamics of decision-making in the public sector, the obstacles to "successful" public programs, and the criteria for the assessment of a public program's impact. Special emphasis is given to the role public managers play within the policy process.

**Prerequisite(s)/Corequisite(s):** PA 8050, PA 8090 and PA 8120. Not open to non-degree graduate students.

**PA 8320 PUBLIC POLICY EVALUATION (3 credits)**

This course is designed to have the students understand the role of evaluation in the policy process, to demonstrate how to conduct and implement evaluations of public programs, to illustrate the procedures for presenting an evaluation report to public officials and citizens, to introduce operational issues and problems associated with management of an office of policy evaluation, and to insure the exploration of conflicts and limitations inherent to public policy evaluation.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090 and PA 8120 and completion of at least 24 hours in the MPA program, not open to non-degree graduate students

**PA 8330 SEMINAR IN POLICY ANALYSIS (3 credits)**

Application of analytical techniques to the assessment of alternative courses of public action and the development and design of public programs; utilization and impact of expert analysis by public officials and political groups; impact and role of technical analysis in a democracy; management of policy analysis units within government.

**Prerequisite(s)/Corequisite(s):** PA 8050 and PA 8120, not open to non-degree graduate students

**PA 8400 PUBLIC AND NONPROFIT BUDGETING (3 credits)**

The purpose of the course is to familiarize public administration students with the basic characteristics and features of public budgets and enable them to deal competently with them.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8410 PUBLIC HUMAN RESOURCE MANAGEMENT (3 credits)**

A study of the personnel process in American governmental administration. The processes and problems of recruiting, structuring and operating public bureaucracies are examined as well as problems in personnel leadership, neutrality, accountability and performance.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8420 PUBLIC WORKS MANAGEMENT (3 credits)**

This course is designed to develop an understanding of the profession of public works management, and its relationship with urban service delivery. Students will learn substantive specialty areas of public works, as well as management techniques to improve service delivery efficiency.

**Prerequisite(s)/Corequisite(s):** PA 8050. Not open to non-degree graduate students.

**PA 8436 MUNICIPAL ADMINISTRATION (3 credits)**

The administrative structure and administrative practices of American cities covering such areas as finance, personnel, public works, public safety, health, utilities and planning. (Cross-listed with PA 4430).

**Prerequisite(s)/Corequisite(s):** PA 8010 and PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8440 ORGANIZATION DEVELOP. & PLANNED CHANGE IN THE PUBLIC SECTOR (3 credits)**

This course provides students with the theories and skills necessary to manage organizational change in the public sector. To accomplish this will require that the student become versed in the strategies of organizational development (OD) and planning in the public sector while at the same time mastering intervention techniques.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120 and completion of at least 24 hours in the MPA, not open to non-degree graduate students

**PA 8450 SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES (3 credits)**

A study of theory and method related to analysis of problems of organization and workflow in public agencies. The course includes problem analysis, field study methods, design of improved methods, selecting alternatives and developing decision packages.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120 and completion of at least 24 hours in the MPA program.

**PA 8470 ADMINISTRATIVE ETHICS AND LEADERSHIP (3 credits)**

Ethical action and effective leadership are especially important in public service and they are closely related. This course introduces students to concepts from public sector ethics and from leadership theory. Emphasis is placed on decision-making processes, relationships between public and nonprofit sector professionals and elected officials and citizens, and the role of the career public service professional in a democratic society.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8480 SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION (3 credits)**

The study of public finance administration policy and techniques areas. Emphasis is placed on the technical aspects of public finance administration with particular emphasis on the purposes, processes and issues associated with particular techniques or technique areas. (Cross-listed with AVN 8480).

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of department.

**PA 8500 ISSUES IN PUBLIC-PRIVATE SECTOR COOPERATION (3 credits)**

This course introduces students to the organization and processes, as well as the tools and techniques, of public-private sector cooperation. The objective of such a course is to familiarize students with the concepts and skills needed to develop and administer joint activities between the public and private sectors. Such cooperative activities have become an important aspect of public administration in recent years.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090 or permission of school. Not open to non-degree graduate students.

**PA 8516 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 4510, GERO 8516, PA 4510).

**Prerequisite(s)/Corequisite(s):** Permission of instructor and PA 8050, PA 8090 or permission of school. Not open to non-degree graduate students.

**PA 8520 SEMINAR IN GRANT WRITING (3 credits)**

This course explores the grant-writing process from initial conceptualization through submission and award to final report. The purposes of the course are to provide graduate students with the expertise and tools needed to fund their own research, to provide effective grant-writing assistance to faculty mentors and other colleagues, and to compete more effectively in the job market and/or for acceptance into doctoral and post-doctoral programs.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090. Not open to non-degree graduate students.

**PA 8530 PLANNING AND EVALUATION (3 credits)**

The basic question presented in this course is how we can use strategic planning and evaluation to build public and nonprofit organizations that function creatively and effectively, and that enhance the overall public value of their services.

**Prerequisite(s)/Corequisite(s):** PA 8100, PA 8050, PA 8090, PA 8120 and PA 8300. Not open to non-degree graduate students.

**PA 8550 INTRODUCTION TO THE NON-PROFIT SECTOR (3 credits)**

This course focuses on the contribution and importance of philanthropy, volunteerism and nonprofit organizations in society. Includes the differentiation between both public and private nonprofit organizations and the for profit sector. Management issues regarding nonprofit agencies is introduced.

**Prerequisite(s)/Corequisite(s):** Graduate standing, PA 8010, PA 8090 and permission of advisor or permission of school. Not open to non-degree graduate students.

**PA 8560 NONPROFIT FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on developing an understanding of the managing of financial resources within a nonprofit organization. A special emphasis is also placed on developing and executing budgets for such organizations.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PA 8550 or permission of instructor. Not open to non-degree graduate students.

**PA 8566 INTERGOVERNMENTAL MANAGEMENT (3 credits)**

This course is directed at those who wish to improve their knowledge and understanding of intergovernmental relations as it impacts policy and administration in the United States. The course will look at history and theoretical underpinnings of intergovernmental relations, the different elements of these relationships and review specific management arenas that are affected by these relationships. (Cross-listed with PA 4560).

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090; or permission of school. Not open to non-degree graduate students.

**PA 8580 NONPROFIT HUMAN RESOURCES MANAGEMENT (3 credits)**

This graduate-level course provides an introduction to the theories, principles, policies and practices related to leading and managing human resources in nonprofit organizations, including personnel, board and volunteer management and development.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of adviser; PA 8050; or permission of school. Not open to non-degree graduate students

**PA 8596 TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT (1-3 credits)**

A variable content course emphasizing nonprofit management techniques and topics. Topics include nonprofit leadership, board executive staff roles and relationships, personnel and volunteer management, financial management, proposal and grant writing community resources, special events planning and administration, needs assessments and legal ethical aspects.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8600 ADMINISTRATIVE LAW (3 credits)**

A review of the principal elements of the role and character of legal processes in government administration, including delegation of powers, legal forms of administrative action, liability of government units and officers and judicial review of administrative action.

**Prerequisite(s)/Corequisite(s):** PA 8050, not open to non-degree graduate students

**PA 8616 MUNICIPAL LAW (3 credits)**

This course is directed at both graduates and undergraduates who wish to have some exposure to the legal issues which affect public administrators. At the conclusion of the course, each student should have a basic understanding of municipal law which defines the parameters within which a public administrator must function, as well as other laws or legal concepts which will affect them on a day-to-day basis. Upon completion of the course, the student should be able to identify potential legal problems with their proposed actions.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8676 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student a historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 4670, GERO 8676).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8710 FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS (3 credits)**

The purpose of this course is to introduce students to a variety of fund raising methods, provide the context in which these methods might be used, and provide an understanding of how fund raising operates within public and not-for-profit organizations.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of instructor, PA 8010, and PA 8090; or permission of school. Not open to non-degree graduate students.

**PA 8740 HEALTH CARE POLICY (3 credits)**

This course helps students understand major health care policy making and related issues. It focuses on the history/background; physical, social, and economic environment; policy process; and political marketplace of contemporary U.S. health care policies. Topics include health care reform, cost containment, indigent health care and urban vs. rural health care. A health care background is helpful, but not required.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8810 SEMINAR IN METROPOLITAN PLANNING (3 credits)**

An overview of the present status of planning in metropolitan areas with special emphasis on structure of planning departments, comprehensive plans and problems of annexation.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of instructor or permission of school. Not open to non-degree graduate students.

**PA 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 4820, GEOG 8826).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**PA 8896 SPECIAL TOPICS PUBLIC ADMIN (3 credits)**

A course with the purpose of acquainting the student with key issues and topics of special concern to public and non-profit management that they otherwise would not receive elsewhere. No more than six hours of total credit in PA 8896 and PA 8906 can be taken without prior permission by the graduate program committee. Further, each topic in the course will need the approval of the Dean of Graduate Studies prior to being offered. (Cross-listed with PA 4890).

**PA 8906 SPECIAL TOPICS IN PUBLIC ADMINISTRATION (1-3 credits)**

A variable content course with Public Administration and Urban Studies topics selected in accordance with student and faculty interest. Possible topics include urban homesteading, administrative federalism and economic development and the public sector. (Cross-listed with PA 4900).

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of the school. Not open to non-degree graduate students.

**PA 8920 READINGS IN PUBLIC ADMINISTRATION (1-3 credits)**

Specially planned readings in public administration for the graduate student who encounters scheduling problems in the completion of his degree program, or who has special preparatory needs and who is adjudged by the department to be capable of pursuing a highly independent course of study.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120, and permission of the school. Not open to non-degree graduate students.

**PA 8940 RESEARCH IN PUBLIC ADMINISTRATION (1-3 credits)**

The course is intended for advanced graduate students in public administration. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of public administration rather than additional classroom courses.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120, and permission of the school. Not open to non-degree graduate students.

**PA 8990 CAPSTONE PROJECT IN PUBLIC ADMINISTRATION (3 credits)**

The Capstone Project offers each student the opportunity to demonstrate mastery of the theory and practice of public administration by applying the knowledge and skills gained in the MPA program to a project of the student's choice. This involves completing a project report reflecting the cumulative knowledge gained from these experiences. The course is intended only for students who are completing their Masters of Public Administration (MPA).

**Prerequisite(s)/Corequisite(s):** Completion of at least 30 hours in the MPA, PA 8050, PA 8100, PA 8090, PA 8120, PA 8300, PA 8400, PA 8530 and school permission. Not open to non-degree graduate students.

**PA 9000 FOUNDATIONS OF PUBLIC ADMINISTRATION (3 credits)**

This course is designed as a doctoral seminar that surveys the development of public administration from its earliest antecedents to the present day, taking both a historical and topical approach.

**Prerequisite(s)/Corequisite(s):** Admission into the doctoral program. Not open to non-degree graduate students.

**PA 9080 ADVANCED STATISTICAL APPLICATIONS (3 credits)**

This is a required course which will provide the student with fundamentals of modern statistical techniques used in criminal justice and public affairs research. (Cross-listed with CRCJ 9080).

**Prerequisite(s)/Corequisite(s):** CRCJ 8950

**PA 9200 THEORIES OF THE POLICY PROCESS (3 credits)**

Proseminar in public policy with emphasis on the development and application of theories of the formulation, adoption, and implementation of public policy.

**Prerequisite(s)/Corequisite(s):** Completion of a Master's degree in Public Administration or a related field, and permission of the instructor. Not open to non-degree graduate students.

**PA 9300 KNOWLEDGE DEVELOPMENT AND USE IN THE PUBLIC SERVICE PROFESSION (3 credits)**

This course will examine current issues in knowledge, development and use in the public service professions. Emphasis is placed on understanding various systematic research to effect social change.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9400 THE ENVIRONMENT OF PUBLIC ADMINISTRATION (3 credits)**

The purpose of this course is to enable the doctoral student to understand the role and responsibility of public administration in the context of the broader political economy.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9500 THEORIES OF NONPROFIT ORGANIZATIONS AND CIVIL SOCIETY (3 credits)**

This seminar course focuses on the theories and context of nonprofit and voluntary organizations, philanthropy, and civic society. It is designed for Ph.D. students to increase their depth of knowledge in specific content areas, including historical, legal, social, political, economic, behavioral, religious, ethical, organizational, and critical theories. The purpose is to help students gain knowledge of theories and context related to nonprofit and voluntary organizations, philanthropy, and civic society; as well as develop other skills to improve as a scholar.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9600 SEMINAR IN ADVANCED MANAGEMENT THEORY (3 credits)**

This course examines how recent advances in management theory may be incorporated into the practice of public administration.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program and PA 8090 or permission of instructor. Not open to non-degree graduate students.

**PA 9700 PUBLIC BUDGETING AND FINANCIAL THEORY (3 credits)**

This seminar is focused on theoretical issues in public budgeting and governmental finance. The aim of the seminar is for the student to understand the central issues in public budgeting and finance, and the place of this field of study within public administration.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9800 ADVANCED RESEARCH DESIGN (3 credits)**

This is a required course which will expose students to advanced topics in research methods in preparation for writing their doctoral dissertation. It will also apply advanced methodological techniques to problems in the field.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program. Not open to non-degree graduate students.

**PA 9900 ADVANCED TOPICS (3 credits)**

This course provides a format for exploration of topics of interest to advanced students in public administration. Topics covered will change periodically in keeping with the interests of faculty and students. (Cross-listed with AVN 9900).

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Public Administration or permission of instructor. Not open to non-degree graduate students.

**PA 9920 TEACHING AND PROFESSIONAL SKILLS WORKSHOP (1 credit)**

The workshop offers training for a career in higher education. Instruction and practice in teaching includes creating and presenting lecture material, facilitating discussion, constructing syllabi, and related matters. Instruction in professional skills includes topics such as interviewing for positions, writing and publishing, and the tenure process.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program or permission of instructor. Not open to non-degree graduate students.

**PA 9930 PHD RESEARCH & PROFESSIONAL SKILLS WORKSHOP (1 credit)**

This one credit hour PhD workshop offers training and practice related to research and professional development to prepare for a career in higher education or another research-oriented career. Topics covered include developing a research design and proposal, applying for research funding, presenting research, publishing research, preparing to go on the academic or professional job market, and self-care/well-being.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9950 QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION (3 credits)**

This course is designed to prepare the student to understand and apply advanced statistical methods needed in the design and analysis of public administration investigations. The major topics to be covered include research designs, nonexperimental research and specialized research designs, multiple linear regression, analysis of covariance, and logistic regression.

**Prerequisite(s)/Corequisite(s):** CRCJ 8030 or equivalent, PA 8050 or permission of the school. Not open to non-degree graduate students.

**PA 9960 QUALITATIVE RESEARCH METHODS (3 credits)**

This course is a doctoral seminar in the methods and practice of qualitative research. Advanced research design techniques, validity, mixed methodology, and qualitative research tools common to the practice of public administration are presented.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program in public administration or permission of the instructor. Not open to non-degree graduate students.

**PA 9970 DIRECTED RESEARCH IN PUBLIC ADMINISTRATION (3 credits)**

This course offers a structure for doctoral students to conduct advanced research in their chosen area of specialization. (Cross-listed with AVN 9970).

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in Public Administration and permission of instructor. Not open to non-degree graduate students.

**PA 9980 DIRECTED READINGS IN PUBLIC ADMINISTRATION (1-6 credits)**

This course is designed to provide the advanced graduate student with the opportunity to do extended readings on a specialized public administration topic. (Cross-listed with AVN 9980).

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in public administration and permission. Not open to non-degree graduate students.

**PA 9990 DISSERTATION (1-20 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in public administration.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in public administration. Admission to candidacy for Ph.D. degree. Prior to enrolling for dissertation hours, student must have permission from the chair of the supervisory committee. Not open to non-degree graduate students.

## Public Administration, MPA

**School of Public Administration, College of Public Affairs & Community Service**

### Vision Statement

The mission of the Master of Public Administration program is to strengthen the public service in a democratic and diverse society by educating students to manage and lead public and nonprofit institutions effectively, ethically and democratically.

### Program Contact Information

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
cebdon@unomaha.edu (tbryan@unomaha.edu)

### Prospective Student Admissions:

Meagan Van Gelder, EdD, Advisor  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
mvangelder@unomaha.edu

### Current Student Advisor:

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
jharrold@unomaha.edu (mvangelder@unomaha.edu)

**Program Website** (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/mpa.php>)

### Other Program Related Information

#### Fast Track Program

The School of Public Administration has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students with a major in Emergency Management from the UNO School of Public Administration, desiring to pursue a Master of Public Administration degree.
- Students should have senior status and must be within at least 30 undergraduate credits yet to complete their undergraduate degree. Exceptional students who do not meet this requirement may be considered.
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast-Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course

- Students will work with their undergraduate advisor to register for the graduate courses.
- Students must consult with the MPA advisor prior to enrollment in one of the courses listed below.
- A minimum cumulative GPA of 3.5 is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the MPA program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For this program, if students maintain at least a grade of B+ in courses taken, they will be recommended for admission to the MPA program.
  - The admit term must be after the completion term of the undergraduate degree.

The following courses may be taken under the Fast-Track program:

- PA 8050: Foundations of Public Service
- PA 8090: Organizational Theory and Behavior
- PA 8100: Advanced Management and Leadership for Public and Nonprofit Organizations (Note: This course may only be taken if both PA 8050 and PA 8090 are completed).

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Fall 2022, Spring 2022)

- Fall: June 1
- Spring: October 1
- Summer: NA

## Other Requirements

- The general prerequisite for admission to the MPA program is a four-year bachelors' degree with a minimum 3.0 GPA in the junior and senior years (last 50-60 credit hours)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose/Admissions Essay:** The essay should be two to four pages (doubled-spaced) and answer the following questions:
  - Please tell us about the factors in your background that will help us understand your interest in a profession in the public or nonprofit sectors.
  - What are your professional goals? Ten years from now, what do you hope to be doing professionally?
  - How can an MPA from UNO help you to achieve these goals?
- **Resume**
- **Letters of Recommendation:** Two letters of recommendation are required

Generally, students will be admitted unconditionally if they have a strong undergraduate record, demonstrate good communication skills in their

admission essay, receive favorable recommendations, and have goals consistent with the mission of the MPA program.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
The School of Public Administration has seven (7) core courses required for all MPA students. <sup>1</sup>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3
PA/AVN 8120	ANALYSIS AND DECISION MAKING	3
PA 8400	PUBLIC AND NONPROFIT BUDGETING	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
PA 8530	PLANNING AND EVALUATION	3
<b>Concentrations</b>		
See MPA Concentrations		9
<b>General Elective Courses</b>		
See MPA General Electives below		6
<b>Specializations</b>		
See MPA Specializations below		
At the end of the program, students complete a Capstone Project:		3
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	
<b>Total Credits</b>		<b>39</b>

<sup>1</sup> Must maintain a grade point average (gpa) of 3.2 or above during the first twelve (12) hours of public administration coursework in PA 8050, PA 8090, PA 8100 and PA 8120. Provisional students can earn no grade below a "B" in the first twelve (12) hours of coursework or the student will be dismissed or placed on academic probation. A grade of "C-" or below results in automatic dismissal.

## Exit Requirements

- Capstone - 3 hours PA 8990 or

## MPA General Electives

Students take two general elective courses. Any 8000 level Public Administration course may be taken as an elective (other than the required core and concentration classes). Courses from other departments may also be used as elective courses, but require approval in advance.

Code	Title	Credits
PA 8010	THE PUBLIC ECONOMY	3
PA/AVN 8020	AVIATION MANAGEMENT AND POLICY	3
PA 8030	INTERNSHIP IN PUBLIC ADMINISTRATION	1-6
PA 8040	INTERNSHIP IN PUBLIC ADMINISTRATION	1-6
PA 8106	MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS	3
PA 8110	MANAGING INFORMATION IN THE PUBLIC SECTOR	3
PA 8130	MANAGING DIGITAL GOVERNANCE	3
PA 8206	COMMUNITY ORGANIZING & SOCIAL CHANGE	3

PA 8320	PUBLIC POLICY EVALUATION	3	AVN 8750	TRANSPORTATION FINANCE	3
PA 8330	SEMINAR IN POLICY ANALYSIS	3	AVN/PA 8896	CRITICAL ISSUES IN AVIATION ADMINISTRATION	3
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3	AVN 8906	SPECIAL TOPICS IN AVIATION	1-3
PA 8420	PUBLIC WORKS MANAGEMENT	3	AVN 8920	READINGS IN AVIATION ADMINISTRATION	1-3
PA 8436	MUNICIPAL ADMINISTRATION	3	AVN 8940	RESEARCH IN AVIATION ADMINISTRATION	1-3
PA 8440	ORGANIZATION DEVELOP. & PLANNED CHANGE IN THE PUBLIC SECTOR	3	AVN 8996	AIR TRANSPORTATION	3
PA 8450	SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES	3	EMGT 8060	PLANNING, PREPAREDNESS, AND MITIGATION	3
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	3	EMGT 8430	RESPONSE, RECOVERY & RESILIENCE	3
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3	EMGT 8600	CONTEMPORARY ISSUES IN EMERGENCY MANAGEMENT	3
PA 8500	ISSUES IN PUBLIC-PRIVATE SECTOR COOPERATION	3	GERO/PA 8516	LONG-TERM CARE ADMINISTRATION	3
PA/GERO 8516	LONG-TERM CARE ADMINISTRATION	3	GERO/PHHB 8556	HEALTH ASPECTS OF AGING	3
PA 8520	SEMINAR IN GRANT WRITING	3	GERO 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	3	GERO 8696/ SOWK 8046	WORKING WITH MINORITY ELDERLY	3
PA 8566	INTERGOVERNMENTAL MANAGEMENT	3	PHHB 8850	HEALTH ASPECTS OF STRESS MANAGEMENT	3
PA 8580	NONPROFIT HUMAN RESOURCES MANAGEMENT	3	PHHB 8600	HEALTH BEHAVIOR	3
PA 8596	TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT	1-3	PHHB 8706	WOMEN'S HEALTH AND ISSUES OF DIVERSITY	3
PA 8600	ADMINISTRATIVE LAW	3	UBNS/BLST 8020	RACE, ETHNICITY, AND AMERICAN CULTURE	3
PA 8616	MUNICIPAL LAW	3	UBNS 8060	INTRODUCTION TO URBAN PLANNING	3
PA 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	3	GEOG 8126	URBAN GEOGRAPHY	3
PA 8710	FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS	3	CRCJ 8010	NATURE OF CRIME	3
PA 8740	HEALTH CARE POLICY	3	CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
PA 8810	SEMINAR IN METROPOLITAN PLANNING	3	CRCJ 8040	SEMINAR IN POLICE AND SOCIETY	3
PA/BIOL/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3	CRCJ 8100	CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT	3
PA/AVN 8896	SPECIAL TOPICS PUBLIC ADMIN	3	CRCJ 8230	TERRORISM	3
PA 8906	SPECIAL TOPICS IN PUBLIC ADMINISTRATION	1-3	CRCJ 8800	SPECIAL PROBLEMS IN CRIMINAL JUSTICE	3
PA 8920	READINGS IN PUBLIC ADMINISTRATION	1-3			
AVN 8020/8020	AVIATION MANAGEMENT AND POLICY	3			
AVN 8030	INTERNSHIP IN AVIATION ADMINISTRATION	1-6			
AVN 8040	INTERNSHIP IN AVIATION ADMINISTRATION	1-6			
AVN 8060	TRANSPORTATION SECURITY	3			
AVN 8086	AIRPORT SAFETY AND SECURITY	3			
AVN 8095	AIRPORT ADMINISTRATION AND PLANNING	3			
AVN/PA 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3			
AVN/PA 8120	ANALYSIS AND DECISION MAKING	3			
AVN 8155	AVIATION LAW	3			
AVN 8250	AIRPORT ADMINISTRATION	3			
AVN 8360	TRANSPORTATION SAFETY	3			
AVN 8370	AIRPORT DEVELOPMENT	3			
AVN/PA 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3			
AVN/TED 8510	AEROSPACE EDUCATION WORKSHOP	3			
AVN 8605	INTERNATIONAL AVIATION	3			

## MPA Specializations

### Criminology and Criminal Justice Specialization

Code	Title	Credits
<b>Required Course</b>		
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3
<b>Elective Courses</b>		
Select two of the following:		6
CRCJ 8010	NATURE OF CRIME	
CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	
CRCJ 8040	SEMINAR IN POLICE AND SOCIETY	
CRCJ 8050	SEMINAR IN CORRECTIONS	
CRCJ 8060	SEMINAR IN THE CRIMINAL COURT SYSTEM	
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE	
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	
CRCJ 8230	TERRORISM	
CRCJ 9030	SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE	

CRCJ 9040	COMPARATIVE CRIMINOLOGY AND CRIMINAL JUSTICE SYSTEMS
CRCJ 9090	SPECIAL PROBLEMS IN RESEARCH METHODS
CRCJ 9150	SPECIAL TOPICS IN CRIMINAL JUSTICE RESEARCH
CRCJ 9160	SEMINAR IN COMMUNITY-BASED CORRECTIONS
CRCJ 9170	SEMINAR ON INSTITUTIONAL CORRECTIONS

**Total Credits** 9

Other graduate courses in criminology & criminal justice may be appropriate depending upon the student's interests and background. CRCJ 8090 is not recommended.

### Information Management Specialization

Please note: A module needs to be complete prior to enrolling in the specialization courses.

Code	Title	Credits
<b>Required Courses</b>		
PA 8110	MANAGING INFORMATION IN THE PUBLIC SECTOR	3
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	3

#### Elective Course

Select one of the following: 3

ISQA 8196	PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY
ISQA 8250	FACILITATION OF COLLABORATIVE PROBLEM SOLVING
ISQA 8420	MANAGING THE I.S. FUNCTION
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS
ISQA 8736	DECISION SUPPORT SYSTEMS
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS

**Total Credits** 9

## Concentrations

### Emergency Management Concentration

Code	Title	Credits
<b>Required Courses</b>		
EMGT 8060	PLANNING, PREPAREDNESS, AND MITIGATION	3
EMGT 8430	RESPONSE, RECOVERY & RESILIENCE	3
PA 8566	INTERGOVERNMENTAL MANAGEMENT	3

**Total Credits** 9

### Health and Social Policy Concentration

Code	Title	Credits
<b>Required Courses</b>		
PA 8350	SOCIAL POLICY AND INEQUALITY	3
PA 8540	NONPROFITS AND PUBLIC POLICY	3
PA 8750	SOCIAL DETERMINANTS OF HEALTH	3

**Total Credits** 9

### Local Government Concentration

Code	Title	Credits
<b>Required Courses</b>		
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3
PA 8436	MUNICIPAL ADMINISTRATION	3
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	3
<b>Total Credits</b>		9

### Nonprofit Management Concentration

Code	Title	Credits
<b>Required Courses</b>		
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	3
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3
or PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	
PA 8710	FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS	3
<b>Total Credits</b>		9

### Public Management Concentration

Code	Title	Credits
<b>Required Courses</b>		
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3
PA 8600	ADMINISTRATIVE LAW	3
Select one of the following:		3
PA 8566	INTERGOVERNMENTAL MANAGEMENT	
PA 8110	MANAGING INFORMATION IN THE PUBLIC SECTOR	
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	
PA 8450	SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES	
<b>Total Credits</b>		9

### Public Policy Concentration

Code	Title	Credits
<b>Required Courses</b>		
PA 8320	PUBLIC POLICY EVALUATION	3
PA 8330	SEMINAR IN POLICY ANALYSIS	3
PA 8600	ADMINISTRATIVE LAW	3
<b>Total Credits</b>		9

## Public Administration, PhD

School of Public Administration, College of Public Affairs & Community Service

### Vision Statement

The PhD in public administration program creates a supportive, collaborative, and rigorous environment for students to develop their intellectual identities and a comprehensive understanding of the field and a range of research traditions. Our students and alumni make significant contributions to theory, policy, research, and practice towards enhancing a democratic society. We value intellectual openness, collaboration, diversity, and excellence.

The PhD program in public administration is a research degree with a focus on public and nonprofit administration and management in a democratic and diverse society. It is the terminal degree for research and theory development.

## Program Contact Information

Angela Eikenberry, PhD, Graduate Program Chair (GPC)  
111A College of Public Affairs & Community Service (CPACS)  
402.554.3488  
aeikenberry@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/phd.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- For applicants seeking a funded graduate assistantship: January 15
- For all other applicants: March 15

### Other Requirements

- An earned master's degree in public administration or related field from an accredited institution.
- Generally, the target master's degree level GPA is above 3.20 (on a 4.0 scale).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 557, Internet-based TOEFL 90, IELTS: 6.5, PTE: 61, Duolingo: 110
  - Applicants are expected to demonstrate the ability to communicate orally and in writing in a manner sufficient to compete effectively at the doctoral level.
- **Statement of Purpose:** A five-page statement of intent describing the applicant's goals in pursuing a PhD and plans after completion of the PhD, research interests and desired area of specialization offered in the PhD program, discussion of school faculty with whom the applicant would like to work related to research interests, and an explanation of academic and professional backgrounds preparing the applicant to pursue a PhD.
- **Writing Sample:** An academic or professional writing sample is required. This can be, for example, a term paper, thesis, conference paper, evaluation report, or published work.
  - Include a separate 1-page abstract that summarizes the contents of the writing sample. If applicable, please include an explanation of your contribution if the work submitted is multi-authored.
- **Resume:** The resume or CV will be examined to assess an applicant's professional work experience and/or extracurricular activities while attending school. Additionally, resumes are examined to assess an applicant's potential ability to understand and do research on the context and practice of contemporary public administration.
- **Letters of Recommendation:** Three letters are required. At least two recommendations must be from academics such as current or

former professors. The Office of Graduate Studies will contact each recommender via email to obtain the letters.

- Applicants who have completed any undergraduate or graduate coursework at international higher education institution(s), for the purpose of having your application reviewed by the School of Public Administration, you may submit a copy of your unofficial transcripts, in addition to all other application materials. Should the department wish to make a recommendation for admission, you will be required to have a course-by-course transcript evaluation completed by WES, ECE, or Educational Perspectives prior to your admission being formally reviewed and processed by the Office of Graduate Studies.
- Students are responsible for additional information found on the PhD in Public Administration website.
- The doctoral program committee reviews student academic preparation, specifying appropriate courses that must be taken as prerequisites to doctoral study. Except for those who have completed an MPA degree, new doctoral students may be required to first complete MPA course prerequisites or reading prior to enrolling in 9000-level core or research courses.

## Degree Requirements

### Required Courses Summary

92 hours of graduate credit hours beyond the baccalaureate degree. This includes 21 hours of core courses, 12 hours of research courses, six hours of specialization courses, two 1-hour workshops on teaching and research skills, 15 hours of dissertation coursework, and 36 hours of additional graduate-level coursework. The 36 hours of additional graduate-level coursework may be earned from an accredited institution toward a Master of Public Administration degree or a master's degree (MA or MS) in a related academic discipline or field.

Code	Title	Credits
Seminar Courses		21
Research Courses		12
Specialization Courses		6
Teaching & Research Skills Workshops		2
Dissertation		15
Additional graduate-level coursework (from master's degree)		36
<b>Total Credits</b>		<b>92</b>

### Required Courses

Code	Title	Credits
<b>Seminar Courses</b>		
PA 9000	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 9200	THEORIES OF THE POLICY PROCESS	3
PA 9300	KNOWLEDGE DEVELOPMENT AND USE IN THE PUBLIC SERVICE PROFESSION	3
PA 9400	THE ENVIRONMENT OF PUBLIC ADMINISTRATION	3
PA 9500	THEORIES OF NONPROFIT ORGANIZATIONS AND CIVIL SOCIETY	3
PA 9600	SEMINAR IN ADVANCED MANAGEMENT THEORY	3
PA 9700	PUBLIC BUDGETING AND FINANCIAL THEORY	3
<b>Research Courses</b>		
PA 9800	ADVANCED RESEARCH DESIGN	3
PA 9950	QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION	3
PA 9960	QUALITATIVE RESEARCH METHODS	3

PA 9970	DIRECTED RESEARCH IN PUBLIC ADMINISTRATION	3
---------	--	---

### Specialization Courses

Take 2 elective courses related to one of the following -	6
---	---

Public and Nonprofit: Policy, Theory, Management, Budgeting & Finance, Technology & Data Analytics

### Workshops

PA 9920	TEACHING AND PROFESSIONAL SKILLS WORKSHOP	1
---------	---	---

PA 9930	PHD RESEARCH & PROFESSIONAL SKILLS WORKSHOP	1
---------	---	---

### Dissertation

PA 9990	DISSERTATION	15
---------	--------------	----

## Progress Review

The doctoral program committee will conduct a review of student progress each year. The committee will make such recommendations as appropriate to the student's advisor. As part of the review, students will be required to submit a summary of annual progress and plans.

## Field Examination

Following completion of coursework, doctoral students take the field examination, which includes two questions: one comprehensive and one related to the student's specialization. The field exam is given in open-book format over two days, eight-hours each day. The field exam testing period is in August (about one week before the fall semester starts) each year.

## Degree Candidacy

Students who have successfully passed the required coursework in their program of study and the field examination apply for Admission to Candidacy for the Doctoral Degree. This application requires majority consent of the student's supervisory committee, the doctoral program committee, and the dean for Graduate Studies.

After admission to degree candidacy, the student must maintain continuous enrollment until they receive the degree. The School monitors this enrollment. Students not in residence must register for a minimum of one semester credit hour of dissertation research. Failure to register during each academic semester will result in termination of the candidacy. Per Graduate College policy, if the term of candidacy is extended beyond three years (excluding summer terms), the candidate must pass another examination.

## Dissertation

The dissertation represents an original contribution to knowledge development in the field of public administration. Following successful completion of all coursework and field exams, doctoral students apply for candidacy for the degree and then defend a dissertation proposal before their supervisory committee. Following successful defense of the proposal, students work under the guidance of their supervisory committee chair until the project is complete. Two readers from the student's supervisory committee then review the entire document and may recommend further work or changes. After the committee chair and readers agree that the dissertation is ready for defense, the student schedules a public defense.

The time limit on granting the PhD in public administration degree is eight (8) years from the time of filing the plan of study in the Office of Graduate Studies

## Quality of Work Standards

Doctoral students are expected to do work of high caliber. Failure to maintain quality of work standards may result in probation or dismissal from the program. Reasons for probation or dismissal may include:

- Failure to maintain a 3.33 average for all course work
- A grade of C+ or below in one course
- Failure to maintain continuous enrollment
- Failure to pass field exams
- Failure to form a supervisory committee
- Violating Student Code of Conduct ([https://www.unomaha.edu/student-life/student-conduct-and-community-standards/\\_docs/STUDENT-CODE-OF-CONDUCT-2016.pdf](https://www.unomaha.edu/student-life/student-conduct-and-community-standards/_docs/STUDENT-CODE-OF-CONDUCT-2016.pdf)) standards

# Public Administration, MPA and Social Work, MSW (MPA/MSW)

**School of Public Administration and Grace Abbott School of Social Work, College of Public Affairs & Community Service**

## Vision Statement

The MPA/MSW dual degree program is a collaborative effort between the University of Nebraska at Omaha (UNO), Grace Abbott School of Social Work and the School of Public Administration. This program offers interdisciplinary preparation in the fields of social work and public administration leading to the master of social work and the master of public administration degrees, with fewer required credit hours than it would take to obtain these degrees independently.

The program prepares students to provide a variety of advanced direct and indirect social work services and assume leadership in the public service sector, specifically in administrative and policy work with governmental units and nonprofit organizations.

Students beginning the MPA/MSW program at the MSW Foundation level must complete 81 credit hours total. Students beginning the MPA/MSW program at the Advanced Standing level must complete 57 credit hours total.

## Program Contact Information

### Social Work

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
[cwarden@unomaha.edu](mailto:cwarden@unomaha.edu)

Jeanette Harder, Ph.D., Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
[jharder@unomaha.edu](mailto:jharder@unomaha.edu)

### Public Administration

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
[cebdon@unomaha.edu](mailto:cebdon@unomaha.edu) @unomaha.edu ([tbryan@unomaha.edu](mailto:tbryan@unomaha.edu))

### Admissions Advisor

Meagan Van Gelder, EdD, Coordinator  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
[mvangelder@unomaha.edu](mailto:mvangelder@unomaha.edu)

### Current Student Advisor

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
[jharrold@unomaha.edu](mailto:jharrold@unomaha.edu)

**Program Website** (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/mpa-dual-degree-msw-mpa.php>)

## Other Program Related Information

- The Master of Social Work (MSW) program prepares students for advanced social work practice. Master's level social workers are employed in public and private agencies, including medical settings, schools, residential treatment centers, court and correctional agencies, and community planning and development agencies. Their activities and interventions are designed to promote a more effectively-functioning society as it struggles to "provide for the general welfare," as well as to help people, families, groups and institutions within that society achieve self-fulfillment.
- The MSW degree at the Grace Abbott School of Social Work is accredited by the Council on Social Work Education (CSWE), the national accrediting body for all social work education.
- Information on certification and licensure is available on the Nebraska Department of Health and Human Services website (<http://dhhs.ne.gov/Pages/default.aspx>).

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: January 15

Note: If admitted to the Master of Social Work program and you wish to become a dual degree MSW/MPA student you will need to adhere to the MPA deadline date which is **June 1** (fall) or **October 1** (spring).

### Other Requirements

- The general prerequisite for admission to the program is a four-year bachelors' degree with a minimum of a 3.0 GPA (on a 4.0 scale) in the junior and senior years (last 50-60 hours).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL, 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Two statements of purpose are required; one for the School of Public Administration and one for the Grace Abbott School of Social Work
  - For Social Work, the statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both content and writing skills. In your statement of purpose, please address each of the items listed below, and should be no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.
    - Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.

- Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.
- Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.
- The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction to a social situation. Reflecting on that experience, how might it influence your future social work practice?
- If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
- For Public Administration, the essay should answer the following questions:
  - Please tell us about the factors in your background that will help us understand your interest in a profession in the public or nonprofit sectors.
  - What are your professional goals? Ten years from now, what do you hope to be doing professionally?
  - How can this dual degree from UNO help you achieve these goals?
- **Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
  - Identify whether the position is part or full-time
  - Identify whether the position is paid or volunteer
  - Field placements, internships or practicums
  - Honors or distinctions received
  - Professional experiences, especially in human services
- **Letters of Recommendation:** Three letters of recommendation are required. Recommendation requests are generated from your online application. The recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past three years, at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.

The **MSW Foundation Program** is a 63 credit hour program available to applicants who do **not** hold a BSSW degree from an accredited school of social work within the last 10 years.

The **MPA/MSW Advanced Standing Program** is a 57 credit hour program available to applicants who have earned a BSSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170).

Code	Title	Credits
<b>Required Public Administration Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
PA 8400	PUBLIC AND NONPROFIT BUDGETING	3
PA 8530	PLANNING AND EVALUATION	3
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	3
<b>Public Administration Elective</b>		
Select one of the following:		3
PA 8320	PUBLIC POLICY EVALUATION	
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	
PA 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	
PA 8520	SEMINAR IN GRANT WRITING	
PA 8566	INTERGOVERNMENTAL MANAGEMENT	
PA 8600	ADMINISTRATIVE LAW	
PA 8740	HEALTH CARE POLICY	
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	
<b>Required Social Work Courses</b>		
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3

SOWK 8940	EVALUATION OF SOCIAL PROGRAMS	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II	3

<b>Social Work Community Practice Elective</b>		
Select one of the following:		3

SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	
SOWK 8560	ADVANCED COMMUNITY PRACTICE	
SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES (Social Work Elective)	

<b>Social Work Elective</b>		
Select one of the following:		3

SOWK 8016	SOCIAL WORK WITH AMERICAN INDIANS	
SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	
SOWK 8046	WORKING WITH MINORITY ELDERLY	
SOWK 8056	ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE	
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	
SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	
SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	
SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 8536	SCHOOL SOCIAL WORK	
SOWK 8600	PERMANENCE FOR CHILDREN	
SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	
SOWK 8626	TRAUMA AND RESILIENCE	
SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 8806	SOCIAL WORK AND THE LAW	
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 8826	GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE	
SOWK 8836	CRISIS INTERVENTION	
SOWK 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	

<b>Total Credits</b>		<b>57</b>
----------------------	--	-----------

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8400, SOWK 8410 and SOWK 8420).

## Exit Requirements

- Capstone - 3 Credits PA 8990
- Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

- The *Academic Policies and Standards* can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/student-resources/>).

# Public Administration, MPA and Management Information Systems, MS (MPA/MIS)

**School of Public Administration, College of Public Affairs & Community Service, Department of Information Systems & Quantitative Analysis, College of Information Science & Technology**

## Vision Statement

In government and non-profit organizations, there is a significant need and a long-term demand for persons with advanced skills in information management technology. The primary purpose of this dual degree option is to prepare students to manage and lead organizations in the future. To meet this need, the School of Public Administration and the College of Information Science & Technology offer the option to complete both the MPA and the MS in MIS degree jointly by completing 54-57 hours of course work beyond foundation requirements. This joint degree program is designed for dedicated students who are able to successfully complete graduate intensive study from two perspectives—public administration and management information systems—while achieving a synergy between the two fields. As such, the program involves graduate coursework in both public administration and information systems, with integrative experiences that will attain the desired synergy. Students interested in this option will work closely with a faculty mentor to develop an integrated plan of study at an early stage.

## Program Contact Information

### Public Administration

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
[cebdon@unomaha.edu](mailto:cebdon@unomaha.edu)

### Prospective Student Admissions:

Meagan Van Gelder, EdD, Advisor  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
[mvandelder@unomaha.edu](mailto:mvandelder@unomaha.edu)

### Current Student Advisor:

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
[jharrold@unomaha.edu](mailto:jharrold@unomaha.edu)

## Management Information Systems

Martina Greiner, PhD, Graduate Program Chair (GPC)  
282B Peter Kiewit Institute (PKI)  
402.554.2174  
[mgreiner@unomaha.edu](mailto:mgreiner@unomaha.edu)

Program Website (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/mpa-dual-degree-mis-mpa.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: June 1
- Spring: October 1

## Other Requirements

- The general prerequisite for admission to the program is a four year bachelors' degree with a minimum of a 3.0 GPA of the junior-senior year (last 50-60 credit hours).
- **Entrance Exam:** An entrance exam is required for those who do not have a baccalaureate or equivalent degree from an institution of higher education in the United States. Submit GMAT or GRE scores with at least these minimum scores:
  - GRE Verbal: 144, GRE Quantitative: 148, GMAT: 500
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 563, Internet-based TOEFL: 85, IELTS: 6.5, PTE: 58, Duolingo: 105
- **Statement of Purpose**
- **Writing Sample:** From work or previous academic experiences. Alternatively, if you do not have a writing sample, please submit a two page double-spaced word processed essay that addresses the following two topics:
  - Your unique personal qualities and life experiences that distinguish you from other applicants to our graduate program
  - Two accomplishments that demonstrate your potential for success in the graduate program
- **Resume:** Indicate your work experience and background
- **Letters of Recommendation:** Two letters of recommendation are required
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.

## Degree Requirements

### MPA/MIS Foundation Courses

A student must have completed some basic courses either as an undergraduate student or prior to enrolling in the first MS in MIS course. Students may start MPA courses while completing the MIS foundation courses.

Code	Title	Credits
Six hours of programming coursework or equivalent experience:		6
CYBR 2980	SPECIAL TOPICS IN CYBERSECURITY	1-3
ISQA 3900	WEB APPLICATION DEVELOPMENT	3
One semester of undergraduate information systems, or:		3
ISQA 8030	INFORMATION SYSTEMS AND ETHICS	
One semester of undergraduate statistics, or:		3
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	
Select one of the following:		3-6
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	
ISQA 4110 & ISQA 4120 & ISQA 3310	INFORMATION SYSTEMS ANALYSIS and SYSTEM DESIGN AND IMPLEMENTATION and MANAGING THE DATABASE ENVIRONMENT	

### Required Courses

Code	Title	Credits
<b>MPA Core Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3
PA 8400	PUBLIC AND NONPROFIT BUDGETING	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
PA 8530	PLANNING AND EVALUATION	3
<b>MS in MIS Core Courses</b>		
ISQA 8210	MANAGEMENT OF SOFTWARE DEVELOPMENT	3
ISQA 8220	ADVANCED SYSTEMS ANALYSIS AND DESIGN	3
ISQA 8310	IT INFRASTRUCTURE & CLOUD COMPUTING	3
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8420	MANAGING THE I.S. FUNCTION	3
<b>Methods Course</b>		
PA/AVN 8120 or ISQA 8060	ANALYSIS AND DECISION MAKING RESEARCH IN MIS	3
<b>MPA/MIS Electives</b>		
Select one of the following:		12
Take a minimum of six hours each of ISQA elective courses and PA elective courses		
Or select a MPA/MIS Specialty Area (see below)		
Select one of the following (see below):		6
Capstone Option		

Thesis Option

**Total Credits** **57**

### MPA/MIS Specialty Areas

Students may choose to specialize in the following areas (see details below), or in another area with the approval of their faculty advisor (all courses must be at the 8000-level):

#### Program Management

Code	Title	Credits
PA 8450	SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES	3
ISQA 8810	INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS	3
ISQA 8820	PROJECT RISK MANAGEMENT	3
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3
<b>Total Credits</b>		<b>12</b>

#### Financial Management Information Systems

Code	Title	Credits
PA/AVN 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	3
ISQA 8596	IT AUDIT AND CONTROL	3
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
<b>Total Credits</b>		<b>9</b>

#### Health Care Information Systems

Code	Title	Credits
ISQA/CYBR 8570	INFORMATION SECURITY POLICY AND ETHICS	3
Advisor approved course		3
Integrative Experience (Required)		3-6
<b>Total Credits</b>		<b>9-12</b>

### MPA/MIS Exit Requirements

#### Capstone Option

##### MPA Capstone Course:

Code	Title	Credits
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	3

The MPA Capstone Course is taken at the end of the program, with no more than nine credit hours remaining. All Public Administration core classes must be completed prior to taking the Capstone Course.

##### MIS Capstone Course:

Code	Title	Credits
ISQA 8950	CAPSTONE MANAGEMENT INFORMATION SYSTEMS	3

Six credit hours or fewer may be left in the program. All MIS core courses must have been completed.

#### Thesis Option

To take this option, a student will be required to enroll in six hours of thesis credit.

Code	Title	Credits
ISQA 8990	THESIS	6

The thesis must be in an area that relates to both the public administration and information systems domains.

**Total Credit Hours: 57**

## Public Management Certificate

**School of Public Administration, College of Public Affairs & Community Service**

### Vision Statement

The purpose of the certificate in public management is to allow working professionals with careers in the public sector or graduate students in a related field of study (such as political science or city and regional planning) to expand their educational background and to enhance their knowledge in the area of public management. The graduate certificate is designed to extend students' understanding of theory and practice in the field of public management.

### Program Contact Information

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
cebdon@unomaha.edu

### Applicant Advisor

Meagan Van Gelder, EdD, Coordinator  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
mvangelder@unomaha.edu

### Current Student Advisor

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
jharrold (jharrold@unomaha.edu)@unomaha.edu  
(mvangelder@unomaha.edu)

**Program Website (<http://spa.unomaha.edu/GraduateCertificate/>)**

### Other Program Related Information

The certificate in public management can be obtained online. These courses can be transferred into the MPA program upon acceptance into the MPA program.

## Admissions

General Application Requirements and Admission Criteria

### Program-Specific Requirements

#### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: June 1
- Spring: October 1
- Summer: NA

### Other Requirements

- Students must have 3 years of work experience in the public sector.
- The general prerequisite for admission to the graduate certificate in public management program is a four-year bachelors' degree with a minimum of a 3.0 GPA of the junior-senior year (last 50-60 credit hours).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The statement of purpose should be 2-4 pages double spaced, answering the following questions:
  - What are your goals?
  - Why are you pursuing the certificate?
- **Resume**
- **Letters of Recommendation:** Two letters of recommendation are required.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3
<b>Elective Courses</b>		
Select two of the following:		6
PA 8110	MANAGING INFORMATION IN THE PUBLIC SECTOR	
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	
PA 8436	MUNICIPAL ADMINISTRATION	
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	
PA 8400	PUBLIC AND NONPROFIT BUDGETING	
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	
PA 8520	SEMINAR IN GRANT WRITING	
PA 8600	ADMINISTRATIVE LAW	
PA 8710	FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS	
PA/AVN 8896	SPECIAL TOPICS PUBLIC ADMIN	
AVN/PA 8020	AVIATION MANAGEMENT AND POLICY	
AVN 8360	TRANSPORTATION SAFETY	
AVN 8750	TRANSPORTATION FINANCE	
EMGT 8060	PLANNING, PREPAREDNESS, AND MITIGATION	
EMGT 8430	RESPONSE, RECOVERY & RESILIENCE	
EMGT 8600	CONTEMPORARY ISSUES IN EMERGENCY MANAGEMENT	
UBNS 8000/ GEOG 8830	SEMINAR IN URBAN STUDIES	

UBNS 8200

COMMUNITY ORGANIZING AND  
DEVELOPMENT

Total Credits

15

## Nonprofit Management Certificate

School of Public Administration, College of Public Affairs & Community Service

### Vision Statement

The purpose of the certificate in nonprofit management is to allow working professionals with careers in the nonprofit sector, or graduate students in a related field of study, to expand their educational background and to enhance their knowledge in the area of nonprofit management. The graduate certificate is designed to extend students' understanding of theory and practice in the field of nonprofit management.

### Program Contact Information

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
cebdon@unomaha.edu (tbryan@unomaha.edu) (cebdon@unomaha.edu)

### Applicant Advisor

Meagan Van Gelder, EdD, Coordinator  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
mvangelder@unomaha.edu

### Current Student Advisor

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
jharrold@unomaha.edu (mvangelder@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academic-programs/graduate-certificates.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: June 1
- Spring: October 1
- Summer: NA

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Writing Sample:** The writing sample should be an essay as described in the application

- **Resume:** Submit a resume including work history
- **Letters of Recommendation:** Two letters of recommendation are required

## Degree Requirements

Code	Title	Credits
<b>Required Courses (9 hours):</b>		
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	3
PA 8710	FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS	3
Choose one:		
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	3
or PA 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	
<b>Elective Courses (6 hours):</b>		
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	6
PA 8110	MANAGING INFORMATION IN THE PUBLIC SECTOR	
PA 8400	PUBLIC AND NONPROFIT BUDGETING	
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	
PA 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	
PA 8520	SEMINAR IN GRANT WRITING	
PA 8596	TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT	
UBNS 8200	COMMUNITY ORGANIZING AND DEVELOPMENT	

Other determined course(s) in consultation with your advisor.

Total Credits

15

## Secondary Education, MS

Department of Teacher Education, College of Education, Health, and Human Sciences

### Vision Statement

Designed for those teaching in secondary schools across a variety of curricular areas, the secondary education program offers an integrated approach to developing the skills and dispositions needed for today's educational environments. Graduate students choose a program of study that explores content and pedagogy and that also supports their professional goals and standards of practice.

The program is specifically designed around the pillars of:

- Implementing **culturally responsive teaching practices**
- Engaging in **research** and **assessment** to inform instructional decision making
- Applying **theoretical frameworks** to guide teaching
- Using sound **digital pedagogy**

### Program Contact Information

Julie Bell, PhD, Advisor  
308Q Roskens Hall (RH)  
402.554.2778  
juliebell@unomaha.edu

Chris Wilcoxon, EdD, Graduate Program Chair (GPC)

308 Roskens Hall (RH)  
402.554.2119  
cwilcoxen@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-education/teacher-education/graduate/secondary-education.php>)

## Other Program-Related Information

**The master's degree in secondary education does not lead to initial teacher certification.**

## Unclassified Students

Students who are not planning to pursue a program leading to a graduate certificate or a master's degree can be admitted to secondary education with unclassified status. Candidates holding a previous master's degree in education who are seeking additional teaching endorsements may wish to choose an unclassified status. Unclassified students are allowed to take courses for which they meet the prerequisite. Successful completion of graduate courses as an unclassified student does not obligate the department to accept those courses for credit toward the fulfillment of degree requirements. Formal advisement in an endorsement area is required.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: August 1
- Spring: December 1
- Summer: June 1

## Other Requirements

- A minimum undergraduate GPA of 3.0 (on a 4.0 scale).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- A valid teaching certificate **or** application to a program that leads to certification (e.g. Teacher Academy Project concentration).
- UNO College of Education, Health, and Human Science's "Personal and Professional Fitness" form
- International students who do not intend to teach in the U.S. **may** be eligible for admission.

## Degree Requirements

The Master of Science in secondary education requires 36 hours of graduate level courses in four areas:

- Research
- Assessment
- Culturally responsive teaching
- Theoretical frameworks for effective teaching

Code	Title	Credits
<b>Concentrations</b>		
Secondary education concentrations - The required courses for a Master of Science in secondary education vary by concentration. The courses for each concentration are determined in consultation with the concentration advisor.		33
<b>Exit Requirement</b>		
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3
<b>Total Credits</b>		<b>36</b>

Concentrations

## Bilingual Education Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit Requirement - Must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
Choose 3 hours from the following courses:		3
FLNG 8020	SEMINAR:FL/TESOL RESEARCH	
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
<b>Culturally Relevant Teaching</b>		
TED 8130	LANGUAGE, CULTURE, AND POWER	3
TED 8480	FOUNDATIONS OF BILINGUAL EDUCATION	3
TED 8490	SPANISH LANGUAGE ARTS	3
Choose 3 hours from the following courses:		3
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
TED 8120	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 8695	LITERACY AND LEARNING <sup>1</sup>	3
Select 3 hours from the following:		3
SPAN 8076	HISPANIC BILINGUALISM	

SPAN 8086	INTRODUCTION TO HISPANIC LINGUISTICS
SPAN 8126	HISPANIC SOCIOLINGUISTICS
SPAN 8136	SPANISH IN THE UNITED STATES
SPAN 8226	THE STRUCTURE OF SPANISH
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY
FLNG 8050	THEORY AND METHODS IN THE TEACHING OF HERITAGE LANGUAGES
Alternate for any Theoretical Framework Course:	
TED 8980	PRACTICUM: VARIOUS CONTENT AREAS
<b>Total Credits</b>	<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last class in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.
- TED 8480, TED 8490 and TED 8695 are taught in Spanish and offered in odd years.

## English Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
<b>Assessment Course Requirement</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit Requirement - Must receive a B or better.)	3
<b>Culturally Relevant Teaching</b>		
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	3
Choose 6 hours from the following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
Choose 3 hours from the following courses:		3
TED 8300	EFFECTIVE TEACHING PRACTICES	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM	3
TED 8660	YOUNG ADULT LITERATURE	3
Choose 6 hours from any graduate level course with a prefix of ENGL		6
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	

TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS
TED 8580	ONLINE TEACHING AND LEARNING
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS
<b>Total Credits</b>	<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## English as a Second Language-ESL-Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
<b>Assessment Course Requirement</b>		
Choose 3 hours from the following courses:		3
FLNG 8020	SEMINAR:FL/TESOL RESEARCH	
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	
TED 8720	INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
<b>Culturally Relevant Teaching</b>		
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
TED 8120	FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL)	3
TED 8130	LANGUAGE, CULTURE, AND POWER	3
Choose 9 hours from these courses:		9
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
Alternate:		
TED 8480	FOUNDATIONS OF BILINGUAL EDUCATION	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	3
Choose 3 hours from these courses:		3
SPAN 8076	HISPANIC BILINGUALISM	
SPAN 8126	HISPANIC SOCIOLINGUISTICS	
SPAN 8136	SPANISH IN THE UNITED STATES	
SPAN 8226	THE STRUCTURE OF SPANISH	

SPAN 8086	INTRODUCTION TO HISPANIC LINGUISTICS	
FLNG 8030	SEMINAR: SECOND LANGUAGE ACQUISITION THEORY	
FLNG 8050	THEORY AND METHODS IN THE TEACHING OF HERITAGE LANGUAGES	
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Instructional Technology Leadership Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit Requirement - Must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
TED 8300	EFFECTIVE TEACHING PRACTICES	3
<b>Culturally Relevant Teaching</b>		
Choose 6 hours from the following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Framework for Effective Teaching</b>		
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	3
TED 8540	DIGITAL CITIZENSHIP	3
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	3
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	3
TED 8580	ONLINE TEACHING AND LEARNING	3
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	3
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Mathematics Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
<b>Culturally Relevant Teaching</b>		
Choose 6 hours from these courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS (OR any graduate level course with the following prefixes: STEM / TED / MATH / CSCI / MTCH)	3
TED 8410	IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (OR any graduate level course with the following prefixes: STEM / TED / MATH / CSCI / MTCH)	3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (OR any graduate level course with the following prefixes: STEM / TED / MATH / CSCI / MTCH )	3
TED 8640	OPEN EDUCATIONAL RESOURCES FOR P-12 TEACHERS (OR any graduate level course with the following prefixes: STEM / TED / MATH / CSCI / MTCH )	3
Choose 3 hours from the following:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
Choose 6 hours from any graduate level course with the following prefixes: STEM / TED / MATH / CSCI / MTCH		6
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Middle Level Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8010	INTRODUCTION TO RESEARCH	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	
TED 9140	ASSESSMENT AND INTERVENTION - SECONDARY	
<b>Culturally Relevant Teaching</b>		
Choose 6 hours from following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8300	EFFECTIVE TEACHING PRACTICES	3
TED 8376	TEACHING AT THE MIDDLE LEVEL	3
Choose 6 hours from the following courses:		6
TED 8470	TEACHING THE LANGUAGE ARTS	
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM	
TED 8660	YOUNG ADULT LITERATURE	
TED 9100	THEORIES, MODELS, AND PRACTICES OF LITERACY	
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	
Choose 3 hours from any graduate level course with the prefix TED or in a discipline area related to endorsement as approved by advisor.		3
Choose 3 hours from these courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## School Library Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8760	MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES	3
<b>Culturally Relevant Teaching</b>		
Choose 3 hours from following courses:		3
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
Choose 3 hours of following courses:		3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
TED 8540	DIGITAL CITIZENSHIP	3
TED 8650	CHILDREN'S LITERATURE AND EDUCATION	3
TED 8660	YOUNG ADULT LITERATURE	3
TED 8710	RESEARCH AND INQUIRY	3
TED 8740	ORGANIZATION OF INFORMATION	3
TED 8830	LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES	3
TED 8520	SCHOOL LIBRARY CAPSTONE	3
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Science Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
<b>Culturally Relevant Teaching</b>		
Choose 6 hours from the following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8420	TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION	3
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS	3
TED 8640	OPEN EDUCATIONAL RESOURCES FOR P-12 TEACHERS	3
TED 8860	INVENTION & INNOVATION IN ENGINEERING EDUCATION	3
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
Choose any 3 hour graduate level course with the following prefixes: STEM / TED / AVN / BIOL / BIOI / CHEM / GEOL / PHYS		3
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Science, Technology, Engineering, and Mathematics (STEM) Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3
<b>Assessment Course Requirement</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
<b>Culturally Relevant Teaching</b>		
Choose 6 hours from the following courses:		6
TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8370	DATA VISUALIZATION AND MODELING FOR EDUCATORS	3
TED 8430	SCHOOL CURRICULUM PLANNING (OR any 3 hour graduate level course with the following prefixes: STEM / TED / PHYS / CIST / CIVE / GEOL / ISQA / ITIN / MATH / MTCH / NSCI )	3
TED 8530	INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (OR any 3 hour graduate level course with the following prefixes: STEM / TED / PHYS / CIST / CIVE / GEOL / ISQA / ITIN / MATH / MTCH / NSCI )	3
TED 8640	OPEN EDUCATIONAL RESOURCES FOR P-12 TEACHERS (OR any 3 hour graduate level course with the following prefixes: STEM / TED / PHYS / CIST / CIVE / GEOL / ISQA / ITIN / MATH / MTCH / NSCI )	3
TED 8840	ENGINEERING EDUCATION EXTERNSHIP (OR any 3 hour graduate level course with the following prefixes: STEM / TED / PHYS / CIST / CIVE / GEOL / ISQA / ITIN / MATH / MTCH / NSCI )	3
TED 8860	INVENTION & INNOVATION IN ENGINEERING EDUCATION (OR any 3 hour graduate level course with the following prefixes: STEM / TED / PHYS / CIST / CIVE / GEOL / ISQA / ITIN / MATH / MTCH / NSCI )	3
Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	

TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS
TED 8580	ONLINE TEACHING AND LEARNING
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS

Graduate courses with the following prefixes can be substituted for courses in the Theoretical Frameworks requirements if approved by your advisor: STEM/ TED/ PHYS/ STAT/ AERO/ AVN/ BIOL/ BIOI/ CSCI/ CHEM/ CIST/ CIVE/ GEOL/ ISQA/ ITIN/ MATH/ MTCH/ NSCI

**Total Credits** **36**

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Teaching and Learning Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		

TED 8010	INTRODUCTION TO RESEARCH	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3

### Assessment Course Requirement

TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
Choose 3 hours from the following courses:		3

TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	
TED 9140	ASSESSMENT AND INTERVENTION - SECONDARY	

### Culturally Relevant Teaching

Choose 9 hours from the following courses: 9

TED 8130	LANGUAGE, CULTURE, AND POWER	
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	
TED 8160	ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS	
TED 8180	CULTURALLY RESPONSIVE TEACHING	
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
TED 8800	MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH	
TED 9200	CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE	

### Theoretical Frameworks for Effective Teaching

TED 8300	EFFECTIVE TEACHING PRACTICES	3
Choose 3 hours from the following courses:		3

TED 8376	TEACHING AT THE MIDDLE LEVEL	
TED 8470	TEACHING THE LANGUAGE ARTS	
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM	
TED 8660	YOUNG ADULT LITERATURE	
TED 9100	THEORIES, MODELS, AND PRACTICES OF LITERACY	
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	

Choose 3 hours from the following courses:		3
TED 8540	DIGITAL CITIZENSHIP	

TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS
TED 8580	ONLINE TEACHING AND LEARNING
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS

Choose a 6 hour graduate course in TED or in discipline area related to endorsement as approved by advisor. 6

**Total Credits** **36**

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Equity and Social Justice in Education Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		

TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
----------	---	---

### Assessment Course Requirement

TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit requirement - Must receive a grade of B or better.)	3

### Culturally Relevant Teaching

TED 8130	LANGUAGE, CULTURE, AND POWER	3
TED 8150	ANTI-RACISM EDUCATION PRINCIPLES AND PRACTICES	3
TED 8180	CULTURALLY RESPONSIVE TEACHING	3
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	3

Select 9 hours of graduate level work with the prefix TED or in a discipline area related to endorsement as approved by advisor. 9

### Theoretical Frameworks for Effective Teaching

TED 8300	EFFECTIVE TEACHING PRACTICES	3
Choose 3 hours from the following courses:		3

TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	

**Total Credits** **36**

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

## Teacher Academy Project Concentration

Code	Title	Credits
<b>Research Course Requirement</b>		

TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
----------	---	---

TED 8900	SECONDARY EDUCATION GRADUATE CAPSTONE (Exit Requirement-Must receive a grade of B or better.)	3
<b>Assessment</b>		
TED 8250	ASSESSMENT FOR CLASSROOM TEACHER	3
<b>Culturally Relevant Teaching</b>		
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	3
Choose 3 hours from the following courses:		3
TED 8280	INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION	
TED 8290	TRAUMA INFORMED EDUCATION	
<b>Theoretical Frameworks for Effective Teaching</b>		
TED 8006	SPECIAL METHODS IN THE CONTENT AREA (Varies by Student)	3
TED 8300	EFFECTIVE TEACHING PRACTICES	3
TED 8390	CLASSROOM MANAGEMENT IN PRACTICE	3
TED 8310	HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING	3
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	3
Choose 3 hours from the following courses:		3
TED 8470	TEACHING THE LANGUAGE ARTS	
TED 8610	TEACHING OF WRITING THROUGHOUT THE CURRICULUM	
TED 9100	THEORIES, MODELS, AND PRACTICES OF LITERACY	
TED 9110	PRINCIPLES AND PRACTICES FOR TEACHING READERS	
Choose 3 hours from these courses:		3
TED 8540	DIGITAL CITIZENSHIP	
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
TED 8580	ONLINE TEACHING AND LEARNING	
TED 8590	TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS	
<b>Total Credits</b>		<b>36</b>

- A diversity course must be taken within the first 12 hours.
- TED 8900 Capstone is intended to be the last course in your program. A grade of B or better must be received to show satisfactory completion of the course and for program completion.

#### **TED 8000 SPECIAL STUDIES (1-3 credits)**

A series of intensive studies especially for in-service teachers scheduled as regular seminars or classes, according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate status

#### **TED 8006 SPECIAL METHODS IN THE CONTENT AREA (3 credits)**

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 4000).

#### **TED 8010 INTRODUCTION TO RESEARCH (3 credits)**

This course will introduce advanced degree candidates to: A) An understanding of the scientific method as applied to behavioral research B) Assessment, evaluation, descriptive, causal-comparative, experimental and historical data gathering procedures and analytical strategies C) Sampling theory, techniques, distribution and hypothesis testing D) Specific designs, methods, and tools of research E) Search and retrieval of published research, both American and international (global), in the library and over the Internet F) Critical evaluation of research studies G) Basic statistics, both descriptive and inferential, and H) Preparation of a research proposal containing three chapters: Problem, Review of Related Research and Methodology.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

#### **TED 8030 SEMINAR IN EDUCATION: SPECIAL TOPICS (1-3 credits)**

This is a variable content course focusing on topics of current relevance to PK-12 teachers.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

#### **TED 8040 SEMINAR ON STUDENT TEACHING/NEW TEACHER INDUCTION (3 credits)**

The seminar is designed for experienced teachers who are, or may be, serving as cooperating teachers for student teachers or as mentor teachers for beginning teachers. Participants will study the purposes, techniques, and trends involved in serving as a cooperating teacher or as a mentor.

**Prerequisite(s)/Corequisite(s):** Successful teaching experience is required for this course.

#### **TED 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with STEM 8050).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

#### **TED 8055 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context.

As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 3050).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

#### **TED 8060 CURRENT ISSUES AND TRENDS IN EDUCATION (3 credits)**

The course is an advanced study of current issues and trends which have substantial impact on PK-12 education. The graduate candidates who take this class will read, analyze, and evaluate relevant research in order to become conversant in those issues.

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

#### **TED 8070 TEACHING MULTIPLE INTELLIGENCE (3 credits)**

This course focuses on the utilization of the multiple intelligences (MI) theory by teachers to enhance children's understanding of various disciplines. Graduate candidates will have the opportunity to explore, evaluate, and develop various methodologies that foster understanding.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8080 STORYTELLING AND EDUCATION (3 credits)**

This course is designed to consider the importance of storytelling, to provide teacher candidates with the background materials for storytelling, to study resource material for storytelling from a variety of cultures, and to develop techniques for storytelling. Actual experience in storytelling and opportunities for evaluating storytelling experiences will be provided.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8100 RESEARCH PROJECT (1-3 credits)**

This course is designed for individual or group study and analysis of specific problems in schools dealing with curriculum and instruction in areas which have a broad scope of application rather than a specific level.

**Prerequisite(s)/Corequisite(s):** Approval of Advisor.

**TED 8120 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

TED 8120 is designed to enhance graduate candidates' knowledge of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs). As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will learn strategies for designing and promoting effective multicultural and multilingual learning environments. This course includes an in-school, guided practicum through which graduate candidates must demonstrate competencies related to standards related to teaching ELs in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education's ESL teaching endorsement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 8130 LANGUAGE, CULTURE, AND POWER (3 credits)**

This course will focus on the intersection of language, culture, and power in the schools. This seminar will research how each component impacts the students and teachers in the classroom.

**TED 8150 ANTI-RACISM EDUCATION: PRINCIPLES AND PRACTICES (3 credits)**

This course provides a theoretical analysis of race, racism and the implications for anti-racist education. In addition to exploring the key features of anti-racism education, the course also addresses other axes of oppression, namely, class and gender, with a critical focus on racialized power and privilege, and how such features function in the broader U.S. context as well as the schooling environment. Of equal importance is a critical interrogation of the historical, ideological, and political processes that produce and maintain racism. Course participants explore pedagogies, curriculum, and school leadership strategies as mechanisms for instituting anti-racism work in schools and community.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8160 ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS (3 credits)**

This course is designed to enhance graduate candidates' knowledge of PK-12 English as a Second Language (ESL) pedagogical and assessment strategies that address the needs of English Language Learners (ELs) in content area classrooms. As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will be able to explore evidence-based pedagogical and assessment strategies to use in educational contexts serving ELs.

**Prerequisite(s)/Corequisite(s):** Graduate candidate status. Not open to non-degree graduate students.

**TED 8170 DEVELOPMENTAL ASSESSMENT OF THE YOUNG CHILD (3 credits)**

This course is designed as a survey of developmental assessment in early childhood education (ages birth to eight years). Selection of assessment tools and strategies, implementation, data collection, analysis of results, and teaching impact are addressed in context of key assessment purposes in the early childhood field.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8180 CULTURALLY RESPONSIVE TEACHING (3 credits)**

This course includes an introductory analysis of the societal and institutional processes and problems which have bearing upon the education of children in urban settings. In addition, the course will focus on knowledge, skills and dispositions related to instructional strategies and classroom management needed for effective teaching in an urban environment.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8190 CONTEMPORARY ISSUES IN URBAN EDUCATION (3 credits)**

This course is designed for candidates who wish to keep abreast of contemporary issues which confront the educational institution and teaching profession within the urban milieu.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8200 SOCIAL WORLDS OF THE YOUNG CHILD (3 credits)**

This course will explore theoretical and cultural perspectives on the social and emotional development of young children. This course will also examine the relationship between social emotional development, guidance practices, democratic life skills, and school readiness.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8210 THE PRINCIPLES OF MULTICULTURAL EDUCATION (3 credits)**

This course will develop practicing teachers' awareness of and skill in meeting the needs of P-12 students with regards to the areas of human understanding, acceptance and value. Candidates will examine existing attitudes towards various minority groups such as racial, ethnic, gender, exceptionality, etc. School materials and attitudes will also be examined in determining the effect they have on PK-12 students.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8220 PLAY AS A LEARNING MEDIUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides an in-depth examination of young children's play and its curricular role in the early childhood classroom. The origins, developmental outcomes, assessment, curricular implementation, and evaluation of play will be covered, with an emphasis on play as a major component of developmentally appropriate practice with young children. The focus is on teachers learning to help children become partners in the operation of the learning environment.

**TED 8230 LITERATURE FOR THE YOUNG CHILD (3 credits)**

Literature for the young child is examined through the lens of developmentally appropriate practice for informing educators' interactions with children and also for developing high-quality, literature-related projects of study across the early childhood (birth-through-age-eight) continuum.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8240 FAMILY, SCHOOL, AND COMMUNITY PARTNERS (3 credits)**

This course will examine the purposes and methods for developing family, school, and community partnerships. Candidates will explore characteristics of diverse families and develop the skills necessary for planning, design, implementation, and evaluation of effective partnerships in early childhood settings.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8250 ASSESSMENT FOR CLASSROOM TEACHER (3 credits)**

This course studies assessment principles, effective practices, and classroom assessment processes throughout the curriculum. The research regarding assessment for learning is studied and application is made to classroom practices.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8260 ADVANCED CURRICULUM IN EARLY CHILDHOOD (3 credits)**

This course is designed to provide an in-depth examination of the processes used in selecting and implementing appropriate curricular content in programs for children ages three to eight years. Particular emphasis is on the role of the teacher as a dedicated practitioner and reflective scholar in the early learning environment.

**TED 8270 TRENDS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides a context for examining socio-political and research-based influences underlying trends in early childhood education at the local, national and international levels.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8280 INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION (3 credits)**

The course examines the intersection of human rights and P-12 education and prepares individuals to effectively work with and advocate for children and adolescents in educational settings. Students completing the course will be able to 1) demonstrate an increased understanding of fundamental human rights with a specific emphasis on education rights and the human rights of children and adolescents 2) create learning environments that elevate human rights in educational settings and 3) design developmentally appropriate instruction for children and adolescents on varied human rights topics.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8300 EFFECTIVE TEACHING PRACTICES (3 credits)**

This course focuses on specific characteristics and behaviors of effective teachers. Course content will be derived from research on teaching and learning.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8310 HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING (3 credits)**

This course examines human growth and learning from birth through late adolescence. It is designed to prepare teachers to synthesize information regarding developmental theory and subsequently apply this to lesson design and effective content-area pedagogy. Candidates will examine multiple frameworks related to the cognitive, social/emotional, and physical development of children and use those to analyze current educational practices in PK-12 schools. Cultural influences impacting human development and implications for educational practices will also be examined. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Admission into a Teacher Education Department graduate program.

**TED 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with STEM 8370).

**TED 8376 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 4370).

**TED 8390 CLASSROOM MANAGEMENT IN PRACTICE (3 credits)**

This course will provide graduate students with a survey of general classroom management methods for classrooms. Candidates will enhance their understanding of three basic components of effective pedagogy: 1) proactive classroom management, 2) high-impact instructional strategies that impact student engagement and learning, 3) behavior management techniques that incorporate practice, feedback, research, and reflection.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**TED 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with STEM 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with STEM 8420).

**TED 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with STEM 8430).

**TED 8470 TEACHING THE LANGUAGE ARTS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading, writing, listening, and speaking. Candidates will learn about research supported appropriate language arts instruction strategies and assessments. This course will inform graduate students as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**TED 8480 FOUNDATIONS OF BILINGUAL EDUCATION (3 credits)**

This course is designed to give future and current teachers a thorough understanding of the theoretical, political, historical, and practical foundations of bilingual/multicultural education in the United States. As dedicated practitioners, reflective scholars, and responsible citizens, graduate students will have knowledge of factors that contribute to effective multilingual and multicultural learning environments that promote individual and societal bilingualism. Advanced Spanish language proficiency required.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8490 SPANISH LANGUAGE ARTS (3 credits)**

This course is designed to reinforce first and second language acquisition theory as it relates to dual immersion settings. Best practices for developing and reinforcing bilingualism and biliteracy are presented and used for planning and delivering instruction. Spanish fluency is required for the course.

**Prerequisite(s)/Corequisite(s):** Graduate status required for graduate students pursuing the bilingual education endorsement and concentration (does not lead to a Nebraska Department of Education teaching endorsement). Advanced Spanish language proficiency required.

**TED 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with AVN 8510, STEM 8510).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8520 SCHOOL LIBRARY CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their schools and communities.

**Prerequisite(s)/Corequisite(s):** There are no course prereqs for the Capstone Practicum but candidates must be in the final 2 semesters of their library media program & must complete an application for the Practicum the semester prior to their practicum. Not open to non-degree grads.

**TED 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with STEM 8530).

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**TED 8540 DIGITAL CITIZENSHIP (3 credits)**

The course explores key concepts of Digital Citizenship pertaining to digital law, digital ethics, digital interaction, digital literacy, and cyber-security. The course addresses an educator's role as technology leader in both policy and practice to establish a responsible and robust digital learning community in P-12 schools.

**Prerequisite(s)/Corequisite(s):** Graduate Standing/Status

**TED 8550 TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING (3 credits)**

Technology for Creativity and Critical Thinking investigates the use of visual media tools in P-12 digital learning environments. This course provides candidates an opportunity to develop leadership skills and dispositions relevant to advocacy initiatives addressing policy and best practice in the use of technology in P-12 schools.

**TED 8560 TECHNOLOGY FOR DIVERSE LEARNERS (3 credits)**

This course will engage candidates that facilitate the use of instructional technology, pedagogy, and strategies to better meet the needs of diverse learners. Candidates will explore categories of diverse learners relevant and specific to their own organizations and learning environments to ensure candidates can effectively research and implement assistive technology, instructional technology, and applications to enhance learning opportunities for children and youth.

**TED 8570 INTERNET IN THE LEARNING PROCESS (3 credits)**

This course is designed to help educators actively explore instructional implementations of Internet use appropriate for use in K-12 classrooms, successful diffusion of Internet innovations in educational environments, and emerging multicultural "breaking down the walls of the classroom" concepts available to educators through Internet use.

**TED 8580 ONLINE TEACHING AND LEARNING (3 credits)**

Online Teaching and Learning is a course for education professionals that investigates the use of online tools for planning, preparing and assessing student learning in a digital environment. The course will prepare candidates to provide leadership for digital initiatives within learning organizations. The course encourages educators to explore methods of virtual lesson delivery and online assessment through direct instruction and online study.

**Prerequisite(s)/Corequisite(s):** Graduate Admissions status

**TED 8590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course is an introduction to future-ready information and instructional technologies for use with children and youth. Course will cover a diverse array of technical literacies that serve as content and skill goals for today's children and youth in P-12 schools and other learning organizations.

**TED 8610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing genres extend throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8620 ADVANCED SUPPORT OF INSTRUCTIONAL TECHNOLOGY ENVIRONMENTS (3 credits)**

This course is designed for P-12 educators who wish to become better advocates of technology integration or become technology coordinators or school technicians. Course enrollees will evaluate and implement advanced strategies to keep technology up to date, effectively use technology, and properly manage technology in a school setting.

**TED 8650 CHILDREN'S LITERATURE AND EDUCATION (3 credits)**

Candidates in this graduate course will explore story, poetry, drama, and informational materials for elementary students with an emphasis on methods for including literature in school curricula with an awareness of diverse children's lives, discourses, and understandings. Examines current issues, recent materials, and the theoretical and research base of this field to develop meaningful and creative learning, literacy, and library experiences for children.

**TED 8660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8695 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 3690).

**TED 8700 ELEMENTARY EDUCATION CAPSTONE COURSE (3 credits)**

This course is designed as a required, final capstone course for Elementary Education graduate students to be taken in the last nine hours of the Master of Science program. A grade of B or better must be received in TED 8700 to show satisfactory completion of the course and for program completion.

**Prerequisite(s)/Corequisite(s):** Permission of the Elementary Education Program Chair. Not open to non-degree graduate students.

**TED 8710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 8720 INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION (3 credits)**

This course examines the prominent coaching models used in PK-12 schools (i.e. teacher-centered coaching, student-centered coaching, cognitive coaching, transformational coaching). Candidates completing this course will be able to: develop an understanding of best practices in coaching, create a common lexicon for the role of an instructional coach, engage in the coaching cycle, and create a personal vision for their work as a coach. Candidates will engage in a field based experience to apply their learning.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8726 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 4720).

**TED 8740 ORGANIZATION OF INFORMATION (3 credits)**

This course addresses current theory and best practice in descriptive and subject cataloging and classification of information resources that align with school library standards and guidelines. Candidates will demonstrate the ability to integrate the legal and ethical standards of their discipline in ensuring access to information and ideas for a diverse array of learners in schools and communities.

**TED 8746 ORGANIZATION OF INFORMATION (3 credits)**

Candidates will demonstrate a basic understanding of the theories, concepts and activities of descriptive and subject cataloging and classification procedures of information resources in 21st Century libraries and information agencies.

**TED 8760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 8770 INTEGRATING TECHNOLOGY INTO INSTRUCTIONAL DESIGN (3 credits)**

The purpose of this course is to introduce participants to effective methods for the integration of educational media into instructional design and provides participants (1) knowledge of broad instructional design theories and models with a concentration on constructivism, (2) experience in designing instruction that effectively integrates technology into the teaching-learning process, and (3) experience in producing instructional media. The course is intended to provide fundamentals in the selection, evaluation, production, application and utilization of educational media. This course is designed for in-service library media or instructional technology specialists as well as regular classroom teachers.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8800 MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH (3 credits)**

This is designed as a graduate-level course dealing with utilization of literary materials representing authors and content from multiple perspectives, particularly authors whose cultural and ethnic backgrounds differ from the mainstream.

**TED 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with STEM 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8816 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 4810).

**TED 8820 CAPSTONE IN STEM EDUCATION (3 credits)**

This course will prepare graduate students for the integration, articulation, and differentiation of curriculum and instruction in and between the STEM core areas of Science, Technology, Engineering, and Mathematics. Special emphasis will be on using the STEM core content to help provide applications and context to existing science and mathematics curriculum and instruction and on providing leadership in developing curriculum for mathematics and science dependent courses in engineering and technology.

**Prerequisite(s)/Corequisite(s):** The student must be enrolled in one of the following concentrations: STEM, mathematics, science, technology; and be enrolled in the last six hours of their program of study. Not open to non-degree graduate students.

**TED 8830 LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES (3 credits)**

The course explores best practice for effective leadership and management of 21st Century school libraries. Candidates will gain a comprehensive knowledge of the theories, policies and processes involved in directing a school library in support of the personal and academic success of P-12 students. Candidates will explore and employ ethical codes of conduct in their profession to ensure school libraries meet the needs of their diverse array of patrons.

**TED 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with STEM 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**TED 8850 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with SPED 8980).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**TED 8856 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 4850).

**TED 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with STEM 8860).

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8880 LEADERSHIP IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course seeks to prepare candidates with leadership skills in the early childhood field that will empower them to initiate and implement changes in programs serving young children and families. Candidates will explore and apply frameworks of leadership and analyze policy, governance, and power structures that can impact change. Candidates will also learn effective advocacy skills to positively influence policies and practices in program and governance structures. Lastly, candidates will examine approaches for developing new leaders in early childhood education through reflective supervision and mentorship.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8900 SECONDARY EDUCATION GRADUATE CAPSTONE (3 credits)**

The Secondary Education Graduate Capstone course provides candidates with an opportunity to apply the knowledge, skills, and dispositions acquired during their program to content specific synthesis activities in their respective disciplines. Candidates will demonstrate their ability to integrate information from program coursework in the design, development and presentation of a final capstone project related to teaching and learning in 21st Century educational environments.

**Prerequisite(s)/Corequisite(s):** 30 credit hours towards degree completion; Permission required by Program Advisor. Not open to non-degree graduate students.

**TED 8970 INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of Department and Graduate Faculty member.

**TED 8980 PRACTICUM: VARIOUS CONTENT AREAS (1-6 credits)**

This course is designed to provide school professionals with a guided, supervised, field experience that will develop and enhance the knowledge, skills, and dispositions requisite of a successful educational practitioner.

**Prerequisite(s)/Corequisite(s):** Prerequisites for the course will vary, depending on the content/discipline area. See syllabus for specific discipline area.

**TED 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option.

**Prerequisite(s)/Corequisite(s):** Completion of Selective Retention and approval of advisor. Not open to non-degree graduate students.

**TED 9100 THEORIES, MODELS, AND PRACTICES OF LITERACY (3 credits)**

This course develops a framework about the theories, models, practices, processes, and related research associated with literacy. The content looks across grade levels and student populations, and across social and cultural contexts in an examination of factors that impact theories and processes of literacy.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 9110 PRINCIPLES AND PRACTICES FOR TEACHING READERS (3 credits)**

This graduate course for both elementary and secondary teachers is open to any candidate who has graduate standing in education. The purpose of the course is to develop a broad understanding of the reading process as well as materials and instructional strategies that support students who are emerging, developing, and maturing as readers in all areas of the curriculum.

**TED 9130 ASSESSMENTS AND INTERVENTIONS - ELEMENTARY (3 credits)**

This course is designed for graduate candidates enrolled in the Literacy Masters or Reading Specialist endorsement program. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches that support reading development. This knowledge is applied through a practicum experience with elementary students in which candidates integrate knowledge and practices related to assessment and evaluation of readers' strengths and needs.

**TED 9140 ASSESSMENT AND INTERVENTION - SECONDARY (3 credits)**

This course is designed for graduate candidates in literacy endorsement and Master's programs. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches as they relate to reading difficulties among middle and high school students. Included in this course is knowledge about the role and responsibility of a literacy leader as it relates to coaching, mentoring, supervision, and evaluation of a reading program. Application of this information is demonstrated through a practicum experience with middle and high school students.

**Prerequisite(s)/Corequisite(s):** TED 9100; TED 9110 concurrent with, or prior to TED 9140.

**TED 9180 LITERACY RESEARCH SEMINAR (3 credits)**

This course will develop advanced degree candidates' understanding and ability to critically examine current literacy research through work with (1) scientific methods of quantitative and qualitative research (2) discussion of historical trends in literacy research, (3) designs, methods, and tools of research, and (4) reviewing and critically examining current research studies in literacy. These examinations will be conducted from the perspectives of knowledge about literacy processes, classroom practice, and influence of previous research results. Teacher candidates will apply these issues in an action research project they design.

**TED 9190 LITERACY GRADUATE CAPSTONE (3 credits)**

This course is designed to help Literacy Masters students synthesize the knowledge gained from the program in order to serve as literacy leaders within the complex organizations of classrooms, schools, and school districts. In this course students will integrate their learning across the program in order to organize their future activities in teaching, leadership, advocacy, and engagement opportunities in ways that honor the interrelationships among classroom, school, sociocultural and economic contexts. They will prepare to engage with all literacy education stakeholders in cutting edge, innovative ways that advance both the learning of PK-12 students and the literacy education field.

**Prerequisite(s)/Corequisite(s):** This course is designed as a capstone event. Accordingly, students must have no more than 6 additional remaining credit hours of coursework. Permit to enroll required.

**TED 9200 CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE (3 credits)**

This course examines ways in which ideology, power, and culture intersect in P-12 educational settings. Undemocratic, inequitable, and oppressive structures are identified. Possibilities for democratic, equitable transformations are proposed.

**Prerequisite(s)/Corequisite(s):** Graduate status

**STEM 8030 EVOLUTION: FROM GENOMES TO ECOSYSTEMS (3 credits)**

This course will prepare students to evaluate and discuss evolution as an underlying concept in all of biology. Further, it will provide a comprehensive overview of evolutionary processes related to the evolution of genomes, development, physiology, morphology, behavior, and ecosystems. (Cross-listed with BIOL 8030).

**Prerequisite(s)/Corequisite(s):** Courses for graduate admission or equivalent, or with permission of instructor.

**STEM 8040 TOPICS IN MATHEMATICAL COMPUTING (3 credits)**

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. (Cross-listed with MTCH 8040)

**Prerequisite(s)/Corequisite(s):** MATH 2200 or equivalent or approval of instructor.

**STEM 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with TED 8050).

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**STEM 8170 ECOSYSTEM ANALYSIS FOR EDUCATORS (3 credits)**

This course is designed for education graduate students who wish to take a field-based biology course that uses an interdisciplinary approach to understanding the ecosystem of the tallgrass prairie. This course engages graduate students in methods reflecting multidisciplinary STEM strategies (e.g. scientific inquiry, modeling, geographic information system mapping, etc.) associated with research taking place at the Glacier Creek Preserve. Graduate students completing this course will develop advanced knowledge of ecology, restoration ecology, and monitoring of prairie habitat restoration. Graduate students will focus on the technical, biogeochemical, ecological and cultural aspects of analyzing and restoring the prairie ecosystem and its various habitats. (Cross-listed with BIOL 8170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**STEM 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with TED 8370).

**STEM 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with TED 8410).

**STEM 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with TED 8420).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with TED 8430).

**STEM 8450 BIOLOGY EDUCATION RESEARCH METHODS (3 credits)**

In this course, students will learn the methods of conducting pedagogical research in Biology, understand how people learn the concepts, practices, and ways of thinking in science and engineering; understand the nature and development of expertise in a discipline; help identify and measure appropriate learning objectives and instructional approaches that advance students toward those objectives; contribute to the knowledge base in a way that can guide the translation of statistical findings to classroom practice; and identify approaches to make science and engineering education broad and inclusive. Students will work with live data sets to evaluate effective pedagogical approaches in the biology classroom of various audiences (K-16).

**STEM 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with TED 8510, AVN 8510)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with TED 8530)

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**STEM 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with TED 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**STEM 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with TED 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**STEM 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with TED 8860)

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**STEM 8910 CAPSTONE IN CS EDUCATION (3 credits)**

This course will allow graduate students, as an individual or as part of a group, to study and analyze specific problems related to teaching computing in schools. Projects will be concerned with the curriculum and/or instruction of computing and should address a broad scope of application rather than a specific level. (Cross-listed with CSTE 8910).

**Prerequisite(s)/Corequisite(s):** Student must have completed 21 hours in the Masters of CS Education program.

## Social Work

### Degree Programs Offered

- Social Work, MSW (p. 1341)
- Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) (p. 1099)
- Public Administration, MPA and Social Work, MSW (MPA/MSW) (p. 1317)
- Social Work, MSW and Public Health, MPH (MSW/MPH) (p. 1347)

### Certificates Offered

- Managing Juvenile and Adult Populations Certificate (p. 1101)

**SOWK 8016 SOCIAL WORK WITH AMERICAN INDIANS (3 credits)**

This course provides the student with a broad study of the origins, influences and issues of the American Indian which affect social work practice. The usefulness of established social work generalist methods is explored. Alternative methods applicable to culturally diverse people across the lifespan are presented. This is a Service Learning class. (Cross-listed with SOWK 4010).

**Prerequisite(s)/Corequisite(s):** SOWK 8130 prior to or concurrent, or BSSW degree. Not open to non-degree graduate students.

**SOWK 8026 SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY (3 credits)**

This course seeks to develop in students an awareness and understanding of some of the social and psychological/cognitive realities influencing the behavior of African American youth and families across the lifespan. The content draws upon theories, research and social work practice skills relevant to African American youth and families, as well as the cognitive process and social systems which impact African youth and families. (Cross-listed with SOWK 4020).

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8046 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, GERO 8696, SOWK 4040).

**SOWK 8056 ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE (3 credits)**

This course focuses on effective generalist social work practice with clients of ethnic diversity. (Cross-listed with SOWK 4050)

**Prerequisite(s)/Corequisite(s):** Admission to the MSW program or permission of the Grace Abbott School of Social Work

**SOWK 8070 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3 credits)**

This course is the first part of a two-semester sequence within the Master of Social Work required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan, particularly infancy through adolescence, within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** Undergraduate Human Biology course (prior to or concurrent) and admission to the Master of Social Work program.

**SOWK 8080 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3 credits)**

This course is the second part of a two-semester sequence within the Master of Social Work required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan—particularly during young, middle, and late adulthood—within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** SOWK 8070

**SOWK 8090 SOCIAL WELFARE POLICY (3 credits)**

This course is an introduction to social welfare policy analysis. The course examines social welfare policy taking into account historical, political, economic, social, and cultural perspectives. Basic concepts and choices are examined in relation to values, ethics, context, social functioning and social consequences.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8110 INSTITUTIONAL OPPRESSION (3 credits)**

This course is about institutional racism, sexism and classism as it relates to social policy and social injustice. The focus is on how institutional oppressions are related and are mutually reinforcing. The consequences of institutional racism, sexism and classism are examined at the individual, group, family, and agency levels.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8130 GENERALIST PRACTICE I (3 credits)**

This course provides an introduction to the values, ethics, knowledge, and skills of generalist social work practice. Using constructs from the Generalist Intervention Model, systems theory, and the strengths-based perspective, students learn about engagement, assessment, planning and contracting, intervention, evaluation, and termination. Diversity and case management are emphasized as part of bringing planned change to client systems, including individuals and families.

**Prerequisite(s)/Corequisite(s):** SOWK 8070 prior or concurrent.

**SOWK 8150 GENERALIST PRACTICE II (3 credits)**

This practice course is an introduction to a goal-oriented planned change process with an emphasis on educational, support, and task groups, organizations, and communities. The focus is on building knowledge and developing indirect practice skills in collaboration, planning, empowerment, and advocacy to effect social change using the Generalist Intervention Model.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 prior, and SOWK 8080 prior or concurrent

**SOWK 8160 GENERALIST SOCIAL WORK PRACTICUM I (3 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a selected social service agency. The student will be introduced to a variety of social work practice roles, develop professional relationships with client systems and learn to apply different interventions to effect change across the life span. In order to facilitate integration of classroom theory with practice, students will attend a seven-week practicum seminar (2 hours per week).

**Prerequisite(s)/Corequisite(s):** Prior: Human Biology, Research Methods, and Statistics deficiencies complete; Prior or Concurrent: SOWK 8070, SOWK 8090, SOWK 8130; Not open to non-degree graduate students.

**SOWK 8170 GENERALIST SOCIAL WORK PRACTICUM II (3 credits)**

This course is designed to provide supervised, individual, experiential learning offered within the setting of a social service agency, typically the same agency as in SOWK 8160. This course builds upon opportunities provided and competence achieved in Generalist Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** Prior or Concurrent: SOWK 8160, SOWK 8080, SOWK 8110, and SOWK 8150. Not open to non-degree graduate students.

**SOWK 8190 RESEARCH & COMPUTER APPLICATIONS (3 credits)**

This course focuses on the use of research and computer programs in social work practice. Social and behavioral science research methods are reviewed. Students learn to analyze existing data using SPSS and to write an empirical research report. The use of Microsoft Word, Excel, and PowerPoint in social work practice are explored.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program.

**SOWK 8220 CLINICAL SOCIAL WORK WITH INDIVIDUALS (3 credits)**

This advanced course provides an in-depth study of several theories of personality and behavior, and of therapeutic approaches derived from the theories. Major focus is on therapy with individuals across the life span, but application to family systems is also considered, as well as the fit of each theory within the broader social systems framework.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 prior to or concurrent; SOWK 8160 or admitted with advanced standing.

**SOWK 8230 CLINICAL SOCIAL WORK WITH GROUPS (3 credits)**

This advanced course provides knowledge of and experience in working with groups as systems. It includes both assessment of dynamics as well as developing skills in intervention modalities appropriate for working with various types of groups.

**Prerequisite(s)/Corequisite(s):** SOWK 8220; SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8240 SOCIAL WORK PRACTICE WITH CHILDREN (3 credits)**

This advanced practice course provides an overview of several social work interventions used with children and adolescents. A brief review of normal child development and the family life cycle is the context for presenting a range of children's problems and special needs. The course will cover several intervention models and address their application in various service settings and in individual, family, group, and social action formats. Children in diverse family settings, institutions, and in minority families and cultures are considered to understand unique therapeutic issues present for them.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing and SOWK 8220.

**SOWK 8250 SOCIAL WORK PRACTICE WITH FAMILIES (3 credits)**

This course considers the family context as a system for therapeutic intervention. The family unit and its diverse forms are defined; theories for assessment and understanding family's interactions across the lifespan are considered, and the alternative modalities useful for treating family dysfunction are presented. As a practice-oriented course, it emphasizes the development of professional skills in working with the family across the lifespan.

**Prerequisite(s)/Corequisite(s):** SOWK 8220; SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8260 SOCIAL WORK PRACTICE WITH OLDER ADULTS (3 credits)**

This course is part of the advanced MSW curriculum and focuses on micro- and macro-level practice skills essential to competent and effective social work practice with diverse older adults. This course emphasizes clinical and complimentary/ alternative interventions (particularly creativity programming) that focus on individuals and small groups as well as community practice skills that involve social marketing and community organizing, networking, and collaborating with inter-professional community practitioners.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Social Work program with advanced standing.

**SOWK 8270 SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS (3 credits)**

This course provides a survey of the current knowledge base, theory and research in human sexuality with a focus on advanced practice intervention and prevention approaches for a variety of sexuality issues faced by individuals, couples, and families throughout the lifespan.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing, and SOWK 8220.

**SOWK 8280 SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES (3 credits)**

This is an advanced practice course designed to prepare students to provide therapy for couples and families at all life stages who are experiencing problems in intimacy, marital, divorce, or remarriage adjustment.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work Program with advanced standing and SOWK 8220.

**SOWK 8290 SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH (3 credits)**

This course emphasizes the development of advanced level clinical and social work practice skills for working with selected acute and chronic health and mental health conditions affecting individuals across the life cycle.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing, and SOWK 8220. Not open to non-degree graduate students.

**SOWK 8400 ADVANCED SOCIAL WORK PRACTICUM I (3 credits)**

This course is designed to provide supervised, individual professional learning experiences offered within the setting of a selected social service agency in the student's chosen concentration. The student will be introduced to a variety of advanced direct and indirect social work practices. The Dual Degree Program is a part of Integrated Practice. Dual Degree students may take SOWK 8400 as their administrative practicum. If so, then PA 8010, 8050 and 8090 must be taken prior to and one course from concentration prior to or concurrently.

**Prerequisite(s)/Corequisite(s):** SOWK 8190, SOWK 8220, SOWK 8230. Additional prerequisites for dual-degree students. Not open to non-degree graduate students.

**SOWK 8410 ADVANCED SOCIAL WORK PRACTICUM II (3 credits)**

This course is designed to provide supervised, individual professional learning experiences offered within the setting of a social service agency in the student's chosen concentration, typically the same agency as in SOWK 8400. This course builds upon opportunities provided and competence achieved in Advanced Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** SOWK 8400 prior or concurrent, and an additional course from the plan of study. Not open to non-degree graduate students.

**SOWK 8420 ADVANCED SOCIAL WORK PRACTICUM III (1-3 credits)**

This course is designed to provide a third supervised, individual professional learning experience offered within the setting of a social service agency in the student's chosen concentration. This course builds upon opportunities provided and competence achieved in Advanced Social Work Practicum II.

**Prerequisite(s)/Corequisite(s):** SOWK 8410 prior to or concurrent, and permission of the Grace Abbott School of Social Work.

**SOWK 8510 SOCIAL WORK LEADERSHIP (3 credits)**

This course provides social work students with the knowledge and skills to be leaders in their organizations and communities. This course will explore leadership models and theories, and their usefulness in diverse settings, including social work leadership ethics. Students will also learn models and theories related to general supervision, power, and authority in public and nonprofit organizations. Useful skills covered include conflict management and evidence-informed decision-making. Students will also learn about care of self and others, especially as it relates to resiliency and vicarious trauma.

**Prerequisite(s)/Corequisite(s):** SOWK 8160 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8516 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, COUN 8516, SOWK 4510).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. For social work students, SOWK 8686 or COUN 8696 and SOWK 8696 or COUN 8696 must be taken prior to COUN 8516 or SOWK 8516. Not open to non-degree graduate students.

**SOWK 8536 SCHOOL SOCIAL WORK (3 credits)**

This course explores the field of social work practice in school settings, including the history of social work practice in schools, school environment, roles of school social workers, mandated foundations for school social work services, eligibility for special education and 504 plans, theories of practice that include school and community based models, and interventions for target populations in schools. (Cross-listed with SOWK 4530).

**Prerequisite(s)/Corequisite(s):** SOWK 3320 or SOWK 8130. Not open to non-degree graduate students.

**SOWK 8540 PLANNING FOR SOCIAL CHANGE (3 credits)**

This course takes an in-depth look at the framework of macro-level problem solving and its application to all areas of social work practice. Focus will be placed on the critical exploration of social problems, their causes, and their potential solutions from a lens of broader social inequity.

**Prerequisite(s)/Corequisite(s):** SOWK 8160 or admitted to the Master of Social Work (MSW) program with advanced standing. Not open to non-degree graduate students.

**SOWK 8550 SOCIAL JUSTICE AND SOCIAL ADVOCACY (3 credits)**

This course provides a perspective on national and international social and economic injustices experienced by people under corporate globalization. Practice implications for social workers are addressed.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing. Not open to non-degree graduate students.

**SOWK 8560 ADVANCED COMMUNITY PRACTICE (3 credits)**

This course is an elective macro course in the MSW curriculum. The course is designed to help students develop an analytical and empirical approach to empowering communities. The course builds on the social work "person-in-environment" perspective by focusing on the client system and its environmental contexts as a partner in practice. This course is particularly relevant to direct practice with and advocacy for diverse disempowered groups in society. The course may use a community-based service-learning pedagogy.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or Master of Social Work student admitted with advanced standing or permission of the Grace Abbott School of Social Work. Not open to non-degree graduate students.

**SOWK 8570 ADMINISTRATION OF SOCIAL WELFARE AGENCIES (3 credits)**

This course focuses on the knowledge and skills needed by administrative leaders of social welfare agencies. Students will learn about resource issues, including grant writing, fundraising, budgeting, and financial management. Acknowledging political contexts and shaping organizational culture will also be covered. In addition, they will learn about personnel and managerial issues related to collaboration, human relations, governing/advisory boards, and strategic planning.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8600 PERMANENCE FOR CHILDREN (3 credits)**

This course is about the child welfare system and focuses on policies, laws, and agency structures designed to help abused and neglected children and their families.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8610 FAMILY AND COMMUNITY VIOLENCE (3 credits)**

This course covers family and community violence across the life span with an emphasis on gaining knowledge of the issue, skills in policy analysis, and a broad framework for developing effective services in various service settings.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8626 TRAUMA AND RESILIENCE (3 credits)**

This course provides an overview of issues related to trauma including: the factors related to development of trauma, definitions of trauma, the impact of trauma on individuals, families and communities, and the programs and practices that are most effective and appropriate regarding the social work role in responding to trauma. (Cross-listed with SOWK 4620)

**Prerequisite(s)/Corequisite(s):** SOWK 8070 and SOWK 8080 or Advanced Standing

**SOWK 8650 HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK (3 credits)**

This course emphasizes the development of health and mental health policy analysis skills and knowledge for social work students. Major topics include government response to health care, cultural and historical perspectives, service provision, and epidemiological trends across the life span. It provides a framework for clinical interventions in a variety of health and mental health settings.

**Prerequisite(s)/Corequisite(s):** SOWK 8090 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8686 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 4680, COUN 4680, COUN 8686)

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**SOWK 8696 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, COUN 8696, SOWK 4690).

**Prerequisite(s)/Corequisite(s):** Admission to MSW program or permission of the School and SOWK 8686 or COUN 8686 (or equivalent course) prior to or concurrent.

**SOWK 8806 SOCIAL WORK AND THE LAW (3 credits)**

This course presents the fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include: the legal system, legal research methods, professional ethical/legal responsibilities and liabilities, family law, elder law, criminal law, juvenile law, personal injury law, employment discrimination law, capacity to make contracts and wills, rights of institutionalized patients, and rights of handicapped children to an education. (Cross-listed with SOWK 4800)

**Prerequisite(s)/Corequisite(s):** SOWK 8090 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8816 SPIRITUALITY AND SOCIAL WORK PRACTICE (3 credits)**

Social work literature defines spirituality as the human striving for a sense of meaning, purpose, values, and fulfillment. Spirituality is expressed through diverse forms throughout a client's lifespan; it is central to clients' understanding of suffering and their attempts to resolve it. This course examines major issues pertaining to spiritually-sensitive social work practice with clients of diverse religious and non-religious (i.e., outside sectarian institutional contexts) perspectives. (Cross-listed with SOWK 4810)

**Prerequisite(s)/Corequisite(s):** Students in the Master of Social Work program, or permission of the Grace Abbott School of Social Work.

**SOWK 8826 GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE (3 credits)**

This course prepares students to work in a global setting. Students examine theories, concepts, and skills related to social development, cross-cultural engagement, and issues related to particular countries. The course is designed with two elements: 1) On-campus classroom learning focused on global social work knowledge, and, 2) Field-based labs that involve direct engagement with an international population. Students select one lab: i) faculty-led trip to China for two-weeks, ii) refugee resettlement service-learning project in Omaha. (Cross-listed with SOWK 4820).

**Prerequisite(s)/Corequisite(s):** Admitted to Graduate College. Travel overseas early summer-course lab. Passport, visa-China, travel insurance-UNO, immunizations and registration (International Studies) required to travel abroad. Faculty member leading trip will provide further info.

**SOWK 8836 CRISIS INTERVENTION (3 credits)**

The prevalence of crisis experiences within our society and lifespan development necessitates that social workers acquire a knowledge and skill-base for effective and professional crisis intervention practice. Students will study the ABC Model of Crisis Intervention and how to ethically practice with diverse and vulnerable populations. Students will apply crisis intervention theory and models of intervention to various concern areas including but not limited to: suicide, sexual assault, domestic violence, substance abuse, grief and loss, and violence. A systems, strengths, and cultural emphasis will be applied to the various crisis situations covered. (Cross-listed with SOWK 4830)

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing or permission of the Grace Abbott School of Social Work.

**SOWK 8856 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, GERO 8856, SOWK 4850.)

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or advanced standing

**SOWK 8880 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with School of Social Work program objectives, faculty expertise, and student needs. This course may be repeated for up to nine hours credit.

**SOWK 8886 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with Grace Abbott School of Social Work program objectives, faculty expertise, and student needs. (Cross-listed with SOWK 4880)

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work (MSW) program or permission of the Grace Abbott School of Social Work (GASSW).

**SOWK 8900 SPECIAL STUDIES IN SOCIAL WELFARE (1-3 credits)**

This independent study course allows students to pursue a special selected area or topic within social welfare in order to deepen knowledge and/or skills in that particular area.

**Prerequisite(s)/Corequisite(s):** Permission of the Grace Abbott School of Social Work (GASSW). Not open to non-degree graduate students.

**SOWK 8940 EVALUATION OF SOCIAL PROGRAMS (3 credits)**

This is an advanced research course in the evaluation of social programs and social agencies which focuses on agency organizational structure, program design and effectiveness, and social impact.

**Prerequisite(s)/Corequisite(s):** SOWK 8190

**SOWK 8950 RESEARCH METHODS IN CLINICAL PRACTICE (3 credits)**

This course provides a study of the issues involved in clinical research methodology. Students are introduced to the tools for documenting the effects of clinical practice interventions for individuals, couples, families and groups (including qualitative and quantitative methodologies: single-case design, standardized measurement, self-report data, self-monitoring, case study, grounded theory etc.).

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and SOWK 8220

**SOWK 8960 RESEARCH OTHER THAN THESIS (3 credits)**

This course enables students, under faculty supervision, to prepare a research proposal, carry out the study, and prepare a detailed report of the purpose, design, outcome, and significance of the study.

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and permission of the Grace Abbott School of Social Work

**SOWK 8990 MASTER'S THESIS (3-6 credits)**

The Master's thesis provides students the opportunity to acquire first-hand experience in research methods under faculty direction. With the guidance of the thesis coordinator and a supervisory committee, the student prepares a research proposal, conducts the proposed study, and prepares a detailed report of the purpose, design, results, and implications of the findings.

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and permission of the Grace Abbott School of Social Work (GASSW)

## Social Work, MSW

### Grace Abbott School of Social Work, College of Public Affairs & Community Service

#### Vision Statement

The mission of the Grace Abbott School of Social Work is to educate students to become highly qualified social workers who serve people of all ages and influence the systems that affect them, to advance knowledge through teaching and research, and to engage with diverse communities to promote socially just societies.

#### Program Contact Information

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
cwarden@unomaha.edu

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893

jharder@unomaha.edu

**Program Website** (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/>)

#### Other Program Related Information

The MSW program has received continuous accreditation from the Council on Social Work Education since 1940. The MSW program prepares graduates for advanced social work practice within a variety of settings. The MSW degree is recognized for licensure for independent social work practice in the United States. More information regarding licensure and certification can be found on local Department of Health and Human Services websites.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: January 15

#### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 85, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both content and writing skills. In your statement of purpose, please address each of the items listed below, in no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.
  - If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
- What type of work are you planning to engage with once you attain your MSW degree? Specifically, what are the issues, populations, and levels of practice you hope to work with after graduate school?
- The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction to a social situation. Reflecting on that experience, how might it influence your future social work practice?
- Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.

- Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.
- Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.
- **Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
    - Identify whether the position is part or full-time
    - Identify whether the position is paid or volunteer
    - Field placements, internships or practicums
    - Honors or distinctions received
    - Professional experiences, especially in human services
- **Letters of Recommendation:** Three letters of recommendation are required, the recommendation requests are generated from your online application. These recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past two years, it is suggested that at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.

The MSW **Foundation Program** is a 63 credit hour program available to applicants who do **not** hold a BSW degree from an accredited school of social work within the last 10 years.

The MSW **Advanced Standing Program** is a 39 credit hour program available to applicants who have earned a BSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170).

Code	Title	Credits
<b>Required Advanced Courses</b>		
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
SOWK 8510	SOCIAL WORK LEADERSHIP	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Advanced Research Course</b>		
SOWK 8940 or SOWK 8950	EVALUATION OF SOCIAL PROGRAMS RESEARCH METHODS IN CLINICAL PRACTICE	3
<b>Electives</b>		<b>9</b>
Select 9 credit hours. Students who are pursuing a graduate certificate or a graduate minor may be able to apply certain courses in those program curricula as MSW electives.		
SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	
SOWK 8046/ GERO 8696	WORKING WITH MINORITY ELDERLY	
SOWK 8056	ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE	
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	
SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	
SOWK 8420	ADVANCED SOCIAL WORK PRACTICUM III	
SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	
SOWK 8560	ADVANCED COMMUNITY PRACTICE	
SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES	
SOWK 8600	PERMANENCE FOR CHILDREN	
SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	
SOWK 8626	TRAUMA AND RESILIENCE	
SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 8806	SOCIAL WORK AND THE LAW	
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 8836	CRISIS INTERVENTION	
SOWK 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	

SOWK 8900	SPECIAL STUDIES IN SOCIAL WELFARE
SOWK 8960	RESEARCH OTHER THAN THESIS
SOWK 8990	MASTER'S THESIS

- <sup>1</sup> A student must receive a grade of B or higher in practicum courses (SOWK 8400 and SOWK 8410).

## Exit Requirement

Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

- The *MSW Student Handbook* can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/student-resources/>).

# Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ)

Grace Abbott School of Social Work, School of Criminology & Criminal Justice, College of Public Affairs & Community Service

## Vision Statement

The MSW/MSCRJ dual degree program is a collaborative effort between the University of Nebraska at Omaha, Grace Abbott School of Social Work and the School of Criminology and Criminal Justice. The MSW/MSCRJ offers interdisciplinary preparation in the fields of social work and criminal justice leading to the master of social work and the master of criminal justice degrees, with fewer required credit hours than it would take to obtain these degrees independently.

This dual degree program prepares students to provide a range of advanced social work services and assume leadership in the field of criminal justice and social work. Graduates with a dual MSW/MSCRJ are prepared to respond to the needs of the community by working with delinquent and criminal populations and the systems that impact these populations.

Students beginning the MSW/MSCRJ program at the MSW Foundation level must complete 81 credit hours total. Students beginning the MSW/MSCRJ program at the Advanced Standing level, must complete 57 credit hours total.

## Program Contact Information

### Social Work Contact

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
[cwarden@unomaha.edu](mailto:cwarden@unomaha.edu)

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
[jharder@unomaha.edu](mailto:jharder@unomaha.edu)

### Criminology and Criminal Justice Contact

Mark Foxall, PhD, CJM, MS Coordinator  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
[markfoxall@unomaha.edu](mailto:markfoxall@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/ms-msw.php>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Fall 2022)

- Fall: January 15

## Other Requirements

- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- Statement of Purpose:** The statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both content and writing skills. In your statement of purpose, please address each of the items listed below, in no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.
  - If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
  - What type of work are you planning to engage with once you attain your MSW degree? Specifically, what are the issues, populations, and levels of practice you hope to work with after graduate school?
  - The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction to a social situation. Reflecting on that experience, how might it influence your future social work practice?
  - Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.
  - Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.

- Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.
- **Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
    - Identify whether the position is part or full-time
    - Identify whether the position is paid or volunteer
    - Field placements, internships or practicums
    - Honors or distinctions received
    - Professional experiences, especially in human services
- **Letters of Recommendation:** Three letters of recommendation are required, the recommendation requests are generated from your online application. These recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past two years, it is suggested that at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.
- The MS application for criminology and criminal justice is completed online adhering to the same admission criteria for the MSW degree. The personal statement and letters of recommendation for admission to the MSW degree will be used by the School of Criminology and Criminal Justice to admit students.

The MSW/CRCJ **Foundation Program** is a 81 credit hour program available to applicants who do **not** hold a BSSW degree from an accredited school of social work within the last 10 years.

The MSW/CRCJ **Advanced Standing Program** is a 57 credit hour program available to applicants who have earned a BSSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170).

Code	Title	Credits
<b>Required Core Courses</b>		
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3

SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8510	SOCIAL WORK LEADERSHIP	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II <sup>1</sup>	3

### Advanced Research Course

Select one of the following:		3
SOWK 8940	EVALUATION OF SOCIAL PROGRAMS	
SOWK 8960	RESEARCH OTHER THAN THESIS	
CRCJ 8210	PROGRAM EVALUATION AND POLICY ANALYSIS	

### Social Work Electives

Select two Social Work Electives (see below)		6
SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	
SOWK 8046	WORKING WITH MINORITY ELDERLY	
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	
SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	
SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	
SOWK 8420	ADVANCED SOCIAL WORK PRACTICUM III	
SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	
SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES	
SOWK 8600	PERMANENCE FOR CHILDREN	
SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	
SOWK 8626	TRAUMA AND RESILIENCE	
SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 8806	SOCIAL WORK AND THE LAW	
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 8836	CRISIS INTERVENTION	
SOWK 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	
SOWK 8900	SPECIAL STUDIES IN SOCIAL WELFARE	
<b>Required Criminology and Criminal Justice Courses</b>		
CRCJ 8010	NATURE OF CRIME	3

CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
CRCJ 8970	CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE	3
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	3
Select one course from the following		3
CRCJ 8040	SEMINAR IN POLICE AND SOCIETY <sup>2</sup>	
CRCJ 8050	SEMINAR IN CORRECTIONS <sup>2</sup>	
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE <sup>2</sup>	
<b>Criminology and Criminal Justice Electives</b>		
Select two Criminology and Criminal Justice Electives (see below).		6
CRCJ 8060	SEMINAR IN THE CRIMINAL COURT SYSTEM	
CRCJ 8030	CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY	
CRCJ 8070	SEMINAR IN CRIMINAL LAW AND PROCEDURE	
CRCJ 8100	CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT	
CRCJ 8136	SOCIOLOGY OF DEVIANT BEHAVIOR	
CRCJ 8180	CRIMINAL JUSTICE INTERNSHIP	
CRCJ 8230	TERRORISM	
CRCJ 8356	COMMUNITY-BASED CORRECTIONS	
CRCJ 8516	VIOLENCE	
CRCJ 8800	SPECIAL PROBLEMS IN CRIMINAL JUSTICE	
CRCJ 8950	STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN	

**Total Credits** **57**

<sup>1</sup> A student must receive a grade of "B" or higher in practicum courses (SOWK 8400 and SOWK 8410).

<sup>2</sup> Courses not selected from among the three listed may be used as an elective.

## Exit Requirements

- CRCJ 8970 Capstone course is offered in the fall and spring semesters. Once all required coursework has been completed, the student can register to take the capstone course. In this course, students will make arrangements with the instructor to conduct a research project. The course will end with a research report detailing results and written in a way consistent with agency and/or criminal justice organizational standards.
- Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

- The MSW Student Handbook can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/student-resources/>).

# Public Administration, MPA and Social Work, MSW (MPA/MSW)

School of Public Administration and Grace Abbott School of Social Work, College of Public Affairs & Community Service

## Vision Statement

The MPA/MSW dual degree program is a collaborative effort between the University of Nebraska at Omaha (UNO), Grace Abbott School of Social Work and the School of Public Administration. This program offers interdisciplinary preparation in the fields of social work and public administration leading to the master of social work and the master of public administration degrees, with fewer required credit hours than it would take to obtain these degrees independently.

The program prepares students to provide a variety of advanced direct and indirect social work services and assume leadership in the public service sector, specifically in administrative and policy work with governmental units and nonprofit organizations.

Students beginning the MPA/MSW program at the MSW Foundation level must complete 81 credit hours total. Students beginning the MPA/MSW program at the Advanced Standing level must complete 57 credit hours total.

## Program Contact Information

### Social Work

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
[cwarden@unomaha.edu](mailto:cwarden@unomaha.edu)

Jeanette Harder, Ph.D., Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
[jharder@unomaha.edu](mailto:jharder@unomaha.edu)

### Public Administration

Carol Ebdon, PhD, Interim Graduate Program Chair (GPC)  
111 College of Public Affairs & Community Service (CPACS)  
402.554.2152  
[cebdon@unomaha.edu](mailto:cebdon@unomaha.edu) [cebdon@unomaha.edu](mailto:cebdon@unomaha.edu) ([tbryan@unomaha.edu](mailto:tbryan@unomaha.edu))

### Admissions Advisor

Meagan Van Gelder, EdD, Coordinator  
111 College of Public Affairs & Community Service (CPACS)  
402.554.3480  
[mvangelder@unomaha.edu](mailto:mvangelder@unomaha.edu)

### Current Student Advisor

James Harrold, PhD, Advisor  
113B College of Public Affairs & Community Service (CPACS)  
402.554.6702  
[jharrold@unomaha.edu](mailto:jharrold@unomaha.edu)

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/mpa-dual-degree-msw-mpa.php>)

## Other Program Related Information

- The Master of Social Work (MSW) program prepares students for advanced social work practice. Master's level social workers are employed in public and private agencies, including medical settings, schools, residential treatment centers, court and correctional agencies, and community planning and development agencies. Their activities and interventions are designed to promote a more effectively-functioning society as it struggles to "provide for the general welfare," as well as to help people, families, groups and institutions within that society achieve self-fulfillment.

- The MSW degree at the Grace Abbott School of Social Work is accredited by the Council on Social Work Education (CSWE), the national accrediting body for all social work education.
- Information on certification and licensure is available on the Nebraska Department of Health and Human Services website (<http://dhhs.ne.gov/Pages/default.aspx>).

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Fall 2022)

- Fall: January 15

Note: If admitted to the Master of Social Work program and you wish to become a dual degree MSW/MPA student you will need to adhere to the MPA deadline date which is **June 1**(fall) or **October 1** (spring).

### Other Requirements

- The general prerequisite for admission to the program is a four-year bachelors' degree with a minimum of a 3.0 GPA (on a 4.0 scale) in the junior and senior years (last 50-60 hours).
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL, 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Two statements of purpose are required; one for the School of Public Administration and one for the Grace Abbott School of Social Work
  - For Social Work, the statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both content and writing skills. In your statement of purpose, please address each of the items listed below, and should be no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.
    - Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.
    - Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.
    - Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.
    - The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction

to a social situation. Reflecting on that experience, how might it influence your future social work practice?

- If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
- For Public Administration, the essay should answer the following questions:
  - Please tell us about the factors in your background that will help us understand your interest in a profession in the public or nonprofit sectors.
  - What are your professional goals? Ten years from now, what do you hope to be doing professionally?
  - How can this dual degree from UNO help you achieve these goals?
- **Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
    - Identify whether the position is part or full-time
    - Identify whether the position is paid or volunteer
  - Field placements, internships or practicums
  - Honors or distinctions received
  - Professional experiences, especially in human services
- **Letters of Recommendation:** Three letters of recommendation are required. Recommendation requests are generated from your online application. The recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past three years, at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.

The MSW **Foundation Program** is a 63 credit hour program available to applicants who do **not** hold a BSSW degree from an accredited school of social work within the last 10 years.

The MPA/MSW **Advanced Standing Program** is a 57 credit hour program available to applicants who have earned a BSSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170).

Code	Title	Credits
<b>Required Public Administration Courses</b>		
PA 8050	FOUNDATIONS OF PUBLIC ADMINISTRATION	3
PA 8090	ORGANIZATION THEORY AND BEHAVIOR	3
PA/AVN 8100	ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS	3
PA 8300	POLICY DESIGN AND IMPLEMENTATION	3
PA 8400	PUBLIC AND NONPROFIT BUDGETING	3
PA 8530	PLANNING AND EVALUATION	3
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	3
<b>Public Administration Elective</b>		
Select one of the following:		3
PA 8320	PUBLIC POLICY EVALUATION	
PA 8550	INTRODUCTION TO THE NON-PROFIT SECTOR	
PA 8410	PUBLIC HUMAN RESOURCE MANAGEMENT	
PA 8480	SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION	
PA 8520	SEMINAR IN GRANT WRITING	
PA 8566	INTERGOVERNMENTAL MANAGEMENT	
PA 8600	ADMINISTRATIVE LAW	
PA 8740	HEALTH CARE POLICY	
PA 8470	ADMINISTRATIVE ETHICS AND LEADERSHIP	
<b>Required Social Work Courses</b>		
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
SOWK 8940	EVALUATION OF SOCIAL PROGRAMS	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II	3
<b>Social Work Community Practice Elective</b>		
Select one of the following:		3
SOWK 8550	SOCIAL JUSTICE AND SOCIAL ADVOCACY	
SOWK 8560	ADVANCED COMMUNITY PRACTICE	
SOWK 8570	ADMINISTRATION OF SOCIAL WELFARE AGENCIES (Social Work Elective)	
<b>Social Work Elective</b>		
Select one of the following:		3
SOWK 8016	SOCIAL WORK WITH AMERICAN INDIANS	
SOWK 8026	SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY	
SOWK 8046	WORKING WITH MINORITY ELDERLY	

SOWK 8056	ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE	
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	
SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8270	SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS	
SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	
SOWK 8516	TREATMENT ISSUES IN CHEMICAL DEPENDENCY	
SOWK 8536	SCHOOL SOCIAL WORK	
SOWK 8600	PERMANENCE FOR CHILDREN	
SOWK 8610	FAMILY AND COMMUNITY VIOLENCE	
SOWK 8626	TRAUMA AND RESILIENCE	
SOWK 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	
SOWK 8696	ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE	
SOWK 8806	SOCIAL WORK AND THE LAW	
SOWK 8816	SPIRITUALITY AND SOCIAL WORK PRACTICE	
SOWK 8826	GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE	
SOWK 8836	CRISIS INTERVENTION	
SOWK 8856	HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY	
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK	
<b>Total Credits</b>		<b>57</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8400, SOWK 8410 and SOWK 8420).

## Exit Requirements

- Capstone - 3 Credits PA 8990
- Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

- The *Academic Policies and Standards* can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/student-resources/>).

# Social Work, MSW and Public Health, MPH (MSW/MPH)

**Grace Abbott School of Social Work, College of Public Affairs & Community Service, College of Public Health, University of Nebraska Medical Center**

## Vision Statement

The MSW/MPH dual degree program is a collaborative effort between the University of Nebraska Medical Center, College of Public Health and the University of Nebraska at Omaha, Grace Abbott School of Social Work. This program offers interdisciplinary preparation in the fields of social work and public health leading to the master of social work and the master of public

health degrees, with fewer required credit hours than it would take to obtain these degrees independently.

This dual degree program prepares students to provide the range of advanced social work services and assume leadership in the public health sector to promote and protect physical and mental health, with a focus on population-based services, prevention, collaboration, and strategies and policies grounded in basic science.

Students beginning the MSW/MPH program at the MSW Foundation level must complete 81 credit hours total. Students beginning the MSW/MPH program at the Advanced Standing level, must complete 57 credit hours total.

## Program Contact Information

### Social Work Contact Information

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)  
402.554.3639  
cwarden@unomaha.edu

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
jharder@unomaha.edu (pszto@unomaha.edu)

### Public Health Contact Information

Office of Educational Services  
UNMC College of Public Health  
984359 Nebraska Medical Center  
Omaha, NE. 68198-4359  
Phone: 402.552.9867  
coph@unmc.edu

## Program Website

UNO (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/>) or UNMC (<http://www.unmc.edu/publichealth/programs/mphdualdegree/mph-msw.html>)

## Other Program Related Information

- The Master of Social Work (MSW) program prepares students for advanced social work practice. Master's-level social workers are employed in public and private agencies, including medical settings, schools, residential treatment centers, court and correctional agencies, and community planning and development agencies. Their activities and interventions are designed to promote a more effective-functioning society as it struggles to "provide for the general welfare," as well as to help people, families, groups, and institutions within the society achieve self-fulfillment.
- The MSW degree at the Grace Abbott School of Social Work is accredited by the Council on Social Work Education (CSWE), the national accrediting body for all social work education.
- Information on certification and licensure is available on the Nebraska Department of Health and Human Services' website (<http://dhhs.ne.gov/Pages/default.aspx>)

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Summer 2021, and Fall 2021)

- Summer or Fall Start: January 15 (MSW), June 1 (MPH)
- The MPH application is completed online (<http://www.unmc.edu/publichealth/admissions/mphdualdegree/mph-msw.html>) through the College of Public Health at the University of Nebraska Medical Center.
  - The MSW Admissions Committee decides on admission to the MSW program; the MPH Admissions Committee decides on admission to the MPH program. A student not admitted to both programs may pursue the other degree if admitted.

## MSW Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** The statement of purpose is an opportunity to demonstrate your understanding of and fit for the social work profession, as well as your aptitude for graduate-level social work education. The Admissions Committee pays close attention to both content and writing skills. In your statement of purpose, please address each of the items listed below, in no more than five (5) pages, double-spaced, in a 12-point font. Your response to each of the items should be roughly the same length. If your statement of purpose does not clearly and directly address each of the items or does not follow the instructions, it may not be considered.
  - If you have a compelling autobiographical story relevant to your application, but that falls outside of the items addressed within the statement, you may add a letter to the Admissions Committee. Your letter will be considered, but will not be scored.
  - What type of work are you planning to engage with once you attain your MSW degree? Specifically, what are the issues, populations, and levels of practice you hope to work with after graduate school?
  - The social work profession is rooted in social justice. Social workers adopt a stance of cultural humility and strive towards cultural awareness. Discuss a time when you realized that one of your personal or cultural identities influenced your reaction to a social situation. Reflecting on that experience, how might it influence your future social work practice?
  - Social workers are self-reflective, strengths-based, and growth-oriented. Identify a strength that you possess and an area for growth. Discuss how you became aware of these, how they show up in your current professional practice, and how they may influence your future professional practice.
  - Social work is a values-based profession dedicated to mitigating inequality and enhancing human wellbeing, especially for vulnerable, marginalized, and oppressed populations. From the core values and ethical principles identified in the NASW Code of Ethics (<https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English/>), identify and discuss one that resonates with you and one that may challenge you.
  - Why have you chosen social work? Your response should demonstrate a basic understanding of the social work profession, including what distinguishes it from other helping professions.

- **Resume:** Applicants are highly encouraged to have professional experience in the human service field. Please submit a professional resume that identifies:
  - Educational experiences since high school
    - List start and end dates with month and year
    - Identify whether the position is part or full-time
    - Identify whether the position is paid or volunteer
    - Field placements, internships or practicums
    - Honors or distinctions received
    - Professional experiences, especially in human services
- **Letters of Recommendation:** Three letters of recommendation are required, the recommendation requests are generated from your online application. These recommendations should be from professional and academic sources who are directly familiar with your skills and experience. At least one reference should be from an immediate professional supervisor. If you have graduated from an academic program within the past two years, it is suggested that at least one reference should be from a faculty member who can speak directly to your academic preparation for graduate social work education. References from family members, family friends, personal friends, personal therapists, or other non-professional/academic sources will not be scored.

## MPH Other Requirements

- GRE

The MSW/MPH **Foundation Program** is a 78 credit hour program available to applicants who do not hold a BSSW degree from an accredited school of social work within the last 10 years.

The MSW/MPH **Advanced Standing Program** is a 54 credit hour program available to applicants who have earned a BSSW degree from an accredited school of social work within the last 10 years.

## Degree Requirements

Code	Title	Credits
<b>Required Foundation Courses</b>		
SOWK 8070	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I	3
SOWK 8080	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II	3
SOWK 8090	SOCIAL WELFARE POLICY	3
SOWK 8110	INSTITUTIONAL OPPRESSION	3
SOWK 8130	GENERALIST PRACTICE I	3
SOWK 8150	GENERALIST PRACTICE II	3
SOWK 8160	GENERALIST SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8170	GENERALIST SOCIAL WORK PRACTICUM II <sup>1</sup>	3
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> A student must receive grades of "B" or higher in practicum courses (SOWK 8160 and SOWK 8170)

Code	Title	Credits
<b>Required Courses</b>		
CPH 500	Foundations of Public Health	3
CPH 502	Health Service Administration	3
CPH 504	Epidemiology in Public Health	3
CPH 506	Biostatistics I	3
CPH 514	Planning and Evaluation	3
CPH 539	Leadership and Advocacy	3

CPH 562	HR Management in Health Care	3
CPH 565	Health Care Finance	3
CPH 580	Health Care Theory and Behavior	3
SOWK 8190	RESEARCH & COMPUTER APPLICATIONS	3
SOWK 8220	CLINICAL SOCIAL WORK WITH INDIVIDUALS	3
SOWK 8230	CLINICAL SOCIAL WORK WITH GROUPS	3
SOWK 8290	SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH	3
SOWK 8540	PLANNING FOR SOCIAL CHANGE	3
SOWK 8650	HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK	3
SOWK 8400	ADVANCED SOCIAL WORK PRACTICUM I <sup>1</sup>	3
SOWK 8410	ADVANCED SOCIAL WORK PRACTICUM II <sup>1</sup>	3
Choose One Social Work Clinical Elective:		3
SOWK 8240	SOCIAL WORK PRACTICE WITH CHILDREN	
SOWK 8260	SOCIAL WORK PRACTICE WITH OLDER ADULTS	
SOWK 8280	SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES	
SOWK 8250	SOCIAL WORK PRACTICE WITH FAMILIES	

**Total Credits** **54**

<sup>1</sup> SOWK 8400 and SOWK 8410 will include MPH Capstone Requirements.

## Exit Requirement

Satisfactory completion with a grade of B or better in SOWK 8400 and SOWK 8410

## Academic Policies and Standards

The *MSW Student Handbook* can be found here (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/social-work/academic-programs/msw-program.php>).

## Managing Juvenile and Adult Populations Certificate

**School of Criminology & Criminal Justice, Grace Abbott School of Social Work, College of Public Affairs & Community Service**

## Vision Statement

A unique program specifically designed for professionals working with juveniles and adults who are in contact with the criminal justice system as victims, offenders, or family members.

## Program Contact Information

Robert Houston, Senior Community Service Associate  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
[rhouston@unomaha.edu](mailto:rhouston@unomaha.edu)

Mark Foxall, PhD, CJM, Master of Science Program Coordinator  
218 College of Public Affairs & Community Service (CPACS)  
402.554.2610  
[markfoxall@unomaha.edu](mailto:markfoxall@unomaha.edu)

Ciara Warden, LISW, MSW Outreach Coordinator  
206 College of Public Affairs & Community Service (CPACS)

402.554.3639  
cwarden@unomaha.edu

Jeanette Harder, PhD, Graduate Program Chair (GPC)  
206 College of Public Affairs & Community Service (CPACS)  
402.554.2893  
jharder@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-public-affairs-and-community-service/criminology-and-criminal-justice/graduate-programs/graduate-certificate.php>)

### Other Program Related Information:

Note: This certificate can be obtained entirely online. All courses for the certificate will be offered online in a two-year rotation. Elective courses in criminology and criminal justice are also offered in the spring, summer and fall semesters.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- GPA of 2.75 or higher
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 588, Internet-based TOEFL: 95 with a minimum of 21 in each of the four areas, IELTS: 7.5 (8.0 preferred), PTE: 76, Duolingo: 115
  - All ESL students are required to take a proficiency assessment examination at UNO upon admission, which will be used to determine if further assistance is required.
- Statement of Purpose:** The statement should include how the certificate will help you achieve your professional goals.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
SOWK 8886	TOPICAL SEMINAR IN SOCIAL WORK <sup>1</sup>	3
SOWK/COUN 8686	MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION	3
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE	3
CRCJ 8850	RISK/NEEDS ASSESSMENT INSTRUMENTS	3
Select three additional graduate credit hours in consultation with your advisor.		3
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> Choose one of the following topics:

- Trauma & Resilience
- Crisis Intervention
- Advanced Clinical Skills

## Sociology, MA

**Department of Sociology & Anthropology, College of Arts & Sciences**

### Vision Statement

This innovative degree program provides students with advanced knowledge in sociological theory, methods, and research. The flexible and interdisciplinary nature of the program allows students to focus on an additional academic specialty area within or outside of sociology. Department faculty members have strengths in several areas, including families and gender, health, inequality and social justice, work and organizations, race and ethnicity, and anthropology. The department also has close connections to the Office of Latino/Latin American Studies, Native American Studies, and Women's and Gender Studies.

### Program Contact Information

Sammantha Ammons, PhD, Graduate Program Chair (GPC)  
383K Arts & Sciences Hall (ASH)  
402.554.3358  
sammons@unomaha.edu (jirwin@unomaha.edu)

**Program Website** (<http://www.unomaha.edu/college-of-arts-and-sciences/sociology-and-anthropology/academics/graduate.php>)

### Other Program Related Information

#### Fast Track Program

The Department of Sociology & Anthropology has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BA/BS in Sociology who are desiring to pursue an MA in Sociology.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0 and a GPA of 3.3 in SOC and ANTH courses.
- Students must complete the Fast Track Approval form, obtain all signatures, and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
  - ANTH 1050, SOC 1010, SOC 2120, SOC 2130, SOC 2134 should be completed before enrolling in the first graduate course.
  - SOC 3510 and SOC 3514 should be taken before or concurrently with enrollment in the first graduate course.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status, including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the

applicant will need to contact the Office of Graduate Studies for a fee waiver code.

- Admission to Fast Track does NOT guarantee admission to the graduate program.
- The admit term must be after the completion term of the undergraduate degree.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022 and Fall 2022)

- Fall: April 15
- Spring: November 15

### Other Requirements

- Baccalaureate degree or previous master's degree with a minimum 3.0 GPA.
- Applicants for admission to the graduate program in sociology should present a minimum of 15 undergraduate credit hours in the following social science courses:
  - Statistics, research methods, and social theory
  - A minimum of six additional hours of sociology or other social science courses
- Undergraduate courses in statistics, research methods, and social theory are required before the student can enroll in the graduate courses in the same areas.
  - Students without the specific prerequisite courses may be admitted provisionally, but deficiencies should be removed in the first year of graduate study.
  - All prerequisite courses must be passed with a grade of "B" (3.0 on a 4.0 scale) or better.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80 (no sub-score under 15), IELTS: 6.5, PTE: 53, Duolingo: 105
  - Passing with a minimum score does not guarantee admission into the program.
- **Statement of Purpose:** Outline your career goals, why a graduate degree in Sociology will help you attain these goals, and why the UNO MA in sociology is a good fit. Make sure your statement includes the following components:
  - Discuss how your academic goals fit into the Department of Sociology & Anthropology's strengths and areas of research.
  - Detail your research interests and how these interests are sociological.
  - Provide a brief (1-2 paragraph) personal statement regarding the development of your academic interest in Sociology.
- **Writing Sample:** Submission of an academic, research-based writing sample. The sample must be written in English, include citations, and be a minimum of five pages in length. This writing sample can be a previous assignment. If no such paper exists, the applicant should contact the graduate program chair for an alternative assignment.
- **Resume:** The resume should highlight the education and employment experiences that are especially relevant to graduate work in sociology.
- **Letters of Recommendation:** Two letters of recommendation from a former or current professor (preferred), supervisor, or individual that can speak to one's academic potential in a graduate program. If

students have recently graduated from UNO with a major in Sociology, it is expected that one of the letters will be from a faculty member in the UNO Sociology & Anthropology Department.

- GRE scores are not required for admission; however, students are welcome to submit them.
- **Applicants with International Transcripts:** Any applicant to this program who has completed undergraduate or graduate coursework at an international higher education institution outside of the United States may submit transcripts and degree certificates (with an English translation) in lieu of a course-by-course transcript evaluation from World Education Services (<https://www.wes.org/>) (WES), Educational Credential Evaluators (<https://www.ece.org/>) (ECE), or Educational Perspectives (<https://www.edperspective.org/>). This graduate program will conduct an in-house credential evaluation of your transcript(s).
  - UNO reserves the right to require a course-by-course evaluation from WES, ECE, or Educational Perspectives if the program is unable to complete an evaluation or should there be any questions or concerns about the documentation that is received. The applicant will be notified by the individual program if an external course-by-course evaluation is required.
  - \*Note: If admitted, official transcripts and degree certificates (with an English translation)/official course-by-course transcript evaluation, and any applicable official exam scores are required.
- Official transcripts from all attended institutions. Please note that although the Office of Graduate Studies forwards applications to departments for review with unofficial transcripts, students cannot enroll until all official transcripts have been received.

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
SOC 8030	SOCIOLOGICAL INQUIRY & RESEARCH DESIGN	3
SOC 8040	SOCIOLOGICAL STATISTICS	3
SOC 8060	QUALITATIVE METHODS	3
SOC 8100	SOCIAL INEQUALITY	3
Select one from the following:		3
SOC 8010	CLASSICAL SOCIOLOGICAL THEORY	
SOC 8020	CONTEMPORARY SOCIOLOGICAL THEORY	

### Electives

Elective courses will be chosen in consultation with the GPC and/or your advisor. The department offers a rotating selection of elective courses based on faculty specialty areas. Students in the thesis option (see below) may take up to six hours of electives outside of sociology; students pursuing the applied project or non-thesis option (comprehensive exams) may take up to nine hours outside of sociology. All outside courses must be relevant to the student's interest area within sociology and should be approved by the GPC and/or advisor.	9-21
--	------

## Exit Requirements:

### Thesis Option

This option is especially recommended for students who wish to pursue the PhD degree after completing their MA and/or who wish to gain research and writing experience through the thesis process.

### Coursework

Students must complete a minimum of 24 credit hours of approved graduate work in sociology and related disciplines, plus six hours of thesis credit, for a total of 30 credit hours.

Code	Title	Credits
SOC 8990	THESIS	6

### Thesis Committee

Students will form a thesis committee of UNO faculty members who are knowledgeable about the thesis topic. The committee will consist of at least three members, all of whom must be graduate faculty, and at least one of whom must be a sociologist:

- a committee chair from within the department
- at least one additional member from within the department
- at least one outside member from another academic department

Prior to beginning the thesis, students must have their project formally approved by the thesis committee. Students must pass an oral defense structured around the thesis to complete the degree requirements.

### Applied Project Option

The capstone experience in this program option is a research project conducted in an applied setting. Students will use the skills and knowledge they have acquired in the program to conduct a project and produce a report for a "client" in the community (or elsewhere). Students may seek out their own project site or choose from among the community organizations with which the department already has relationships. Examples of potential projects include evaluating program effectiveness, assessing community needs, or designing training programs for employees.

This option is especially recommended for students who plan to enter the job market immediately after completion of the MA degree; would like to gain a better idea of the type of employment for which they are qualified with an MA in sociology; and/or are already working in a setting amenable to a project of this nature.

### Coursework

Students must complete a minimum of 30 credit hours of approved graduate work in sociology and related disciplines, plus six hours of applied project credit, for a total of 36 credit hours.

Code	Title	Credits
SOC 8960	APPLIED PROJECT (6 Hours Required)	1-6

### Project Committee

Students will form a project committee that consists of:

- a committee chair from within the department
- a representative from the project site
- at least one other faculty member from the university with expertise or interest in the project

Prior to beginning the project, students must have their proposal formally approved by the project committee. Students must also have their final project report approved. While the project site representative must sign off on the proposal approval form, only the UNO faculty members will be responsible for approving the final project.

### Non-Thesis Option

The non-thesis, comprehensive exam option is recommended for students who wish to maximize their exposure to coursework in sociology and related disciplines.

### Coursework

Students must complete a minimum of 36 credit hours of approved graduate work in sociology and related disciplines.

### Comprehensive Exam

The comprehensive examination focuses on the student's coursework, particularly the topical focus area developed by the student. Students will

answer one of two questions on sociological theory, one of two questions on research methods, and one of two questions from the focus area.

The exam is a one-week take-home exam to be scheduled in consultation with the Graduate Program Chair. Students will work with the Graduate Program Chair to select 2 readers for each section (theory, research methods, focus area). Each of the three sections of the exam will be evaluated separately on the following basis:

- high pass
- pass
- conditional pass
- or fail

In the case of a conditional pass in a section or sections, the students will have an opportunity to revise their answers for reevaluation by the faculty readers.

In the case of a failing evaluation in a section or sections, the student will have one more opportunity per section to re-take the exam. The student will answer the other of the two questions they were originally presented with for each failing section. Both readers will evaluate the new answer(s), with conditional pass available as a possible recommendation.

### Total Credit Hours

Thesis Option: 30  
Project Option: 36  
Non-Thesis Option: 36

#### SOC 8010 CLASSICAL SOCIOLOGICAL THEORY (3 credits)

This course surveys the nineteenth century writers whose ideas have had a strong influence on the development of contemporary sociology and sociological theories. It examines work in such areas as: structural functionalism; conflict theory; rationalism; and the beginnings of modern symbolic interaction, feminist, and race theory. The course emphasizes a close reading of original texts, as well as seminar-style class discussions. **Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside Sociology MA program.

#### SOC 8020 CONTEMPORARY SOCIOLOGICAL THEORY (3 credits)

This course reviews some of the most important developments in contemporary sociological theory. It examines work in such areas as: symbolic interactionism, phenomenology and ethnomethodology; dramaturgical analysis; functionalism and neo-functionalism; structuralism, post-structuralism and postmodernity; postcolonial and subaltern studies; neo-marxism; critical theory; critical race studies; feminist theory; cultural theory; and world systems and globalization theory. The course emphasizes a close reading of original texts, as well as seminar-style class discussions. **Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside Sociology MA program.

#### SOC 8030 SOCIOLOGICAL INQUIRY & RESEARCH DESIGN (3 credits)

This course focuses on the research design process from a sociological perspective. It gives broad, intermediate-level coverage to social science research methodology, with an emphasis on the logic of research procedures. Topics covered include the relationship of theory and research, causal analysis, sampling, and quantitative and qualitative design approaches.

**Prerequisite(s)/Corequisite(s):** Graduate; undergraduate course in research methods; permission of instructor if outside Sociology MA program.

**SOC 8040 SOCIOLOGICAL STATISTICS (3 credits)**

This course focuses on intermediate statistics and data analysis as applied to social research. Topics include descriptive statistics, probability, significance tests, multiple regression, and more advanced topics as time permits. Students will also learn how to utilize computer software packages to perform statistical analyses.

**Prerequisite(s)/Corequisite(s):** Graduate; undergraduate statistics course; permission of instructor if outside Sociology MA program.

**SOC 8050 SEMINAR ON TEACHING: PEDAGOGICAL THEORY AND PRACTICE (3 credits)**

A survey of various approaches to teaching at the college level (including critical, feminist, and other pedagogical theories) as well as strategies that can be employed in teaching. Topics include: syllabus and course design, evaluation and assessment strategies, developing a teaching style and philosophy, and the scholarship of teaching and learning. Emphasis is on preparing new teachers in sociology, but the course is intended for any graduate student who may already be teaching or anticipates teaching in the future.

**Prerequisite(s)/Corequisite(s):** Enrollment in the graduate program in sociology or permission of the instructor.

**SOC 8060 QUALITATIVE METHODS (3 credits)**

This course familiarizes students with contemporary qualitative methodologies and techniques by which the social sciences explore social and cultural relations in natural settings. Students will conduct individual and or group field projects.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of the instructor.

**SOC 8100 SOCIAL INEQUALITY (3 credits)**

This course examines social inequality from a sociological vantage point. Students will review theoretical frameworks for studying social inequality, processes that result in the unequal distributions of individual resources, empirical analyses of inequality, and the consequences of various inequalities for intergenerational social mobility. While the course focuses on inequality in the United States, global and international dimensions of social inequality are also covered.

**Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside of Sociology MA program

**SOC 8136 SOCIOLOGY OF DEVIANCE (3 credits)**

This course introduces students to the sociological study of behaviors that have been labeled as "deviant" because they presumably violate social norms. The course takes a constructionist approach, critically analyzing how deviance is socially defined, organized, and managed. Students will be challenged to see the diversity and pervasiveness of deviance in society and to question the labelling of behaviors, individuals, and powerless groups as deviant. We will explore the social processes, powerful actors, and social institutions that create deviance as well as efforts to resist definitions of deviance. (Cross-listed with SOC 4130).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8146 URBAN SOCIOLOGY (3 credits)**

This course examines classical and contemporary sociological theories on city formation, the urbanization process, and the interaction of society and the built environment. Topics covered include suburbanization, gentrification, residential segregation, social networks, crime, housing, city culture, and public policy. The focus is on U.S. cities with selected comparisons to other world regions. Students will also get basic knowledge and exposure to research methods to study urban areas locally. (Cross-listed with SOC 4140).

**Prerequisite(s)/Corequisite(s):** Graduate standing, or permission of instructor

**SOC 8156 AMERICAN FAMILY PROBLEMS (3 credits)**

This course explores the problems and issues faced by contemporary American families, such as racism and sexism; the challenges of childhood and adolescence; divorce and remarriage; work and family conflict; and family violence. The difficulty of defining both "family" and "problems" is addressed throughout the course. (Cross-listed with SOC 4150)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOC 8176 SOCIOLOGY OF FATHERHOOD (3 credits)**

This course examines the existing social science research on fatherhood, exploring topics such as the evolution, history, demography, and politics of fatherhood; father involvement and its relationship to both children's and men's well-being; the effects of diversity and family structure on fatherhood; and public policy surrounding fatherhood. (Cross-listed with SOC 4170)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**SOC 8186 OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK (3 credits)**

This course examines what makes individuals and groups happy and satisfied with their jobs, and the factors that can turn "a dead-end job" into a meaningful pursuit that lasts decades. The course utilizes a life course approach and covers early socialization experiences to retirement transitions. It also employs a sociological lens to explore how individual experiences in the work realm are affected by stratification (such as race/ethnicity, gender, sexuality, social class, and parental status) and as well as by occupational norms and structures, workplace relationships, and culture and practices at the organizational and societal levels. (Cross-listed with SOC 4180).

**Prerequisite(s)/Corequisite(s):** Enrollment in sociology graduate program or permission of the instructor.

**SOC 8200 HEALTH & SOCIETY (3 credits)**

The course provides a critical sociological understanding of health, illness, healing, and medical care within a social context. The focus ranges from examining health and illness behavior and patient-provider interaction to issues addressing the social organization of health care and medicine.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8216 DISABILITY AND SOCIETY (3 credits)**

This course takes a sociologically grounded but interdisciplinary look at the past, present, and potential future of disability. Along the way, competing models and theories of disability are critically explored and substantive issues pertaining to the social experiences and social responses to people with disabilities are discussed. (Cross-listed with SOC 4210)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 8246 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 4240, LLS 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8256 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 4250, LLS 4250, LLS 8256).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SOC 8316 SOCIOLOGY OF SEXUALITIES (3 credits)**

This class focuses on the social construction of sexualities - especially heterosexual sexualities, bisexual sexualities, and homosexual sexualities. A primary focus of the class will be LGBT/Queer Studies. The class examines how sexual desires/identities/orientations vary or remain the same in different places and times, and how they interact with other social and cultural phenomenon such as government, family, popular culture, scientific inquiry, and race, gender, and class. (Cross-listed with SOC 4310)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOC 8356 WORK & FAMILY (3 credits)**

This course examines the contemporary problems that individuals, families and communities in the U.S. have in integrating work and family/personal life. (Cross-listed with SOC 4350)

**SOC 8446 HUMAN CONNECTION, LONELINESS, & HEALTH (3 credits)**

This course examines the "loneliness epidemic" through a sociological perspective and is based on the premise that loneliness is a public health issue, as research consistently shows it is associated with a vast array of physical and mental health outcomes. After discussing the extent of loneliness and how to define it by distinguishing it from other types of social pain, the course covers: 1) the extent and nature of loneliness and its cultural/social sources; 2) the pathways from loneliness to health outcomes; and 3) possible interventions to reduce loneliness and improve public health. (Cross-listed with SOC 4440).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8500 COMPLEX ORGANIZATIONS (3 credits)**

This graduate seminar provides an overview focused on the understanding and analysis of intricate internal and external organizational forces such as organizational bureaucracy, organizational culture, autonomy and control systems, which affect performance of organizational members as well as influence organizational survival. (Cross-listed with CACT 8500)

**Prerequisite(s)/Corequisite(s):** Graduate enrollment or permission of class instructor.

**SOC 8550 ORGANIZATIONAL CULTURE (3 credits)**

This course will discuss the various dimensions of organizational cultures and their consequences to organizational life. Emphasis will be placed on the significance of culture to human behavioral patterns, and the analysis of how organizational cultures shape the behavior and performance of organizational members. The course will prepare students for leadership success in organizations using advanced knowledge of organizational culture.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8556 ORGANIZATIONAL DIVERSITY AND INCLUSION (3 credits)**

This course provides advanced-level knowledge of the structural understanding, assessment, analysis, and management of social diversity as well as successful inclusion strategies in the workplace. Concepts and theories dealing with structural basis of the creation of difference, consequences of difference, inclusion, affirmative action, and diversity consulting skills are fully examined in this course. This course will prepare students for successful leadership in diverse organizational environments. (Cross-listed with SOC 4550)

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8600 SEMINAR IN SOCIAL ORGANIZATION (3 credits)**

Graduate seminar on the sociological analysis of organizational fields and an in-depth study of one organizational system, such as decision-making, authority, communication, change, supervision, technology, bureaucracy, and reward system, in one organizational type within one organizational field. As seminar topics change, this course may be repeated twice in a student's program without implying duplication.

**Prerequisite(s)/Corequisite(s):** Graduate standing and SOC 4620/8626; or permission of instructor.

**SOC 8626 APPLIED FORMAL ORGANIZATIONS (3 credits)**

An advanced-level applied organizational sociology course that uses organizational theory, concepts, research, and practice to examine the structural bases of organizational effectiveness, efficiency, survival, and actions of organizational members. The course is designed to prepare students for organizational leadership using advanced knowledge and skills of organizational sociology. (Cross-listed with SOC 4620).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8706 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with SOC 4700, PHHB 4700, PHHB 8706)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8746 SOCIAL JUSTICE AND SOCIAL CHANGE (3 credits)**

This course investigates the economic, political and social constraints on equality present in local, national and global arrangements. Students will gain a theoretical understanding of these conditions as well as those that lead to social change, spanning from day-to-day resistance techniques to large scale social movements. Students will participate in a service learning or applied project as they explore contemporary social justice issues and learn both theoretical and practical tools needed to become successful change makers, activists, or community organizers. Examples of social justice movements or campaigns form the basis for understanding injustice at a local, national, and global level. (Cross-listed with SOC 4740)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 8766 ENVIRONMENTAL SOCIOLOGY (3 credits)**

This course is an introduction to environmental sociology, a field of sociology that explores the interaction between the environment and society. Environmental sociologists consider how political, social, and economic factors have come to shape our patterns of interaction with the natural and built environment. Students will be expected to use the sociological perspective to understand the landscape of environmental problems, focusing on such issues as environment and health, disaster, environmental policy, climate change, environmental risk, human and animal interactions, sustainability, environmental justice and social movements. (Cross-listed with SOC 4760).

**SOC 8776 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, PSCI 8776, SOC 4770).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SOC 8786 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 4780, LLS 4780, LLS 8786).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**SOC 8806 CONTEMPORARY TOPICS IN SOCIOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4800)

**Prerequisite(s)/Corequisite(s):** Sociology major; or permission of instructor.

**SOC 8836 SOCIOLOGY OF MENTAL HEALTH & ILLNESS (3 credits)**

This course will apply the sociological perspective to various topics regarding mental health and illness. The course will cover topics such as the social construction of mental illness, the social epidemiology of mental illness, labeling and stigma of those with a mental illness, and mental health policy/treatment. (Cross-listed with SOC 4830)

**Prerequisite(s)/Corequisite(s):** SOC 1010, and junior standing; or permission of the instructor.

**SOC 8856 SOCIOLOGY OF RELIGION (3 credits)**

This course looks at religion as a social and cultural phenomenon, examining how religious beliefs, practices, institutions and movements shape and are shaped by their social context. Topics include: sociological theories and explanations of religion and spirituality; definitions of religion and the distinction between religion and other ideologies or worldviews; the measurement of religiosity and the scientific study of religion; trends in religiosity, spirituality, and the religious landscape historically and globally; sociological insights gained from the study of new religions, secularization, fundamentalism, and other issues related to contemporary religious experience. (Cross-listed with SOC 4850)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor

**SOC 8886 CONTEMPORARY TOPICS IN SOCIOLOGY (ONE CREDIT HOUR) (1 credit)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4880).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8896 CONTEMPORARY TOPICS IN SOCIOLOGY (TWO CREDIT HOURS) (2 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8950 PRACTICUM IN APPLIED SOCIOLOGY (3 credits)**

A practical work experience under supervision that provides opportunity for applying principles from the student's academic area of concentration.

**Prerequisite(s)/Corequisite(s):** Graduate sociology major. Not open to non-degree graduate students.

**SOC 8960 APPLIED PROJECT (1-6 credits)**

This capstone experience in the applied project option is an independent research project conducted in an applied setting under the supervision of a graduate faculty member in the department..

**Prerequisite(s)/Corequisite(s):** Graduate sociology major; permission of the graduate program chair. Not open to non-degree graduate students.

**SOC 8980 INDEPENDENT STUDY IN SOCIOLOGY (1-3 credits)**

Guided reading or independent research in special topics in Sociology under the supervision of a member of the Sociology faculty. This course is designed primarily for the student interested in topics not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**SOC 8990 THESIS (1-6 credits)**

A research project, written under the supervision of a graduate advisor in the Department of Sociology & Anthropology, in which the student designs, conducts, and completes an original, independent, scholarly investigation at a graduate level. The research topic and the completed project must be approved by the student's departmental committee.

**Prerequisite(s)/Corequisite(s):** Permission from Graduate Chair. Not open to non-degree graduate students.

**SOC 9110 APPLIED SOCIAL GERONTOLOGY (3 credits)**

An overview of social gerontology with an emphasis on the interplay between social, psychological and physical elements in later life. Restricted to graduate students only; required of gerontology students. (Cross-listed with GERO 9110)

**Prerequisite(s)/Corequisite(s):** Graduate.

## Special Education, MS

**Department of Special Education, College of Education, Health, and Human Sciences**

### Vision Statement

The mission of the Department of Special Education and Communication Disorders is to prepare dedicated practitioners, reflective scholars, and responsible citizens who are unique in their ability to facilitate, design, implement, and evaluate programs for individuals with disabilities. This is accomplished by creating opportunities for the acquisition and maintenance of knowledge, skills, and dispositions as prescribed by the Council for Exceptional Children, the Council on Academic Accreditation in Audiology and Speech-Language Pathology (for graduate program only), and state and federal regulations.

Graduate candidates follow a course of study with accompanying practical experiences that are grounded in learned society theory, research, evidence-based practice, and experience. Our candidates develop essential interpersonal skills that make them valued members of collaborative, interdisciplinary teams in a variety of settings. Thus, each program of study is designed to promote problem-solving skills that enable candidates to continue to broaden their skills and enhance their expertise throughout their professional career. These skills facilitate the recognition and

integration of professional ethics with the individual needs and values of the communities they serve.

## Program Contact Information

Shari DeVeney, PhD, Graduate Program Chair (GPC)  
512 Roskens Hall (RH)  
402.554.2993  
sdeveney@unomaha.edu

Program Website (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/graduate/special-education.php>)

## Other Program Related Information

Candidates seeking a master's degree in special education must meet the criteria for admission to the Graduate College and the department. Graduate-level hours taken as a non-degree student may be subsequently included in a program of study at the discretion of the graduate program committee and the dean for graduate studies. The department adheres to all restrictions on non-degree students. No student with non-degree status may enroll in a practicum course. Candidates completing the degree program meet the academic requirements for PK-6, K-6 or 7-12 endorsement by the Nebraska Department of Education. Candidates may complete practicum experiences at both the K-6 and 7-12 levels. One of these practicum experiences may be completed in the candidate's classroom. The other must be completed outside the candidate's classroom.

## Praxis II Contest Test Information

All candidates seeking an endorsement in special education (Special Education Generalist, or 33-hour Behavior Intervention Specialist) for the first time, are required to receive a **passing score** on the **Praxis II** content test in each endorsement area of their preparation prior to the endorsement being recommended. This link (<http://www.ets.org/praxis/ne/requirements/>) will take you to the ETS website page for the Nebraska Department of Education requirements, which lists the Nebraska requirements for each endorsement area.

## Unclassified Students

Students who are not planning to pursue a program leading to a graduate certificate or a master's degree can be admitted to the special education program as unclassified students. Candidates holding a previous master's degree in education who are seeking additional teaching endorsements may wish to choose an unclassified status. Unclassified students are allowed to take courses for which they meet the prerequisite. Successful completion of graduate courses as an unclassified student does not obligate the department to accept those courses for credit toward the fulfillment of degree requirements. Formal advisement in an endorsement area is required.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

- Fall: July 1
- Spring: November 1
- Summer: April 1

## Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined

country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.

- Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** Include a formal written statement, at least one page in length, of why you want to pursue a master's degree in special education. Explain your current job/position, career goals and additional experiences with individuals with disabilities.
- **Letters of Recommendation:** Two Letters of Professional/Academic Recommendation are required. These recommenders should be able to speak to the graduate's undergraduate academic work, the applicant's potential to do graduate work, and/or the applicant's professional competence.
- Personal and Professional Fitness Form
- Copy of teaching certificate
- All candidates must have completed SPED 4800/SPED 8806 and SPED 1500 or SPED 8030 (or an equivalent to any of these), and methods courses in reading and math.

## Degree Requirements

Code	Title	Credits
<b>Concentration</b>		
Select an area of concentration:		
	Applied Behavior Analysis Concentration	
	Behavior Intervention Specialist Concentration	
	Special Education Generalist	

## Exit Requirements

Once course work is completed candidates must successfully pass a comprehensive examination or write a thesis to receive a Master of Science degree.

Code	Title	Credits
	Comprehensive Examination	
SPED 8990	THESIS	6

All candidates should carefully review the Graduate College requirements for forming the Supervisory Committee, Thesis/Thesis Equivalent Proposal Approval forms and final approval and submission of the thesis.

All candidates must complete 6 credit hours in SPED 8990 in order to receive a Master's of Science degree in special education.

## Graduate-Level Practicums

All candidates must obtain the permission of their academic advisor prior to applying for and registering for practicums. All candidates who are adding an endorsement must complete one (or more) practicum experience(s) as part of their preparation. At least one of these experiences must be an all-day, 16-week experience in the endorsement area. **Applications will not be considered unless all materials are submitted by September 15 for spring practicum and February 1 for fall practicum.**

The department will issue a permit that allows the candidate to enroll in the appropriate practicum course. It is the candidate's responsibility to apply for the proper course. Professional seminars are required as part of the experience and attendance is mandatory.

Candidates may be removed from their placement at the request of the candidate, department, or school district/community agency.

## Concentrations

### Accelerated Program for Special Education Concentration

Code	Title	Credits
<b>Core Courses</b>		
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	3
SPED 8120	HIGH INCIDENCE DISABILITIES	3
SPED 8980	PROFESSIONAL COLLABORATION	3
<b>Concentration Courses</b>		
SPED 8236	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 8646	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 8720	GRADUATE PRACTICUM IN SPECIAL EDUCATION	3
SPED 8816	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
SPED 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 8910	ASSESSMENT IN SPECIAL EDUCATION	3
SPED 8250	LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES	3
<b>Electives* Select 9 hours from the following:</b>		<b>9</b>
TED 8210	THE PRINCIPLES OF MULTICULTURAL EDUCATION	
TED 8470	TEACHING THE LANGUAGE ARTS	
TED 8310	HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING	
TED 8300	EFFECTIVE TEACHING PRACTICES	
TED 8560	TECHNOLOGY FOR DIVERSE LEARNERS	
*To be eligible for certification all courses in the elective list will need to be satisfactorily completed.		
<b>Total Credits</b>		<b>39</b>

### Applied Behavior Analysis Concentration

Code	Title	Credits
<b>Prerequisites</b>		
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	
SPED 4800/8806	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
<b>Core Courses</b>		
SPED 8120	HIGH INCIDENCE DISABILITIES	3
SPED 8250	LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES	3
SPED 8810	RESEARCH METHODS IN SPECIAL EDUCATION	3
or PSYC 9100	SMALL N RESEARCH DESIGNS	
SPED 8820	CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS	3
SPED 8850	INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS	3

SPED 8870	AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS	3
SPED 8910	ASSESSMENT IN SPECIAL EDUCATION	3
SPED 8980	PROFESSIONAL COLLABORATION	3
<b>Concentration Courses</b>		
PSYC 8576	BEHAVIOR ANALYSIS AND INTERVENTIONS	3
PSYC 9040	PROSEMINAR LEARNING	3
PSYC 9570	APPLIED BEHAVIOR ANALYSIS	3
PSYC 8550	PSYCHOTHERAPEUTIC INTERVENTIONS	3
PSYC 8700	ETHICS AND LAW FOR PSYCHOLOGY AND APPLIED BEHAVIOR ANALYSIS	3
<b>Total Credits</b>		<b>39</b>

### Behavior Intervention Specialist Concentration

Code	Title	Credits
<b>Prerequisites</b>		
All candidates must have completed the following prerequisite courses or an equivalent.		
an undergraduate reading methods course		
an undergraduate math methods course		
SPED 4800/8806	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	
<b>Core Courses</b>		
SPED 8120	HIGH INCIDENCE DISABILITIES	3
SPED 8250	LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES	3
SPED 8810	RESEARCH METHODS IN SPECIAL EDUCATION	3
SPED 8910/TED 8850	ASSESSMENT IN SPECIAL EDUCATION	3
SPED 8980	PROFESSIONAL COLLABORATION	3
<b>Concentration Courses</b>		
SPED 8820	CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS	3
SPED 8830	GRADUATE PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST	3
or SPED 8840	ADVANCED PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST	
SPED 8850	INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS	3
SPED 8860	BEHAVIOR MODIFICATION	3
SPED 8870	AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS	3
SPED/COUN 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	3
SPED 8816	BEHAVIOR INTERVENTIONS AND SUPPORTS <sup>1</sup>	3
SPED/COUN 8656	TRANSITION PLANNING <sup>2</sup>	3
<b>Total Credits</b>		<b>36</b>

- <sup>1</sup> PK-6 must take SPED 8816  
<sup>2</sup> 7-12 must take SPED 8656

## Generalist Concentration

Code	Title	Credits
<b>Prerequisites</b>		
an undergraduate reading methods course		
an undergraduate math methods course		
SPED 4800/8806	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
<b>Core Courses</b>		
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	3
SPED 8120	HIGH INCIDENCE DISABILITIES	3
SPED 8250	LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES	3
SPED 8810	RESEARCH METHODS IN SPECIAL EDUCATION	3
SPED 8910	ASSESSMENT IN SPECIAL EDUCATION	3
SPED 8980	PROFESSIONAL COLLABORATION	3
<b>Generalist Concentration Courses</b>		
SPED 8236	LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS	3
SPED 8646	METHODS AND MATERIALS IN SPECIAL EDUCATION	3
SPED 8720	GRADUATE PRACTICUM IN SPECIAL EDUCATION	3
SPED 8816	BEHAVIOR INTERVENTIONS AND SUPPORTS	3
<b>Generalist Concentration Option Courses</b>		
Select one of the following options:		6-9
K-6 Option—Select three of the following (must be graduate only - 8xx0):		
SPED/COUN 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
SPED/COUN 8656	TRANSITION PLANNING	
SPED 8806	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
SPED 8820	CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS	
SPED 8850	INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS	
SPED 8870	AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS	
Or other course as approved by your advisor		
7-12 Option:		
SPED/COUN 8656	TRANSITION PLANNING	
Select two of the following (3 hours out of the 6 hours required must be graduate only - 8xx0):		
SPED/COUN 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
SPED 8806	SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH	
SPED 8820	CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS	

SPED 8850 INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS

SPED 8870 AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS

Or other course(s) approved by your advisor

### Total Credits

**36-39**

A student can enroll only twice in each graduate course included on a plan of study. If the course is not successfully completed on the second attempt, the student will be dismissed from the program. An enrollment is defined as being enrolled in the course after the last day to withdraw via MavLINK and receive a 100% refund. The last day to withdraw will be stated in the current academic calendar. (<https://www.unomaha.edu/registrar/academic-calendar.php>) In addition to the Quality of Work Standards established by the Graduate College, students may only repeat a graduate level course on a plan of study one time in which they receive any grade, including "W" or "I".

### SPED 8000 SPECIAL PROJECTS (1-3 credits)

This course is designed to allow graduate candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities is mutually agreed upon by the candidate and instructor.

**Prerequisite(s)/Corequisite(s):** Permission by the instructor. Not open to non-degree graduate students.

### SPED 8016 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health. The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, COUN 8016, SPED 4010).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### SPED 8030 TEACHING STUDENTS WITH EXCEPTIONALITIES (3 credits)

This course is designed to describe the characteristics and learning styles of students with various exceptional learning needs. This course also is intended to provide candidates with a knowledge base for the foundation of special education including the basic procedural flow of referral, identification and instruction and strategies for modifying the learning environment and individualizing instruction.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

### SPED 8046 WORKSHOP IN SPECIAL EDUCATION OR SPEECH-LANGUAGE PATHOLOGY (1-6 credits)

The purpose of this course is to provide workshops or special seminars in the area of special education and communication disorders. This course will prepare graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with SPED 4040).

**Prerequisite(s)/Corequisite(s):** Must have graduate status and permission.

### SPED 8100 RESEARCH PROJECTS (1-3 credits)

The purpose of this course is to allow candidates to participate in research activities other than those related to the thesis. Specific course content and type of research will be dependent on the nature of the intended research and must be approved by the supervising advisor and Department Chair prior to registration.

**Prerequisite(s)/Corequisite(s):** Graduate standing and admitted into a special education or speech-language pathology program of study.

**SPED 8120 HIGH INCIDENCE DISABILITIES (3 credits)**

This introductory course is designed to examine characteristics of learners with high incidence disabilities and the impact of those characteristics on learning. The focus will be on the manifestation of disabilities including learning disabilities, behavior disorders, mild to moderate intellectual disabilities, speech and language disorders, attention-deficit hyperactivity disorders, and autism spectrum disorders.

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**SPED 8236 LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS (3 credits)**

This course is designed to introduce the candidate to the nature and structure of language, current theories of language, normal first and second language development, language disorders, multicultural issues in language assessment, and contemporary classroom management of language deficits. The topics will be examined from an educational perspective to enhance the teachers knowledge of language and to facilitate classroom management of language deficits exhibited by exceptional children in grades pre-K through 12. (Cross-listed with SPED 4230).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**SPED 8250 LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES (3 credits)**

This course is designed to provide graduate candidates skills and strategies for instructing students with high incidence disabilities, including dyslexia, that struggle to acquire literacy skills. Emphasis is placed on diagnosis and assessment of specific reading and writing difficulties to determine effective instructional strategies. Instructional strategies will address modifications directed at teaching oral language, reading, writing, and spelling skills.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education or permission of the instructor. Not open to non-degree graduate students.

**SPED 8300 READINGS IN SPECIAL EDUCATION (1-3 credits)**

Reading and discussion of current methodological developments, research, and innovations in special education.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8646 METHODS AND MATERIALS IN SPECIAL EDUCATION (3 credits)**

This course is designed to describe the various instructional methods that have been used successfully in supporting students with disabilities in a variety of settings. This course is also intended to provide pre-service and in-service candidates with knowledge and evidence-based teaching strategies essential for modifying the learning environment and individualizing instruction for students with disabilities. In addition, teaching methods will focus on academic curriculum lesson planning, development of IEPs, selection of instructional methods and materials, and universal design for learning (UDL). (Cross-listed with SPED 4640).

**Prerequisite(s)/Corequisite(s):** Admission into a Special Education Master's program and SPED 8120. Not open to non-degree graduate students.

**SPED 8656 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living. (Cross-listed with SPED 4650).

**Prerequisite(s)/Corequisite(s):** SPED 1500. Not open to non-degree graduate students.

**SPED 8670 MATH INTERVENTIONS (3 credits)**

The purpose of this course is to prepare graduate candidates to teach, co-teach or consult in the area of mathematics interventions. Graduate candidates will examine and apply the existing research in mathematics instruction for students with exceptional needs.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Special Education. Not open to non-degree graduate students.

**SPED 8700 SEMINAR IN SPECIAL EDUCATION (3 credits)**

The seminar in Special Education is designed to be one of the very last courses taken by a master's degree candidate. Content covers a wide range of topics such as: 1) continuum of care; 2) educational and community service systems; 3) legislation; 4) family concerns; and 5) comparative special education. Each candidate develops a teaching module on one of the course topics, which is discussed and evaluated in class.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SPED 8716 INTERACTIONS AND COLLABORATION (3 credits)**

This course is offered to investigate the building blocks of collaboration. Effective interpersonal communication and collaboration skills are presented as the foundation necessary to build relationships among school personnel, families and community members. (Cross-listed with SPED 4710).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**SPED 8720 GRADUATE PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This graduate special education practicum course provides candidates with either inservice experience or placement in a school program for students with exceptionalities at an academic level commensurate with the candidate's desired level of the special education generalist endorsement (K-6 or 7-12).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in the desired endorsement, completion of 30 hours of required course work, and permission. Not open to non-degree graduate students.

**SPED 8730 ADVANCED GRADUATE PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This course provides candidates with a second semester of classroom experience teaching students with disabilities. This experience is for graduate candidates who are extending their endorsement. For students seeking an additional endorsement as a Special Education Generalist, this course would prepare them for endorsement in grades K-6 or 7-12. For students seeking an additional endorsement in Behavior Intervention Specialist, this course would prepare them for endorsement in grades PK-6 or 7-12.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in the desired endorsement and completion of SPED 8720, SPED 8830 or SPED 8840. Not open to non-degree graduate students.

**SPED 8806 SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH (3 credits)**

This course is designed to prepare teacher candidates and graduate candidates with the understanding of the psychological, biological and environmental factors that affect the social-emotional development of children and adolescents. Emphasis is placed on the interaction of these factors for children with exceptional learning needs and the implications for the learning environment. (Cross-listed with SPED 4800).

**SPED 8810 RESEARCH METHODS IN SPECIAL EDUCATION (3 credits)**

This course is designed to provide an examination of the theoretical approaches to conducting educational research, research design and analysis, and interpretation and evaluation of existing research in special education and related fields.

**Prerequisite(s)/Corequisite(s):** SPED 8120 or permission from the instructor. Not open to non-degree graduate students.

**SPED 8816 BEHAVIOR INTERVENTIONS AND SUPPORTS (3 credits)**

This course introduces a variety of practical interventions that teachers may use to support the positive classroom behavior of all students within a tiered model. Universal, targeted, and individualized strategies are presented. (Cross-listed with SPED 4810).

**SPED 8820 CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS (3 credits)**

This course is designed to assess and examine the causes and characteristics of behavioral disorders, which constitute internalizing, externalizing, and pervasive developmental disorders. Extensive use of the case study method will be used.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education.

**SPED 8830 GRADUATE PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST (3 credits)**

This course provides candidates with either an in-service experience or placement in a school program in which the candidate works with students with emotional and behavioral disorders at an academic level commensurate with the candidate's desired level of endorsement (PK- 9, or 7-12).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education with an emphasis in behavior intervention specialist, completion of 30 hours of the required coursework, and permission by the department. Not open to non-degree graduate students.

**SPED 8840 ADVANCED PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST (3 credits)**

This course provides candidates with additional experiences in working with students with disabilities who present challenging behaviors, including emotional disturbance and autism. This course is designed for graduate students who are already endorsed in special education.

**Prerequisite(s)/Corequisite(s):** Behavior Intervention Specialist program and permission. Not open to non-degree graduate students.

**SPED 8850 INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS (3 credits)**

The focus of the course will be on instruction and interventions that are effective for students with behavior disorders such as explicit instruction, social skills support, supporting executive functions, and cognitive strategy instruction.

**Prerequisite(s)/Corequisite(s):** Graduate standing and successful completion of SPED 8820, not open to non-degree students.

**SPED 8860 BEHAVIOR MODIFICATION (3 credits)**

This course is designed to equip candidates with the skills necessary to assess, modify, and evaluate behavior in accordance with best practice and research-based approaches. In addition, this course will train candidates on how to conduct a functional behavioral assessment and create behavioral intervention plans in accordance with IDEA.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8870 AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS (3 credits)**

This course is designed to provide information on the behavioral characteristics, instructional needs and necessary curriculum development specifically for children and youth with autism spectrum disorder (ASD).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8900 SPECIAL EDUCATION LAW (3 credits)**

The purpose of this course is to research and explore legal and policy issues affecting special education within our schools. Case law will be examined to ensure effective special education programs for children and youth with disabilities. (Cross-listed with EDL 8900).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**SPED 8910 ASSESSMENT IN SPECIAL EDUCATION (3 credits)**

This course provides an overview of measurement and evaluation concepts, strategies, and techniques that are appropriate for students with special needs. Graduate candidates will implement and analyze formal and informal assessments using a systematic and comprehensive approach. Emphasis is placed on those assessment strategies that yield objective data regarding individual learning characteristics that provide a basis for educational decision making.

**Prerequisite(s)/Corequisite(s):** Graduate standing and SPED 8120

**SPED 8920 SPECIAL EDUCATION LEADERSHIP (3 credits)**

The purpose of this course is to examine special education administration and leadership issues. This course will focus on policies and procedures necessary to effectively provide leadership to programs for children and youth with disabilities.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**SPED 8930 INCLUSION/COLLABORATION PRACTICUM (3 credits)**

This course provides candidates with a practicum experience in the inclusion/collaboration specialty area with emphasis across PK-12 settings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in inclusion/collaboration and permission by the department. Not open to non-degree graduate students.

**SPED 8960 ADVANCED ASSESSMENT AND INTERVENTION (3 credits)**

This course provides graduate candidates with in-depth practicum experiences in the administration and interpretation of standardized academic achievement measures, criterion-referenced tests, informal assessments, and progress monitoring with children experiencing learning difficulties. Emphasis is placed on utilizing assessment information in order to develop and monitor intervention plans.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education; SPED 8910, SPED 8646, SPED 8156, and SPED 8970; or have permission from the instructor. Not open to non-degree graduate students.

**SPED 8970 INSTRUCTIONAL STRATEGIES (3 credits)**

This course is designed to prepare graduate candidates with in-depth information regarding effective teaching strategies for students with high-incidence disabilities. Primary emphasis is placed on providing students with theoretical and practical foundations in the design and implementation of cognitive strategy instruction and the use of evidence-based practices and the selection and monitoring of individualized interventions.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree in special education, SPED 8120, SPED 8646 or equivalent or permission of the instructor. Not open to non-degree graduate students.

**SPED 8980 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with TED 8850).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**SPED 8990 THESIS (1-6 credits)**

This course is intended for all graduate candidates in the Department of Special Education and Communication Disorders who are seeking a Master of Arts degree. The candidate is expected to generate and complete an independent research project under the guidance of a thesis advisor.

**Prerequisite(s)/Corequisite(s):** Permission of Thesis Committee Chair and TED 8010. Not open to non-degree graduate students.

### **SPED 9140 ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS (3 credits)**

The purpose of this course is to familiarize students with the diagnosis, assessment, and treatment of autism spectrum disorders (ASD). (Cross-listed with PSYC 9140).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## **Speech-Language Pathology, MS**

**Department of Special Education, College of Education, Health, and Human Sciences**

### **Vision Statement**

The mission of the Department Special Education and Communication Disorders is to prepare dedicated practitioners, reflective scholars, and responsible citizens who are unique in their ability to facilitate, design, implement, and evaluate programs for individuals with disabilities.

This is accomplished by creating opportunities for the acquisition and maintenance of knowledge, skills, and dispositions as prescribed by the Council for Exceptional Children, the Council on Academic Accreditation in Audiology and Speech-Language Pathology, and state and federal regulations.

### **Program Contact Information**

Shari DeVeney PhD, Graduate Program Chair (GPC)  
512 Roskens Hall (RH)  
402.554.2993  
sdeveney@unomaha.edu

**Program Website** (<http://www.unomaha.edu/college-of-education/special-education-communication-disorders/graduate/speech-language-pathology.php>)

### **Other Program Related Information**

#### **Program Description**

The graduate program in speech-language pathology is designed to prepare speech-language pathologists for Nebraska teacher certification, state licensure, and certification by the American Speech-Language-Hearing Association.

The Master of Science (MS) in speech-language pathology at University of Nebraska at Omaha is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (<https://caa.asha.org/>) (CAA) of the American Speech-Language-Hearing Association (<https://www.asha.org/>), 2200 Research Boulevard #310, Rockville, Maryland 20850, 800.498.2071 or 301.296.5700.

The next CAA re-accreditation on-site review will be in 2028.

The program also is accredited by the Nebraska Department of Education and the Council for the Accreditation of Educator Preparation (CAEP).

## **Admissions**

General Application Requirements and Admission Criteria (p. 945)

### **Program-Specific Requirements**

#### **Application Deadlines (Fall 2022)**

- Fall: January 15 for all application materials

## **Other Requirements**

- A bachelor's degree in speech-language pathology or communication disorders; or if bachelor's degree in another field, must have completed the following undergraduate courses in communication disorders: CDIS 4420, CDIS 4460, CDIS 4750, CDIS 4450, CDIS 4430, CDIS 4370, CDIS 4330, CDIS 4390, CDIS 4490, CDIS 4500, CDIS 4380, CDIS 4470 & CDIS 4480 and a chemistry or physics, statistics, biological sciences (e.g., biology, human anatomy or physiology), social/behavioral sciences (e.g., psychology, sociology, anthropology or public health) courses.
- **Entrance Exam:** Graduate Record Exam is required, the exam must have been completed within within the last five years
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
  - If scores are more than two years old the applicant may be required to retake the exam
- **Statement of Purpose:** The statement of purpose should cover your long range goals in the profession, a summary paragraph of a research-based article in your area of interest, a brief description of what distinguishes you from other highly qualified applicants, and your experience with individual(s) with special needs
- **Personal Fitness Statement** (form is online with graduate application materials)
- **Letters of Recommendation:** Two letters of recommendation are required
- The program may conduct applicant interviews.

## **Degree Requirements**

- In order to acquire the knowledge and skills requisite to the practice of speech-language pathology to function in a broad variety of clinical situations, and to render a wide spectrum of patient care, individuals must have skills and attributes in five areas: communication, motor, intellectual-cognitive, sensory-observational, and behavioral-social. These skills enable a student to meet graduate and professional requirements as measured by state licensure and national certification. (Council of Academic Programs in Communication and Sciences and Disorders, 2007).
- Candidates must complete a speech-language-hearing screen within the **first 30 days** of enrollment.
- Academic integrity is expected for all interactions and requirements. This includes, but is not limited to: original work on exams, accountability and completion of requirements, maintenance of confidentiality for individuals and class discussions when appropriate, and accurate citation for original work. Plagiarism will result in an automatic failing grade for the assignment. Please refer to the UNO Academic Integrity Policy for more specific descriptions of academic integrity violations.
  - The Praxis I - CORE Academic Skills for Educators test must be successfully passed per NDE requirements within the **first 30 days** of enrollment or the student will be prohibited from registering for classes. Scores must be sent to UNO directly from ETS, using code RA6420.
- A background check and Nebraska Adult and Child Abuse & Neglect Registry Release must be successfully completed prior to enrollment and prior to each externship.

- Each candidate must take the Praxis II - Subject Assessment test. Scores must be submitted prior to applying for graduation. Scores must be sent to UNO directly from ETS, using code RA0174.

Code	Title	Credits
<b>Required Courses</b>		
CDIS 8240	LANGUAGE DISORDERS IN SCHOOL-AGE CHILDREN	3
CDIS 8410	MOTOR SPEECH DISORDERS	3
CDIS 8420	VOICE DISORDERS	3
CDIS 8430	FLUENCY DISORDERS	3
CDIS 8440	APHASIA & RELATED LANGUAGE DISORDERS	3
CDIS 8500	BASIC CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY <sup>1</sup>	6
CDIS 8510	EDUCATIONAL EXTERNSHIP IN COMMUNICATION DISORDERS <sup>4</sup>	4
CDIS 8520	MEDICAL EXTERNSHIP IN COMMUNICATION DISORDERS <sup>4</sup>	4
CDIS 8540	AUTISM SPECTRUM DISORDER	2
CDIS 8560	AUGMENTATIVE & ALTERNATIVE COMMUNICATION	2
CDIS 8570	DYSPHAGIA	3
CDIS 8590	EARLY INTERVENTION: BIRTH TO FIVE	3
<b>Electives</b>		
Student, in consultation with an advisor, will select an elective. The 3 hours of elective credit will be waived if the thesis option is chosen. The following list is a sampling of recommended electives:		3
SPED 8016	MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS	
SPED 8030	TEACHING STUDENTS WITH EXCEPTIONALITIES	
SPED 8120	HIGH INCIDENCE DISABILITIES	
SPED 8250	LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES	
SPED 8656	TRANSITION PLANNING	
SPED 8980/ TED 8850	PROFESSIONAL COLLABORATION	
CDIS 8556	SPECIAL NEEDS STUDENTS FROM DIVERSE COMMUNITIES	
SPED 8970	INSTRUCTIONAL STRATEGIES	
SPED 8820	CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS	
SPED 8900	SPECIAL EDUCATION LAW	
GERO/PSYC 8476	MENTAL HEALTH AND AGING	
GERO 8506	LEGAL ASPECTS OF AGING	
GERO 8676	PROGRAMS AND SERVICES FOR THE ELDERLY	
GERO 8696/ SOWK 8046	WORKING WITH MINORITY ELDERLY	
<b>Total Credits</b>		<b>42</b>

<sup>1</sup> CDIS 8500 (register three times)

<sup>2</sup> CDIS 8510 (Schools). Placements for this practicum is made as space permits.

<sup>3</sup> CDIS 8520 (Hospitals; Rehabilitation Centers). Placements for this practicum is made as space permits.

<sup>4</sup> CDIS 8510 and CDIS 8520 each will be taken once for four credit hours each. Students must earn a grade of "B" or better in each of these courses, as students may not retake either course. Failure to achieve a grade of "B" or better in either course will result in automatic dismissal from the program. Withdrawal from 8510 or 8520 is contingent upon written permission of the advisor and current grade of B or better at the time of requested withdrawal. These varied practica are designed to provide the candidate with a wide range of clinical experiences with individuals across the age span, cultural backgrounds, cognitive levels, and disability categories.

**\*\*All student clinicians need to earn a B or higher in order to pass externships. Externships may not be retaken.**

## Exit Requirements

### Non-Thesis Option

- Successfully complete the comprehensive exam.

### Thesis Option

- Complete 6 credit hours of SPED 8990
- Successfully complete the SLP Praxis exam.

## Speech-Language Pathology Intervention Policy for Content and Clinicals

Every course/clinic assignment in the speech-language pathology program is connected to the Council for Clinical Certification in Audiology and Speech-Language Pathology (CFCC) along with the Council on Academic Accreditation Standards (CAA). CFCC and CAA standards are found in each course syllabus and must be successfully met for the course to count toward certification by the American Speech-Language-Hearing Association (ASHA). Please refer to ASHA's website for more information on CFCC and CAA standards (links below).

### 2020 Standards for the Certificate of Clinical Competence in Speech-Language Pathology

#### Academic Accreditation Standards for Graduate Programs

Updated Graduate Intervention Policy (<https://www.unomaha.edu/college-of-education-health-and-human-sciences/special-education-communication-disorders/graduate/spth-intervention-policy-updated1-1.pdf>)

#### CDIS 8240 LANGUAGE DISORDERS IN SCHOOL-AGE CHILDREN (3 credits)

This course focuses on the relationship between spoken and written language and its role in language-based learning disabilities in school-age students. It addresses the characteristics of language and reading impairments; the subtypes of these disorders including dyslexia; and the different diagnostic strategies, assessment tools, and intervention approaches used with them. Various models of language and reading as they relate to development and disorders will be reviewed.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology and a course in later (school age) language development. Not open to non-degree graduate students.

#### CDIS 8396 HEARING SCIENCE (3 credits)

This course is designed for undergraduate majors in speech-language pathology and audiology and for graduate candidates in education of the deaf/hard of hearing. The course will include basic terminology, anatomy and physiology of the hearing mechanism, acoustics and physics of sound, the processes of human hearing, elements of basic hearing measurements, psychophysics. This course will prepare speech-language pathology candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with CDIS 4390).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**CDIS 8410 MOTOR SPEECH DISORDERS (3 credits)**

This course is designed to integrate background information from neurophysiology related to motor speech disorders (MSD). The term motor speech disorders refers to speech deficits and differences resulting from injury to the human nervous system. This course will focus on acquired movement-based disorders of speech production that impact one or more of the following subsystems of speech: respiration, phonation, resonance, and/or articulation, including the dysarthrias and apraxia of speech. This course will entail clinical description and characteristics of the impairments as well as on the psychosocial changes in life activities and participation of individuals who live with MSD.

**Prerequisite(s)/Corequisite(s):** SPED 4470/CDIS 4470 or SPED 8470/CDIS 8470 or equivalent; graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8420 VOICE DISORDERS (3 credits)**

The purpose of this course is to provide candidates the opportunity to study the disorders of voice in depth so that they are able to effectively orchestrate caseloads including this disorder type. Voice disorders of both organic and functional etiology will be studied. Candidates will have opportunities to conduct instrumental voice evaluation techniques. The disorders will be discussed to cover the range of topics including etiology, symptomology, assessment and diagnosis, prognosis, and treatment, both medical and non-medical.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8430 FLUENCY DISORDERS (3 credits)**

This course examines the types and causes of rate, rhythm, and stress pattern differences as they relate to child, adolescent, and adult fluency disorders. Theory, current research, and contemporary practice information will constitute the foundation within which to address issues of identification, general assessment, differential assessment, prescription, and the implementation and evaluation of treatment strategies. The course is intended for graduate students in speech-language pathology.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8440 APHASIA & RELATED LANGUAGE DISORDERS (3 credits)**

This course is designed to integrate background information from neurophysiology to aphasia and related disorders such as right hemisphere syndrome, traumatic brain injury (TBI), and dementia. The term aphasia refers to linguistic deficits and differences resulting from injury to the human nervous system. This course will focus on acquired cognitive and linguistic-based disorders of the human communication system. This course will entail clinical description and characteristics of the impairments as well as on the psychosocial changes in life activities and participation of individuals who live with aphasia and/or related disorders.

**Prerequisite(s)/Corequisite(s):** SPED 4470/SPED 8470, CDIS 4470/CDIS 8470 or equiv; grad standing in SLP. Grad SLPs without SPED 4470/CDIS 4470 can concurrently enroll in SPED 4470/SPED 8470 or CDIS 4470/CDIS 8470 with advisor permission. Not open to non-degree graduate students.

**CDIS 8470 NEUROPHYSIOLOGY OF SPEECH AND LANGUAGE (3 credits)**

The purpose of this course is to provide speech-language pathology graduate candidates an introduction to human neuroanatomy and neurophysiology of the speech, language and hearing mechanisms, across the lifespan. Emphasis is placed on developing an understanding of the neurophysiological underpinnings of human communication and its disorders. Ultimately, the course will prepare speech-language pathology graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate Standing Speech-Language Pathology Majors in the CDIS 4380 or equivalency. Not open to non-degree graduate students.

**CDIS 8486 RESEARCH METHODS IN COMMUNICATION DISORDERS (3 credits)**

This course will provide candidates with an introductory set of skills to interpret and evaluate research in communication disorders and closely related fields. In addition, this course will provide candidates with basic knowledge regarding research designs and analyses commonly used in communication disorders and related fields. The content addressed in this course will prepare candidates to judiciously evaluate evidence-based practice and apply the scientific method to clinical decision-making. It offers an opportunity to cultivate critical thinking skills imperative to becoming dedicated practitioners, reflective scholars, and responsible citizens who can adeptly meet the ever-evolving challenges of their profession.

**Prerequisite(s)/Corequisite(s):** This course is designed for graduate and undergraduate students majoring in speech-language pathology and is a required course for speech-language pathology candidates.

**CDIS 8500 BASIC CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY (2 credits)**

These courses are designed to provide the speech-language pathology candidate clinicians with diverse clinical experiences prior to full-semester clinical externships in the educational, and medical settings.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology Program, completed any previous semester of 8500 with a B or above, currently maintain at least a 3.0 GPA overall. Permission from program faculty. Not open to non-degree graduate students.

**CDIS 8510 EDUCATIONAL EXTERNSHIP IN COMMUNICATION DISORDERS (4 credits)**

This course is designed to provide the speech-language pathology candidate with experiences of a clinical nature in educational settings. The purpose of the course is to advance the candidate's skills in the evaluation and management of communication and swallowing disorders.

**Prerequisite(s)/Corequisite(s):** Successful completion of "Foundation Block" (CDIS 4550/8556; SPED 8030, 8120 or equivalent) and three semesters of SPED 8500/CDIS 8500 unless otherwise indicated. Permission required. Not open to non-degree graduate students.

**CDIS 8520 MEDICAL EXTERNSHIP IN COMMUNICATION DISORDERS (4 credits)**

This course is designed to provide the speech-language candidate with experiences of a clinical nature in medical settings. The purpose is to advance the candidates' skills in the evaluation and management of communication and swallowing disorders.

**Prerequisite(s)/Corequisite(s):** Three semesters of SPED 8500/CDIS 8500 unless otherwise indicated plus permission. Not open to non-degree students.

**CDIS 8530 SEMINAR IN SPEECH-LANGUAGE PATHOLOGY (3 credits)**

This course is designed to provide intensive discussion of research or problems of current professional interest based on current literature in speech-language pathology. This course will prepare candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CDIS 8540 AUTISM SPECTRUM DISORDER (2 credits)**

This course is designed to familiarize candidates with the features of, and interventions for, individuals with autism spectrum disorder. The course will emphasize evidence-based practices when utilizing various methodologies for supporting social and communication skills.

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 8560/CDIS 8560. Admission to the Graduate College. Not open to non-degree graduate students.

**CDIS 8556 SPECIAL NEEDS STUDENTS FROM DIVERSE COMMUNITIES (3 credits)**

The purpose of this course is to study the impact of cultural and linguistic diversity on communication, learning, and behavior. The contrast between what is considered 'normal' language / learning development and in the presence of culturally and linguistically diverse (CLD) P-12 students will receive special emphasis.

**CDIS 8560 AUGMENTATIVE & ALTERNATIVE COMMUNICATION (2 credits)**

This course is designed to introduce students to the nature and process of augmentative and alternative communication (AAC), current theories and models of AAC, basic elements of AAC systems, and contemporary AAC clinical practices and principles. Topics will be examined from educational and rehabilitation perspectives as they relate to assessment, prescription, implementation and evaluation. The course will emphasize practical solutions in AAC for children and adults using both high technology and other less-complex communication strategies. Students will explore high-tech, low-tech, and no-tech options of AAC and gain knowledge of and experience with assessment of clients for AAC needs, prescription of an appropriate level of AAC, practice with implementing various AAC systems, and on-going evaluation of the AAC system's effectiveness with clients.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology program; co-requisite: SPED 8540/CDIS 8540.

**CDIS 8570 DYSPHAGIA (3 credits)**

This course is designed to integrate background information from neurophysiology to dysphagia. The term dysphagia refers to swallowing disorders resulting from congenital birth anomalies (i.e., cleft palate, cerebral palsy, etc.) as well as acquired injury to the central nervous system (i.e., stroke, head injury, etc.). This course will introduce candidates to bedside, radiographic, and endoscopic assessment procedures as well as direct, indirect, and medical management techniques of dysphagia. Additionally, this course will provide clinical description and characteristics of swallowing impairments as well as on the psychosocial changes in life activities and participation of individuals who live with dysphagia.

**Prerequisite(s)/Corequisite(s):** SPED 4470/CDIS 4470 or equivalent, graduate standing in speech-language pathology. Not open to non-degree graduate students.

**CDIS 8590 EARLY INTERVENTION: BIRTH TO FIVE (3 credits)**

This course is designed to provide candidates with knowledge about supporting communicative disorders in young children, and their families, within a multicultural and global framework. It will cover assumptions underlying current approaches to the evaluation and treatment in the developing child. Major emphasis will be upon the theoretical foundations of the study and treatment of communication disorders in children from birth to age five.

**Prerequisite(s)/Corequisite(s):** SPED 4420/CDIS 4420 or equivalent. Admission to Graduate Program in Speech-Language Pathology. Not open to non-degree graduate students.

## Urban Studies, MS

School of Public Administration, College of Public Affairs & Community Service

### Vision Statement

Our graduates are social entrepreneurs, urban thinkers and agents of change. The Master of Science in urban studies is the degree for individuals desiring to make a difference in urban areas. UNO's urban studies program is a professional degree that trains leaders to critically analyze urban problems and engage residents in the creation of innovative solutions to conditions in the human community, built environment and natural systems.

### Program Contact Information

Daniel Scheller, PhD, Graduate Program Chair (GPC)  
111C College of Public Affairs & Community Service (CPACS)  
402.554.2864  
dscheller@unomaha.edu

Ciera Mosley  
111 College of Public Affairs & Community Service (CPACS)  
402.554.4874  
cmosley@unomaha.edu

Program Website (<https://www.unomaha.edu/college-of-public-affairs-and-community-service/public-administration/academics/msus.php>)

### Other Program Related Information

The Master of Science in Urban Studies program has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

#### Program Specifics:

- This program is available for undergraduate students with a major in Emergency Management from the UNO School of Public Administration, desiring to pursue a Master of Science in Urban Studies.
- Students should have senior status and must be within at least 30 undergraduate credits yet to complete their undergraduate degree. Exceptional students who do not meet this requirement may be considered.
- Students must have a minimum undergraduate GPA of 3.5.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course
- Students will work with their undergraduate advisor to register for the graduate courses.
- Students must consult with the Urban Studies advisor prior to enrollment in one of the courses listed below.
- A minimum cumulative GPA of 3.5 is required to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the Urban Studies program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - For this program, if students maintain at least a grade of B+ in courses taken, they will be recommended for admission to the Urban Studies program.
  - The admit term must be after the completion term of the undergraduate degree.

The following courses may be taken under the Fast Track program:

- UBNS 8000:Seminar in Urban Studies
- UBNS 8060:Introduction to Urban Planning
- UBNS 8020:Race, Ethnicity and American Urban Culture\*\*
- UBNS 8200:Community Organizing and Development\*\*
- PA 8010:The Public Economy\*\*

\*\*Must have completed or be concurrently enrolled in UBNS 8000

## Admissions

General Application Requirements and Admission Criteria (p. 945)

## Program-Specific Requirements

### Application Deadlines (Spring 2022, Summer 2022, and Fall 2022)

Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework.

### Other Requirements

- The general prerequisite for admission to the urban studies program is a four-year bachelors' degree with a minimum grade point average of 3.0 in the junior and senior years combined (last 50-60 credit hours). Under extenuating circumstances an average below 3.0 will be considered.
- English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a pre-determined country on the waiver list, must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 80, PTE: 53, Duolingo: 105
- Statement of Purpose:** A two-page typed essay on how the MS in urban studies will further the applicant's career objectives must be included with the application for admission
- Resume**
- Letters of Recommendation:** Two letters of recommendation are required

## Degree Requirements

Code	Title	Credits
<b>Required Courses</b>		
UBNS 8000/ GEOG 8830	SEMINAR IN URBAN STUDIES	3
PA/AVN 8120	ANALYSIS AND DECISION MAKING	3
PA 8010	THE PUBLIC ECONOMY	3
UBNS/BLST 8020	RACE, ETHNICITY, AND AMERICAN CULTURE	3
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	4
UBNS 8200	COMMUNITY ORGANIZING AND DEVELOPMENT	3
<b>Electives</b>		
Urban studies (UBNS) is an interdisciplinary field. The UBNS strives to expose students to courses taught by faculty in the School of Public Administration who have expertise in urban studies, as well as faculty in other academic units. Students select five elective courses with the approval of the UBNS chair from the following list based on interests in the human community, built environment or natural systems. This is subject to change depending on course availability, and prospective as well as current students should check the program's website periodically for updates approved by the director of urban studies. Electives are intended to give students knowledge and skills that prepare them to manage projects and organizations. Electives currently include, but are not limited to the following:		15

PA 8030	INTERNSHIP IN PUBLIC ADMINISTRATION (Students who have not had at least two years full-time professional experience in the public or nonprofit sector (experience must have been in the sector of the student's primary future career interest) are required to complete an internship. The internship is taken following completion of preparatory coursework as determined by the director of the urban studies program.)	
CACT 8326	ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH	
ENVN/CACT 8316	OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY	
GEOG 8126	URBAN GEOGRAPHY	
GEOG 8166	URBAN SUSTAINABILITY	
GEOG 8210	SEMINAR IN CULTURAL GEOGRAPHY	
GEOG/GEOL 8616	ENVIRONMENTAL MONITORING AND ASSESSMENT	
PHHB 8360	COMMUNITY HEALTH	
PSCI 8015	URBAN POLITICS	
PA 8436	MUNICIPAL ADMINISTRATION	
PA/BIOL/GEOG 8826	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	
PA/AVN 8896	SPECIAL TOPICS PUBLIC ADMIN	
SOC 8100	SOCIAL INEQUALITY	
SOC 8146	URBAN SOCIOLOGY	
SOC 8200	HEALTH & SOCIETY	
SOC 8746	SOCIAL JUSTICE AND SOCIAL CHANGE	
Exit Requirement		
PA 8990	CAPSTONE PROJECT IN PUBLIC ADMINISTRATION	3
Total Credits		37

## Internship

Students who have not had at least two years full-time professional experience in the public or nonprofit sector (experience must have been in the sector of the student's primary future career interest) are encouraged to complete an internship. The internship may be given as a supervised course of three credit hours as part of the 37 hours required in the urban studies program. The internship is taken following completion of preparatory coursework as determined by the director of the urban studies program.

### UBNS 8000 SEMINAR IN URBAN STUDIES (3 credits)

This course provides an interdisciplinary overview of the forces influencing and influenced by urbanization and urbanism. (Cross-listed with GEOG 8830)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### UBNS 8020 RACE, ETHNICITY, AND AMERICAN URBAN CULTURE (3 credits)

This course explores two central themes, race and ethnicity, which have played a dominant role in the shaping of American society and American culture. (Cross-listed with BLST 8020).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 1100, or permission by the instructor.

**UBNS 8060 INTRODUCTION TO URBAN PLANNING (3 credits)**

This course is an introduction to the development of urban planning as it has shaped and reacted to major trends in U.S. history. It provides students with major themes and traditions in the field of planning and includes planning practice, planning procedures and methods and contemporary issues in the field.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8200 COMMUNITY ORGANIZING AND DEVELOPMENT (3 credits)**

This course focuses on various theories and applications of organizing communities and neighborhoods to effect change. Of particular interest is the role of engaging citizens in improving their communities.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8500 URBAN POLICY (3 credits)**

Seminar on urban policies and policymaking. Attention is given to various current urban issues and the policy options surrounding them. Policy theories, policy processes, and the institutions of policymaking in cities are covered. Topics of focus include policies related to policing, economic development, land use, transportation, education, poverty, housing, and ordinances.

**Prerequisite(s)/Corequisite(s):** Graduate student standing, but open to non-degree seeking students with Bachelor's degree; open to certificate students

**UBNS 8820 COMPARATIVE URBAN STUDIES (3 credits)**

Emphasis is upon contrasting the cities of the developed and developing areas of the world

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8940 DIRECTED RESEARCH IN URBAN STUDIES (3 credits)**

The course is intended for advanced graduate students in urban studies or geography. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of urban studies rather than additional classroom courses. (Cross-listed with GEOG 8840).

**Prerequisite(s)/Corequisite(s):** Completed 9 graduate hours in Urban Studies. Permission from the School. For Geography students, GEOG 8126 (Urban Geography) or permission from the School.

## Writing, MFA

**Writer's Workshop Department, College of Communication, Fine Arts & Media**

### Vision Statement

The MFA in Writing is a two-year program of focused instruction for creative writers who are committed to a literary career. The program comprises four 16-week distance writing seminars and five 10-day, conference-style Nebraska residency sessions. The seminars and residencies are integrated to help those who need to hone their writing and critical thinking in order to participate competitively in the wider domain of contemporary American letters. In a two-year course of study, the student earns 60 credit hours toward a Masters of Fine Arts degree in one of six genres: fiction, creative nonfiction, poetry, young adult, playwriting, or screenwriting.

### Program Contact Information

Kevin Cloucher, Program Coordinator  
221 Weber Fine Arts Building (WFAB)  
402.554.5987  
kcloucher@unomaha.edu

Miles Waggener, MFA, Graduate Program Chair  
217 Weber Fine Arts Building (WFAB)  
402.554.2151

mwaggener@unomaha.edu

**Program Website** (<http://www.unomaha.edu/unmfaw/>)

### Other Program Related Information

- The MFA in Writing is low-residency.
- Upon acceptance, a \$500 non-refundable deposit is required to hold the student's place in the program. This deposit is applied toward the first residency's meals and lodging fee.

## Admissions

General Application Requirements and Admission Criteria (p. 945)

### Program-Specific Requirements

#### Application Deadlines (Spring 2022, and Fall 2022)

- Fall: June 1
- Spring: November 1
- Summer: NA

### Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (<https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf>) must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Paper-based TOEFL: 550, Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 105
- **Statement of Purpose:** A one- to two-page single-spaced self-assessment of your background in writing, reasons for wanting to enter the MFA program, and your goals as a writer.
  - For **fiction, creative nonfiction, poetry, and young adult** include any other experience you have in the wider community of literature (e.g. organizing or participating in workshops, attending conferences, working for literary magazines, etc.).
  - For **playwriting and screenwriting**, include any specific experience as it pertains to screenwriting or to full-length plays, one-act plays, and ten-minute plays, as well as any experience in other areas of film or theatre.
- **Writing Sample:** A manuscript representing your best work in the genre track (fiction, creative nonfiction, poetry, young adult, playwriting, or screenwriting) for which you are applying.
  - 15 pages of poetry
  - 15-20 pages of playwriting
  - 30 pages of screenwriting
  - 30-40 pages of fiction, creative nonfiction, or young adult
- **Letters of Recommendation:** Two letters of recommendation from persons who can attest to your ability to complete a course of graduate study, the ability to work independently, and/or the quality of your prior literary achievements.

**NOTE:** Your statement of purpose and your writing sample must be submitted in your online application in .pdf format. Manuscripts should be in 12-point typeface with 1" margins. Prose should be double-spaced; poetry may be single-spaced. Playwriting submissions should follow standard playwriting format; screenwriting submissions should follow standard screenwriting format. Material in genres other than the one in which you are applying will not be read. For specific information, as well as current residency dates for the program, please consult the program website

(<https://www.unomaha.edu/college-of-communication-fine-arts-and-media/writers-workshop/mfa-program/>).

## Degree Requirements

### PATHWAY 1 Traditional MFA in Writing

Currently enrolled and new students are automatically enrolled in this pathway, unless otherwise approved.

### PATHWAY 2 Partial Substitution of Credit Hours Already Earned

Students who have successfully completed graduate-level coursework at UNO or any accredited institution can reduce costs by requesting that up to 18 hours of previously earned credit be applied to the UNO MFA in Writing degree. Subject to individual approval.

### PATHWAY 3 Partial Substitution of Credit Hours Earned Through Additional Coursework

Students have the option to enroll in a limited number of approved courses offered online or on any University of Nebraska campus and have those credits substituted for required MFA degree credit hours. Subject to individual approval.

## Required Residency Session

Code	Title	Credits
MFAW 8700	RESIDENCY SESSION	3

Register for one 3-hour session per semester (4 semesters)

Residencies are conference-style sessions (10 days) consisting of workshops of student writing, craft and theory classes, individual conferences with mentoring faculty, and readings.

## Writing Options (choose one)

### Seminars

Seminars are semester-long (16 weeks) supervised distance studies in writing, during which the student corresponds regularly with a faculty mentor on the work that was proposed during the preceding residency session. At least four times a semester, the student must submit creative and critical writing to the faculty mentor. The mentor will respond with revisions, suggestions for further readings, and discussion. Students must register for one 12-hour seminar session per semester for four semesters.

Code	Title	Credits
<b>Fiction</b>		
MFAW 8830	FICTION SEMINAR	12
<b>Non-Fiction</b>		
MFAW 8840	NONFICTION SEMINAR	12
<b>Playwriting</b>		
MFAW 8850	PLAYWRITING AND SCREENWRITING SEMINAR	12
<b>Poetry</b>		
MFAW 8820	POETRY SEMINAR	12
<b>Exit Requirements</b>		
MFAW 8710	GRADUATING RESIDENCY SESSION	0

**Total Credit Hours: 60**

### MFAW 8700 RESIDENCY SESSION (3 credits)

A ten-day colloquium presenting lectures, classes, workshops, readings and individual conferences with seminar faculty. Taken 4 times, the Residency Session ends one seminar session and begins the next. The session affords students intensive contact with faculty and peers before returning to their writing projects.

**Prerequisite(s)/Corequisite(s):** Admission to MFA in Writing program. Permission of the Program Director. Not open to non-degree graduate students.

### MFAW 8710 GRADUATING RESIDENCY SESSION (0 credits)

The Graduation Residency Session is the final residency for MFA students who have successfully completed their seminars and creative thesis. In the ten days of this residency, students will give a graduating lecture, "mentor" new students in their first residency, and give a reading from their thesis. A graduating ceremony will cap their activities during this session.

### MFAW 8720 ENRICHMENT RESIDENCY SESSION (2 credits)

An eight-day creative writing symposium-style course presenting lectures, workshops, readings and individual conferences with faculty. The Enrichment Residency affords advanced writing students additional intensive contact with published and apprentice writers to reinforce and enrich their life-long commitment to the art of writing and to the continuing development of their craft.

**Prerequisite(s)/Corequisite(s):** MFA Program Director's permission. Must have completed MFA/PhD with writing emphasis. Writers with MA in English and emphasis in writing, or writers with an extensive background in writing may also be considered. Not open to non-degree graduate students.

### MFAW 8820 POETRY SEMINAR (6-12 credits)

An individualized course in poetry writing. Taken 4 times, the required seminar offers practical instruction in writing and criticism. Using distance technology, student and instructor work through independent projects designed to sharpen the student's writing skills. Each student will compose both original poetry and critical analyses of poetry by other writers preparatory to submitting an original book-length manuscript of publishable quality by the final semester.

**Prerequisite(s)/Corequisite(s):** Acceptance into the MFA in Writing Program and permission of the MFA Program Coordinator. Not open to non-degree graduate students.

### MFAW 8830 FICTION SEMINAR (6-12 credits)

An individualized course in fiction writing. Taken four times, the seminar offers practical instruction in fiction writing and criticism. Using distance technology, student and instructor work through individualized writing projects designed to sharpen the student's writing skills to a professional edge. Students will compose both original fiction and critical analyses of fiction preparatory to submitting an original book-length manuscript of publishable quality by their final semester's work.

**Prerequisite(s)/Corequisite(s):** Permission of Program Director. Not open to non-degree graduate students.

### MFAW 8840 NONFICTION SEMINAR (6-12 credits)

An individualized course in nonfiction writing. Taken 4 times, the seminar offers practical instruction in writing and criticism. Students will compose both original nonfiction and critical analyses of nonfiction.

**Prerequisite(s)/Corequisite(s):** Permission of Program Director. Not open to non-degree graduate students.

**MFAW 8850 PLAYWRITING AND SCREENWRITING SEMINAR (6-12 credits)**

An individualized seminar in playwriting or screenwriting. Taken 4 times, the seminar offers practical instruction in playwriting/screenwriting and criticism. Using distance technologies, student and instructor work through independent projects designed to sharpen the student's writing. Each student will compose both original scripts and critical analyses of scripts by other playwrights or screenwriters preparatory to submitting at minimum a full-length script, a one-act script, and a ten-minute script by the final semester.

**Prerequisite(s)/Corequisite(s):** Acceptance into the MFA in Writing Program and permission of the MFA Program Coordinator. Not open to non-degree graduate students.

**MFAW 8870 ENRICHMENT SEMINAR IN WRITING (6 credits)**

An advanced writing semester for those who want assistance launching a new writing project or have a degree in one genre and want to pursue study of another, such as fiction, creative nonfiction, poetry, young adult, playwriting, or screenwriting.

**Prerequisite(s)/Corequisite(s):** Corequisite: MFAW 8720. Permission from Program Coordinator required.

**Graduate Certificates**

- Advanced Writing (p. 1174)
- Applied Behavior Analysis (p. 1307)
- Artificial Intelligence (p. 1077)
- Biomedical Science (p. 999)
- Business for Bioscientists (p. 999)
- Business in Health Administration (p. 1057)
- Communication (p. 1064)
- Communication Networks (p. 1078)
- Computer Science Education (p. 1082)
- Cybersecurity (p. 1110)
- Data Analytics (p. 1256)
- Data Management (p. 1258)
- Economic Education (p. 1149)
- Geographic Information Science (p. 1189)
- Gerontology (p. 1194)
- Global Information Operations (p. 1288)
- Government (p. 1289)
- History (p. 1207)
- Human Resources and Training (p. 1065)
- Information Assurance (p. 1259)
- Intelligence and National Security (p. 1291)
- Kodaly (p. 1279)
- Literature and Culture (p. 1176)
- Managing Juvenile and Adult Populatio (p. 1101)ns (p. 1101)
- Nonprofit Management (p. 1323)
- Project Management (p. 1260)
- Public Management (p. 1322)
- Secondary Mathematics Specialist (p. 1274)
- Software Engineering (p. 1078)
- Spanish (p. 1232)
- Supply Chain Management (p. 1058)
- Systems Analysis and Design (p. 1262)
- Systems and Architecture (p. 1079)
- Teaching English to Speakers of Other Languages (p. 1177)
- Technical Communication (p. 1178)

**Graduate Minors**

**Minors Offered**

- Ancient Mediterranean Studies Minor (p. 1368)
- Art History Minor (p. 1369)
- Black Studies Minor (p. 1369)
- Business Administration Minor (p. 1369)
- Criminology and Criminal Justice Minor (p. 1369)
- Economics Minor (p. 1369)
- English Minor (p. 1369)
- French Minor (p. 1369)
- German Minor (p. 1370)
- Geography Minor (p. 1370)
- Gerontology Minor (p. 1370)
- History Minor (p. 1370)
- Management Information Systems Minor (p. 1370)
- Mathematics Minor (p. 1370)
- Medieval/Renaissance Studies Minor (p. 1370)
- Native American Studies Minor (p. 1371)
- Political Science Minor (p. 1371)
- Religious Studies Minor (p. 1371)
- Spanish Minor (p. 1371)

**Ancient Mediterranean Studies Minor**

**Departments of History, English, Religious Studies, Philosophy, Political Science, and Art and Art History**

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

**Courses Available for the Minor**

**(listed by department)**

Code	Title	Credits
<b>Art and Art History</b>		
ART 8736	CLASSICAL ART HISTORY	3
ART 8756	LATE ROMAN AND BYZANTINE ART HISTORY	3
ART 8936	SPECIAL TOPICS IN ART HISTORY (Gender and Sexuality in Antiquity, The Hellenistic World, Pop Antiquity, Ancient Egypt)	3
<b>English</b>		
ENGL 8800	SEMINAR: TOPICS IN ENGLISH LANGUAGE AND LITERATURE	3
<b>History</b>		

HIST 8826	MESOPOTAMIA AND PRE-ISLAMIC PERSIA	3
HIST 8846	ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN	3
HIST 8916	TOPICS IN HISTORY (Roman Republic, Ancient Rome AD 284-641, The Roman Family, Roman Paganism)	3
HIST 9100	SEMINAR IN HISTORY (Argead Macedonia to Philip II, Greek Religion & Mystery Cults)	3
HIST 9200	COLLOQUIUM (Greek Military History; Race, Gender and Sex in Ancient Greece, Ancient Roman Religion, The Age of Caesar, Ancient Rome: the Urban Experience, Imperial Rome)	3
<b>Philosophy</b>		
PHIL 8900	READINGS IN PHILOSOPHY	3
<b>Political Science</b>		
PSCI 8316	CLASSICAL POLITICAL THOUGHT	3
<b>Religion</b>		
RELI 8900	READINGS IN RELIGION (Qumran and the Dead Sea Scrolls, Women and the Bible)	1-6

## Art History Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Black Studies Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Business Administration Minor

Graduate students may complete a graduate minor in business administration. The minor requires the approval of the MBA advisor,

completion of the MBA foundation courses, and the completion of a minimum of nine (9) graduate credit hours of BSAD courses, at least six (6) of which are in BSAD courses open only to graduate students (8000-level or higher), excluding courses which are foundation courses for any degree program. BSAD 8060 cannot be counted toward the minor. A grade of "B" (3.0 on a 4.0 scale) must be earned in each course counting toward the minor. All hours counting toward the minor must be earned at UNO.

## Criminology and Criminal Justice Minor Requirements

Code	Title	Credits
<b>Required Course</b>		
CRCJ 8020	SEMINAR IN ADMINISTRATION OF JUSTICE	3
<b>Elective Courses</b>		
Select two of the following:		6
CRCJ 8040	SEMINAR IN POLICE AND SOCIETY	
CRCJ 8050	SEMINAR IN CORRECTIONS	
CRCJ 8060	SEMINAR IN THE CRIMINAL COURT SYSTEM	
CRCJ 8080	SEMINAR IN JUVENILE JUSTICE	
CRCJ 8130	SEMINAR IN WOMEN AND CRIMINAL JUSTICE	
CRCJ 8210	PROGRAM EVALUATION AND POLICY ANALYSIS	
CRCJ 8230	TERRORISM	
CRCJ 8190	INDEPENDENT STUDY	
CRCJ 9020	SEMINAR ON THEORIES OF CRIME	
CRCJ 9150	SPECIAL TOPICS IN CRIMINAL JUSTICE RESEARCH	
CRCJ 9160	SEMINAR IN COMMUNITY-BASED CORRECTIONS	
CRCJ 9170	SEMINAR ON INSTITUTIONAL CORRECTIONS	
CRCJ 9200	SEMINAR ON VIOLENT CRIME AND CRIMINAL BEHAVIOR	
<b>Total Credits</b>		<b>9</b>

## Economics Minor

The Department of Economics offers a graduate minor to students pursuing a graduate degree in other programs. The requirement for the minor is that the student completes a minimum of three graduate courses (9 hours) in economics with grades of "B" or better (3.0 on a 4.0 scale) in each course. The courses to be taken for the minor are to be approved by both the student's advisor in the student's major subject and by the Graduate Program Chair (GPC) of economics.

## English Minor

With the approval of the student's advisor and the English graduate program committee, a student may include a minor as part of their plan of study. A minor requires nine (9) hours of approved coursework.

## French Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Geography Minor Requirements

Code	Title	Credits
GEOG 8000	HISTORY AND PHILOSOPHY OF GEOGRAPHY	3
Additional geography courses selected in consultation with the graduate program chair		6
<b>Total Credits</b>		<b>9</b>

## German Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Gerontology Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## History Minor

(9 hours)

To earn a graduate minor in history, a student must complete 9 hours of graduate-level history courses with the grade of a "B" (3.0 on a 4.0 scale) or better.

## Management Information Systems Minor

(9 hours)

The Management Information Systems area offers a graduate minor to students pursuing graduate degrees in other programs at UNO. The requirements for the minor are that the student completes a minimum of three graduate courses (nine semester hours ending in 0), receiving a grade of "B" (3.0 on a 4.0 scale) or better in each course. The courses to be taken for the minor are to be approved by the student's advisor in the student's major subject and by the Graduate Program Chair (GPC) in management information systems. For declaring a MIS minor, a minimum TOEFL score of 550 is required and a GPA of 3.0 or better in current graduate program are required.

## Mathematics Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours of MATH or STAT prefixed courses, with at least a B average. At least six of the nine graduate credit hours must be from courses ending in zero. Note that MATH 8880 cannot be used to satisfy the requirements of a mathematics minor. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Medieval/Renaissance Studies Minor

### Requirements

Code	Title	Credits
Select 9 hours from the following:		9
ART 8756	LATE ROMAN AND BYZANTINE ART HISTORY	
ART 8836	ITALIAN RENAISSANCE ART HISTORY	
ART 8910	INDEPENDENT STUDY IN ART HISTORY	
MUS 8546	RENAISSANCE MUSIC LITERATURE	
ENGL 8300	SEMINAR: SHAKESPEARE	
ENGL 8326	CHAUCER	
ENGL 8346	SHAKESPEARE	
ENGL 8400	SEMINAR: ENGLISH RENAISSANCE	
ENGL 8626	HISTORY OF ENGLISH	
HIST 8536	EUROPE: RENAISSANCE & REFORMATION	
HIST 8546	MEDIEVAL EUROPE	
HIST 8616	TUDOR AND STUART ENGLAND	
<b>Total Credits</b>		<b>9</b>

NOTE: The preceding list does not include the various departmental numbers for graduate directed readings courses, even though these highly individualized reading and research classes may be applied to the

requirements for the minor. This list also does not include the various special topics courses in individual departments which may be taken for graduate credit.

## Native American Studies Minor

**(9 hours)**

The minimum requirement for the graduate minor is 9 credits taken at the 8000 and/or 9000 levels.

A student's program will be planned in consultation with the Native American Studies (NAS) Graduate advisor, who will hold graduate faculty status. This cross-disciplinary minor will include choices among approved graduate lecture courses, seminars, and directed reading courses.

Three (3) hours of thesis can be counted toward the minimum requirement of 9 credits, but only in the graduate advisor and the thesis committee members agree that the topic is related to Native American studies.

Students must complete each course of their 9-credit minor with a grade of "B" (3.0 on a 4.0 scale) or better.

No comprehensive exam will be required after completion of the three required courses for the minor.

## Political Science Minor

Students outside of political science may earn a political science minor in conjunction with their graduate program by taking 9 credit hours/3 seminars in political science. At least 3 credit hours/1 seminar must include a political science subfield of: American government, political theory, comparative politics, or international relations. Students must earn a B or above in all political science courses taken for the minor. Students must apply for this minor through the proper procedures.

Code	Title	Credits
Required: At least 3 credit hours/1 seminar in the political science subfields listed below:		3
PSCI 8040	SEMINAR IN AMERICAN GOVERNMENT AND POLITICS	
PSCI 8250	SEMINAR IN INTERNATIONAL RELATIONS	
PSCI 8300	SEMINAR IN POLITICAL THEORY	
PSCI 8500	SEMINAR IN COMPARATIVE POLITICS	
Electives: The remaining 6 credit hours/2 seminars may include any remaining seminars listed above as well as those listed below:		6
PSCI 8100	SEMINAR IN POLITICAL ECONOMY	
PSCI 8120	SEMINAR IN LEADERSHIP	
PSCI 8150	SEMINAR IN CONSTITUTIONAL LAW	
PSCI 8200	SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY	
PSCI 8220	SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY	
PSCI 8920	SEMINAR IN SPECIAL TOPICS IN POLITICAL SCIENCE	

## Religious Studies Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Spanish Minor

A student is not required by the graduate faculty to have a minor. However, a student may elect a minor with permission of the major department/school and the minor department/school.

The minor must consist of no fewer than nine graduate hours. The courses must be included on the Change in Plan of Study form and the minor department must sign off on this form. The minor will be reflected on the student's transcript at the time of graduation.

Students who elect to complete a minor may be required to take a comprehensive examination over the minor field. This requirement will be at the discretion of the minor advisor. If such an examination is given, it should be given at a date arranged at the convenience of both the student and the minor advisor, but falling within the limits established for all comprehensive examinations.

## Graduate Courses A-Z

### A

- Accounting (ACCT) (p. 1372)
- Anthropology (ANTH) (p. 1374)
- Architectural Engineering (AREN) (p. 1374)
- Art (ART) (p. 1376)
- Athletic Training (ATHT) (p. 1377)
- Aviation (AVN) (p. 1378)

### B

- Bioinformatics (BIOI) (p. 1380)
- Biology (BIOL) (p. 1380)
- Biomechanics & Kinesiology (BMKI) (p. 1387)
- Biomechanics (BMCH) (p. 1385)
- Biomedical Informatics (BMI) (p. 1386)
- Black Studies (BLST) (p. 1389)
- Business Administration (BSAD) (p. 1391)

### C

- Chemical Engineering (CHME) (p. 1398)
- Chemistry (CHEM) (p. 1399)
- Civil Engineering (CIVE) (p. 1401)
- College of Information Science & Technology (CIST) (p. 1400)
- Communication (COMM) (p. 1404)
- Communication Disorders (CDIS) (p. 1405)
- Communication Studies (CMST) (p. 1407)
- Community & Regional Planning (CRP) (p. 1408)
- Computer Science (CSCI) (p. 1409)
- Computer Science Teacher Education (CSTE) (p. 1415)
- Construction Engineering (CONE) (p. 1415)

- Construction Management (CNST) (p. 1416)
- Counseling (COUN) (p. 1418)
- Criminology and Criminal Justice (CRCJ) (p. 1422)
- Critical and Creative Thinking (CACT) (p. 1425)
- Cybersecurity (CYBR) (p. 1428)

## E

- Economics (ECON) (p. 1430)
- Educational Leadership (EDL) (p. 1432)
- Electrical and Computer Engineering (ECEN) (p. 1435)
- Emergency Management (EMGT) (p. 1440)
- Engineering (ENGR) (p. 1440)
- Engineering Mechanics (EMEC) (p. 1441)
- English (ENGL) (p. 1441)
- Entrepreneurship (ENTR) (p. 1446)
- Environmental Engineering (ENVE) (p. 1446)
- Environmental Studies (ENVN) (p. 1446)
- Executive Master of Science/Information Technology (EMIT) (p. 1447)

## F

- Foreign Language & Literature (FLNG) (p. 1447)
- French (FREN) (p. 1448)

## G

- Geography (GEOG) (p. 1449)
- Geology (GEOL) (p. 1451)
- German (GERM) (p. 1452)
- Gerontology (GERO) (p. 1452)

## H

- Health & Kinesiology (HEKI) (p. 1454)
- History (HIST) (p. 1454)

## I

- Information Systems & Quantitative Analysis (ISQA) (p. 1457)
- IT Innovation (ITIN) (p. 1461)

## J

- Journalism and Media Communication (JMC) (p. 1462)

## K

- Kinesiology (KINS) (p. 1464)

## L

- Latino/Latin American Studies (LLS) (p. 1466)

## M

- Master of Fine Arts Writing (MFAW) (p. 1467)
- Materials Engineering (MATL) (p. 1467)
- Mathematics (MATH) (p. 1467)
- Mathematics for Teachers (MTCH) (p. 1471)
- Mechanical Engineering (MECH) (p. 1471)
- Music (MUS) (p. 1473)

## N

- Natural Sciences (NSCI) (p. 1477)
- Neuroscience (NEUR) (p. 1477)

## P

- Philosophy (PHIL) (p. 1477)
- Physics (PHYS) (p. 1477)
- Political Science (PSCI) (p. 1479)
- Psychology (PSYC) (p. 1482)
- Public Administration (PA) (p. 1488)
- Public Health & Behavior (PHHB) (p. 1492)

## R

- Recreation-Leisure Study (RLS) (p. 1494)
- Religion (RELI) (p. 1494)
- Russian (RUSS) (p. 1495)

## S

- Science, Tech, Engr, and Math (STEM) (p. 1495)
- Social Work (SOWK) (p. 1497)
- Sociology (SOC) (p. 1500)
- Spanish (SPAN) (p. 1504)
- Special Education & Communication Disorders (SPED) (p. 1505)
- Statistics (STAT) (p. 1507)

## T

- Teacher Education (TED) (p. 1508)
- Theatre (THEA) (p. 1514)

## U

- Urban Studies (UBNS) (p. 1515)

## W

- Women's and Gender Studies (WGST) (p. 1516)
- Writer's Workshop (WRWS) (p. 1516)

# Accounting (ACCT)

### ACCT 8016 ADVANCED FINANCIAL ACCOUNTING (3 credits)

Specialized issues in financial accounting. Principal topics include business combinations and consolidated financial statements, partnership accounting, translation of foreign currency financial statements, accounting for foreign currency denominated transactions, and SEC reporting requirements. (Cross-listed with ACCT 4010).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3040 with a grade of "C+" (2.33) or better in each. Not open to non-degree graduate students.

**ACCT 8026 ANALYTICS FOR ACCOUNTING (3 credits)**

Students develop an Analytics Mindset for the accounting profession, which includes the crossover competencies of accounting and business knowledge, data modeling and analytic abilities, and communication skills. Principal topics include fundamentals of data capture and cleansing, database development and implementation, visualization and presentation of information, and the use of accounting information for business decisions. (Cross-listed with ACCT 4020).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 and ACCT 3080 with a grade of "C" (2.0) or better in each. Not open to non-degree graduate students.

**ACCT 8046 ADVANCED FEDERAL INCOME TAXATION (3 credits)**

Analysis of various advanced tax issues, such as accounting methods, property transactions, and formation, operation, and liquidation of C-corporations, S-corporations and partnerships. (Cross-listed with ACCT 4040).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3020 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8050 FINANCIAL STATEMENT ANALYSIS (3 credits)**

Using the financial statement and supplemental information as inputs, this course utilizes a systematic fundamental analysis approach across a variety of decision-making contexts to understand how a business generates value for shareholders.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3040 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8066 ADVANCED MANAGERIAL ACCOUNTING (3 credits)**

Intensive study and discussion of the responsibilities of managerial accountants in the decision-making process in organizations and the consequences of the manner in which they use cost accounting information in decision-making. (Cross-listed with ACCT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3050 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8076 GOVERNMENTAL/NONPROFIT ACCOUNTING AND AUDITING (3 credits)**

Study of budgeting, accounting, financial reporting and auditing in governmental and nonprofit entities. (Cross-listed with ACCT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 3030 with a grade of "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8080 DATABASE DEVELOPMENT AND USE IN AIS (3 credits)**

This course will cover tools and methods that facilitate business analytic techniques, including database development and use, data mining, and information analysis for decision-making. A working understanding of spreadsheet software is assumed.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8090 INFORMATION SYSTEMS AUDITING (3 credits)**

This course presents a broad overview of the professional practice of information systems audit, emphasizing control and audit procedures related to security along with Information Technology General Controls. Content studied will include professional standards, guidelines, and procedures promulgated by the Information Systems Audit and Control Association.

**Prerequisite(s)/Corequisite(s):** ACCT 4080 with a grade of C (2.0) or better. Admission to MAcc or MBA program or permission of instructor. Not open to non-degree graduate students.

**ACCT 8210 FINANCIAL ACCOUNTING THEORY (3 credits)**

The development of accounting, current accounting theory and present controversies and suggested theory and practice.

**Prerequisite(s)/Corequisite(s):** ACCT 3040. Not open to non-degree graduate students.

**ACCT 8220 GRADUATE TOPICS IN INCOME TAXATION (3 credits)**

This course will discuss commonly encountered tax issues such as gift and estate taxation, income taxation of estates and trusts, and exempt organizations, as well discuss current events while introducing the student to practitioner-oriented research publications.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better, or concurrent enrollment in ACCT 4040 or ACCT 8046. Not open to non-degree students.

**ACCT 8230 MANAGEMENT ACCOUNTING ISSUES (3 credits)**

An analysis of information to assist managers in determining successful strategies, developing those strategies into plans and controlling operating activities to achieve strategic goals.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 3050 or BSAD 8210 with a "C" (2.0) or better. Not open to non-degree graduate students.

**ACCT 8250 SEMINAR IN ACCOUNTING (3 credits)**

A study of a specific area within the accounting discipline. Possible areas include: auditing, financial, managerial, systems and tax. May be repeated, but no area can be taken more than once.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA programs or permission of instructor. Not open to non-degree students.

**ACCT 8260 FEDERAL TAX RESEARCH AND PLANNING (3 credits)**

This course is intended to provide students with a working knowledge of the primary and secondary tax resources used in practice to solve tax problems, as well as basic tax planning concepts.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. ACCT 4040 or ACCT 8046 with a "C" (2.0) or better. Not open to non-degree students.

**ACCT 8280 SEMINAR IN ACCOUNTING INFORMATION SYSTEMS (3 credits)**

This course examines current topics in Accounting Information Systems (AIS), how AIS contributes to business effectiveness and ineffectiveness, and the interaction between AIS and human decision-makers.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of instructor. Successful completion of BSAD 8110, ACCT 2020, or equivalent. Not open to non-degree graduate students.

**ACCT 8290 ADVANCED FINANCIAL AUDITING (3 credits)**

This course will provide students with an intense study of financial auditing in accordance with generally accepted auditing standards.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc or MBA program or permission of the Director of the MAcc program. ACCT 4080 with a grade of "C" (2.0) or better.

**ACCT 8900 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course in which the student completes a focused project, typically individual research, under faculty supervision to supplement graduate study in a specific area within the Accounting discipline.

**Prerequisite(s)/Corequisite(s):** Completed contract and permission needed from director of MACC program. Not open to non-degree graduate students.

**ACCT 8910 SPECIAL TOPICS IN ACCOUNTING (3 credits)**

A variable content course with accounting topics based on student and faculty interest. May be repeated to a maximum of six (6) hours.

**Prerequisite(s)/Corequisite(s):** Admission to MAcc program and permission of instructor. Not open to non-degree graduate students.

# Anthropology (ANTH)

## **ANTH 8216 CULTURAL ANTHROPOLOGY (3 credits)**

Cultural Anthropology is the sub-discipline of Anthropology that systematically considers cultural diversity (similarities and differences) in all known human societies. The scope of cultural anthropology is one of the broadest in the social sciences and includes the study of subsistence strategies and economies, kinship and social organization, political organization, religion, gender, language, expressive arts, human-environment relationships, and globalization. (Cross-listed with ANTH 4210).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of Instructor

## **ANTH 8226 NORTH AMERICAN ARCHAEOLOGY (3 credits)**

This course explores more than 20,000 years of Native American culture and lifeways in North America. Indigenous peoples faced numerous challenges throughout this vast and diverse continent. Hunters, gatherers, fishers, and horticulturalists adapted to all regions of North America. Students will be introduced to a range of archaeological concepts, methods and theoretical perspectives central to learning about this rich heritage of American archaeology. (Cross-listed with ANTH 4220).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of instructor

## **ANTH 8236 ETHNOMEDICINES OF THE AMERICAS (3 credits)**

An anthropological approach to the study of the cultural systems of specific American ethnomedicines (traditional medicines) of North, Central and South America. For each ethnomedicine, the historical context, philosophy, practice, therapeutics, and utilization will be examined to understand how and why each ethnomedicine has survived despite tremendous extermination pressure. (Cross-listed with ANTH 4230).

**Prerequisite(s)/Corequisite(s):** ANTH 1050 or permission of the instructor.

## **ANTH 8246 MEDICAL ANTHROPOLOGY (3 credits)**

Medical anthropology is the cross-cultural study of human culture, health and illness. Using multiple theoretical perspectives, this course examines how cultural, social, environmental, and biological factors interact to produce patterns of health and illness in past and present human societies. (Cross-listed with ANTH 4240)

**Prerequisite(s)/Corequisite(s):** ANTH1050 and junior or senior standing; or permission of the instructor.

## **ANTH 8256 ENVIRONMENTAL ANTHROPOLOGY AND NATIVE PEOPLES OF THE GREAT PLAINS (3 credits)**

Environmental anthropology seeks to understand the interrelationships between human societies and their biophysical and social environments. This course introduces students to basic concepts and theories used by anthropologists to study environmental influences upon both past and present Native American societies on the North American Great Plains. Particular attention will be given to the rapid and dramatic environmental changes that continue to challenge Native Americans in the Great Plains today. (Cross-listed with ANTH 4250)

## **ANTH 8926 SEMINAR IN ANTHROPOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of anthropology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with ANTH 4920).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

## **ANTH 8980 INDEPENDENT STUDY IN ANTHROPOLOGY (1-3 credits)**

This course is guided reading or independent research in special topics in Anthropology under the supervision of a member of the Anthropology faculty. This course is designed primarily for the student interested in topics not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

# Architectural Engineering (AREN)

## **AREN 8000 ARCHITECTURAL ENGINEERING GRADUATE SEMINAR (1 credit)**

Literature Review, reading and evaluation of technical publications concerned with theory and/or experimental data in various areas of Architectural Engineering, attendance at Architectural Engineering Graduate Project and Team Design presentations, preparation of the Master of Architectural Engineering graduate project proposal, assignments related to improving written and oral communication skills.

## **AREN 8010 GRADUATE DESIGN PROJECT I (3 credits)**

Requires a professionally written report and oral presentation that demonstrates both mastery of the subject and a high level of writing and oral communication skills. Perform a detailed investigation in the option area of the master of architectural engineering degree. Students are permitted to enroll in this course twice. Those who fail to earn a passing grade after enrolling in this course a second time will be referred to the AE Graduate Committee, and may result in termination of their program of graduate studies.

**Prerequisite(s)/Corequisite(s):** AREN 8000 or AE 8000; AREN 1010, AE 4010, AREN 4020, AE 4020 or CIVE 314; permission. Not open to non-degree graduate students.

## **AREN 8020 GRADUATE DESIGN PROJECT II (1 credit)**

Second of two-course capstone design project for the MAE degree. Requires a professionally written report and oral presentation that demonstrates both mastery of the subject and a high level of writing and oral communication skills.

**Prerequisite(s)/Corequisite(s):** AREN 8010 or AE 8010; permission. Not open to non-degree graduate students.

## **AREN 8030 INTERDISCIPLINARY TEAM DESIGN PROJECT I (5 credits)**

This course is the first semester of the capstone design sequence in architectural engineering. Develop and design the electrical, lighting, mechanical, and structural systems for a building, from programming through design development phase, as an interdisciplinary team effort.

**Prerequisite(s)/Corequisite(s):** (Acoustics/Mechanical option:) AREN 4150 or AE 4150, AREN 4300 or AE 4300; (Electrical/Lighting option:) AREN 4250 or AE 4250, AREN 8220 or AE 8220; (Structural option:) CIVE 444. Not open to non-degree graduate students.

## **AREN 8040 INTERDISCIPLINARY TEAM DESIGN 2 (3 credits)**

Is the second semester of the capstone design sequence in architectural engineering. Develop and design the electrical, lighting, mechanical, and structural systems for a building, from the design development phase through construction documents, as an interdisciplinary team effort. This course is intended to be taken the semester following AREN 8030/AE 8030.

**Prerequisite(s)/Corequisite(s):** AREN 8030 or AE 8030. Not open to non-degree graduate students.

**AREN 8050 INTERNSHIP IN ARCHITECTURAL ENGINEERING (3 credits)**

This course requires participation in a full time summer internship associated with an Architectural Engineering related entity. The course includes weekly assignments and a final presentation designed to create interaction between the AE entity and the intern associated with the business side of the entity. General topics include Business Plans, Marketing, Finance and Budgets, Contacts, Legal issues and professionalism.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**AREN 8060 ARCHITECTURAL ENGINEERING PROFESSIONAL PRACTICE I (3 credits)**

Investigation of issues related to the integration of building design processes with professional architectural engineering practice. Aspects of building design project finance, budgets, contracts, legal issues, professional licensure, and professional responsibility. The perspective of life-cycle costing. Professional ethics will be thoroughly integrated with all course topics.

**Prerequisite(s)/Corequisite(s):** ISMG 2060 or CONE 2060.

**AREN 8070 ARCHITECTURAL ENGINEERING PROFESSIONAL PRACTICE II (3 credits)**

Continuation of investigation of issues related to the integration of building design processes with professional architectural engineering design practice. Building design specifications, estimating, bidding, building construction contract negotiations, building design project management, project team personnel management, project risk, and key regulatory measures.

**Prerequisite(s)/Corequisite(s):** ISMG 2060; AREN 8060 or AE 8060

**AREN 8080 APPLIED EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS (3 credits)**

Overview of advanced experimental design methods and statistical analysis techniques. Application of these to the planning, execution, analysis, and description of research in architectural engineering.

**Prerequisite(s)/Corequisite(s):** STAT 3800

**AREN 8090 SUSTAINABLE BUILDING DESIGN (3 credits)**

Integrates building design with the principles of minimum resource use, energy conservation, and healthy indoor environments.

**Prerequisite(s)/Corequisite(s):** CIVE 341 and (AREN 3100, AE 3100, AREN 8410 or AE 8410). Not open to non-degree graduate students.

**AREN 8110 INDOOR AIR QUALITY ENGINEERING (3 credits)**

Indoor air quality, codes, standards, HVAC equipment, commissioning, operation, maintenance, investigation, and remediation.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100

**AREN 8120 BUILDING CONTROL AND AUTOMATION SYSTEMS (3 credits)**

Fundamental concepts of building control theory and automation. Building control: state-variable plant and closed-loop system representation, time and frequency response, stability, root-locus methods and design of building control systems. Automation: thermostats, dampers, valves, direct digital control, control of air handling units, terminal units, primary building systems, supervisory control and system optimization, communication systems, BACnet, and DDC system design and implementation.

**AREN 8140 BUILDING ENERGY III: ADVANCED BUILDING ENERGY SYSTEM MODELING (3 credits)**

Advanced Analysis, Modeling, Dynamics and Optimization of Building Energy Systems. Be familiar with Engineering Equation Solver (EES) Programming; Be able to build models for Air Handling Unit Systems and Vapor Compression Cycle Equipment; Be able to analyze building operating efficiency and identify faulty operating conditions; Be able to conduct retrofit energy efficiency analysis and feasibility study.

**Prerequisite(s)/Corequisite(s):** AREN 3100 or AE 3100; AREN 4120 or AE 4120; or instructor permission.

**AREN 8150 BUILDING ENERGY SIMULATION AND PERFORMANCE CONTRACTING (3 credits)**

Integrated approach to deliver energy improvement retrofit projects that provide economical and ecological benefits. Proficiency in EnergyPlus or DOE-2 and in retrofit cost estimation will be attained and integrated into an engineering economic analysis. Partnering configurations, contracts, financing, and measurement and verification. Concepts applied to a practical class project.

**AREN 8170 THEORY AND APPLICATION OF THERMAL SYSTEMS MEASUREMENT (3 credits)**

Analysis, theory, and methods of instrumentation for thermal system energy consumption measurement and scientific research testing. Emphasis placed on sensors, transducers, and error analysis.

**Prerequisite(s)/Corequisite(s):** STAT 8805 or equivalent.

**AREN 8180 INDOOR AIR QUALITY DESIGN (3 credits)**

Engineering approach to indoor air quality design. Topics include modeling and calculation methods to predict and design for acceptable indoor air quality.

**Prerequisite(s)/Corequisite(s):** (AREN 3120 or AE 3120) and (AREN 4110, AE 4110, AREN 8110 or AE 8110)

**AREN 8206 LIGHTING II: THEORY, DESIGN & APPLICATION (3 credits)**

Design and analysis of lighting systems; the emphasis is on the integration between the lighting design process and the technical foundations for building lighting; topics include design criteria; lighting design procedures, lighting modes and subjective effects; calculation tools. Lab sessions include photometric measurements and computer applications. (Cross-listed with AREN 4200).

**Prerequisite(s)/Corequisite(s):** AREN 3200 or AE 3200

**AREN 8210 LIGHTING III: ADVANCED DESIGN PRACTICE (3 credits)**

Design and analysis of lighting for outdoor sports, floodlighting and interior applications; economic analysis; modeling algorithms; advanced photometrics.

**Prerequisite(s)/Corequisite(s):** AREN 8206 or AE 8206.

**AREN 8220 ELECTRICAL SYSTEMS FOR BUILDINGS II (3 credits)**

Power systems analysis and design, integration of electrical system components into functional, safe, and reliable power distribution systems for commercial and industrial facilities. Per Unit Analysis, Fault Analysis, Power Quality, Grounding, Overcurrent Protection Coordination, Complete power system design.

**Prerequisite(s)/Corequisite(s):** AREN 3220 or AE 3220

**AREN 8230 LIGHT SOURCES (3 credits)**

Fundamental science and principles of light generation in modern electric light sources; characteristics that influence applications of light sources.

**Prerequisite(s)/Corequisite(s):** AREN 8206 or AE 8206.

**AREN 8240 LIGHTING METRICS (3 credits)****AREN 8250 DAYLIGHTING (3 credits)**

Use of natural light in building design. Solar position, sky luminance, distribution models, daylighting equipment, calculation methods, and psychological concepts. Extensive use of computer modeling and scale models.

**Prerequisite(s)/Corequisite(s):** AREN 4200, AE 4200, AREN 8206 or AE 8206

**AREN 8260 BUILDING COMMUNICATION SYSTEMS (3 credits)**

Integration of voice, data and video systems into overall building design. Topics include: scalability, wireless systems; interference; project management; current industry standards and protocols.

**Prerequisite(s)/Corequisite(s):** AREN 3220 or AE 3220. Not open to non-degree graduate students.

**AREN 8306 ADVANCED NOISE CONTROL (3 credits)**

Characterization of acoustic sources; use and measurement of sound power and intensity; sound-structure interaction; acoustic enclosures and barriers; muffling devices; vibration control; and active noise control. (Cross-listed with AREN 4300).

**Prerequisite(s)/Corequisite(s):** AREN 3300 or AE 3300

**AREN 8330 ADVANCED ARCHITECTURAL ACOUSTICS (3 credits)**

Advanced study of the behavior of sound in rooms. Design of acoustical spaces; physical and computational modeling; measurement techniques; and introduction to sound reinforcement in rooms.

**Prerequisite(s)/Corequisite(s):** AREN 3300 or AE 3300

**AREN 8350 ELECTROACOUSTICS (3 credits)**

Electrical-mechanical-acoustical circuit analogies; transducers, loudspeakers, microphones, and accelerometers; directivity; calibration techniques; and sound reinforcement systems in rooms.

**AREN 8510 MASONRY AND TIMBER DESIGN (3 credits)**

Masonry as a structural material, unreinforced masonry design, reinforced masonry design, state-of-the-art assessment methods for existing masonry structures, timber as a structural material, timber design.

**Prerequisite(s)/Corequisite(s):** CIVE 440 and CIVE 441 or equivalents

**AREN 8600 SMART BUILDING SENSORS AND PROGRAMMING (3 credits)**

Principles of modeling, interfacing, and signal conditioning of sample building sensors, and acquisition and analysis of data utilizing engineering programming language such as LabVIEW. Overview of current sensing technology and control in buildings.

**Prerequisite(s)/Corequisite(s):** CIST 1400

**AREN 8626 MEMS SENSORS DYNAMICS (3 credits)**

Study of the dynamics of Microelectromechanical system (MEMS) beam-structures. Modeling principles and data analysis from different types of MEMS will be explained along with deep theoretical and experimental investigation of nonlinear MEMS dynamics. Learn to conduct experiments using state-of-the-art MEMS characterization tools. (Cross-listed with AREN 4620).

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**AREN 8800 GRADUATE SEMINAR IN ARCHITECTURAL ENGINEERING AND CONSTRUCTION (1 credit)**

The objectives of this course are to broaden student knowledge on engineering topics, improve presentation and professional skills, as well as learn about professional development resources available on campus. To pass the course, a student must attend a minimum of 15 Durham School Graduate Student Seminars, MAE project presentations, and/or MS/PhD thesis presentations in the College of Engineering. The student must also present one seminar within the Durham School Graduate Student Seminar series, prior to the final oral examination. All MS and PhD graduate students in architectural engineering must enroll within their first 3 semesters of matriculation.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**AREN 8920 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING (1-3 credits)**

Individual instruction in Architectural Engineering at the graduate level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**AREN 8940 SPECIAL TOPICS IN ARCHITECTURAL ENGINEERING (3 credits)**

Special topics in Architectural Engineering at the graduate level that are not yet covered in other courses in the Architectural Engineering curriculum.

**Prerequisite(s)/Corequisite(s):** Permission.

**AREN 8950 INDIVIDUAL INSTRUCTION IN ARCHITECTURAL ENGINEERING (1-3 credits)**

Individual instruction in Architectural Engineering at the graduate level in a selected area, under the supervision and guidance of an Architectural Engineering faculty member.

**AREN 8990 MASTER'S THESIS (1-10 credits)**

Masters Thesis.

**Prerequisite(s)/Corequisite(s):** Admission to Architectural Engineering masters degree program and permission of major advisor. Not open to non-degree graduate students.

**AREN 9160 BUILDING ENERGY SYSTEMS MODELING, CONTROL, AND OPTIMIZATION (3 credits)**

Modeling, control and optimization of the secondary building energy systems; building envelope, room comfort zones, air handling units, cooling and heating water loops.

**Prerequisite(s)/Corequisite(s):** AREN 4100, AE 4100, AREN 8120 or AE 8120

**AREN 9180 COMPUTATIONAL FLUID DYNAMICS MODELING OF INDOOR ENVIRONMENTS (3 credits)**

Application of computational fluid dynamics software to modeling of indoor environments. Topics include turbulence modeling, boundary conditions, natural and forced convection flows, species transport, and fire modeling.

**Prerequisite(s)/Corequisite(s):** AREN 4110, AE 4110, AREN 8116 or AE 8116

**AREN 9200 COLOR THEORY (3 credits)**

Theories of color vision; theoretical and mathematical basis for chromaticity, color temperature, color rendering metrics, color matching functions, and color spaces; spectral weighting functions; measurement of color.

**Prerequisite(s)/Corequisite(s):** AREN 4200, AE 4200, AREN 8206 or AE 8206

**AREN 9210 CURRENT RESEARCH IN ILLUMINATING ENGINEERING (3 credits)**

Examination of the most current research in illuminating engineering. Study of experimental methodologies and research practices. Analysis of technical papers from current lighting journals.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of instructor.

**AREN 9220 BEHAVIORAL SCIENCES FOR LIGHTING RESEARCH (3 credits)**

Overview of experimental design methods and statistical analysis techniques, specifically as these are applied to the planning, execution, analysis and description of lighting experiments.

**AREN 9300 CURRENT TOPICS IN ARCHITECTURAL ACOUSTICS (3 credits)**

A review of current topics in architectural acoustics. Subjects may include objective versus subjective measures in performance spaces, electronic enhancement of rooms, advanced computational modeling techniques, and auralization.

**Prerequisite(s)/Corequisite(s):** AREN 8330 or AE 8330

**AREN 9970 RESEARCH OTHER THAN THESIS (1-6 credits)**

Supervised non-thesis research and independent study.

**AREN 9980 SPECIAL TOPICS (1-3 credits)**

Advanced topics in architectural engineering not covered in other 9000 level courses.

**AREN 9990 DOCTORAL DISSERTATION (1-24 credits)**

(1-24 credits, max 55)

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair

## Art (ART)

**ART 8006 SPECIAL SEMINARS IN ART EDUCATION (1-3 credits)**

A series of intensive courses in the history and theory of art education designed specifically for elementary and secondary school art teachers. These courses are scheduled as special seminars or workshops according to purpose. (Cross-listed with ART 4000)

**ART 8316 ADVANCED SCULPTURE (3 credits)**

Advanced work in area of student's choice with facilities for oxyacetylene welding, arc welding and wood working. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 4310)

**ART 8416 ADVANCED PAINTING (3 credits)**

Advanced instruction in oil painting permits students the time and environment to work and develop individually. Emphasis on developing cohesive body of work as continuation from work done in Intermediate painting. Knowledge of contemporary painting integral to painting practice. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 4410)

**ART 8516 ADVANCED TECHNIQUES IN PRINTMAKING (3 credits)**

This course allows students to develop their skills in both lithography and intaglio and the color processes for each printmaking technique. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 4510)

**ART 8616 ADVANCED CERAMICS (3 credits)**

This course will consist of advanced work on the potter's wheel, casting and preparations in glaze composition, as well as loading and firing of a high-fire kiln. The content of this course varies from semester to semester allowing students the opportunity to investigate and practice a variety of techniques. (May be repeated for credit up to 6 hours.) Lab fee required. (Cross-listed with ART 4610)

**ART 8736 CLASSICAL ART HISTORY (3 credits)**

This course is a study of painting, sculpture, architecture and minor arts of the classical world beginning with Cycladic art and including Minoan, Mycenaean, Greek, Etruscan and Roman art through 300 A.D. Lab fee required. (Cross-listed with ART 4730)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 8756 LATE ROMAN AND BYZANTINE ART HISTORY (3 credits)**

A study of painting, sculpture and architecture of the Eastern Roman Empire from the founding of Constantinople, and of Western Europe from the time of Constantine to the dissolution of the Western Roman Empire. Lab fee required. (Cross-listed with ART 4750)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 8836 ITALIAN RENAISSANCE ART HISTORY (3 credits)**

A study of painting, sculpture and architecture in Italy during the 14th, 15th and 16th centuries. Lab fee required. (Cross-listed with ART 4830)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 8856 BAROQUE AND ROCOCO ART HISTORY (3 credits)**

This course is a study of painting, sculpture and architecture in Europe during the 17th and 18th centuries. Lab fee required. (Cross-listed with ART 4850)

**Prerequisite(s)/Corequisite(s):** For Fine Arts majors, completion of ART 2050 & ART 2060 (Prereq or coreq), plus junior standing. For non-majors, junior standing and permission of the instructor are required.

**ART 8886 MODERN ART I (ART OF EUROPE AND THE AMERICAS, 1850-1920) (3 credits)**

A study of the most significant developments in European art and architecture dating from the early Modern period and examined in varied contexts (artistic, religious, political, economic, etc.). (Cross-listed with ART 4880)

**ART 8896 MODERN ART II (ART OF EUROPE AND THE AMERICAS, 1918-1968) (3 credits)**

This course explores the major artistic movements and artists active in Europe and the Americas between the end of WWI and the Vietnam Era circa 1968. (Cross-listed with ART 4890)

**ART 8906 CONTEMPORARY ART HISTORY SINCE 1968 (3 credits)**

This course introduces contemporary visual arts in a global context from 1968 to the present with topics of discussion including art, aesthetics, politics, gender and sexuality, race and economics. (Cross-listed with ART 4900)

**ART 8910 INDEPENDENT STUDY IN ART HISTORY (1-3 credits)**

Independent research under the direct supervision of the sponsoring faculty member, generally involving the writing of a paper. The topic of the research and the expectations for credit should be jointly agreed upon in writing by the student and the faculty member at the beginning of the semester.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**ART 8936 SPECIAL TOPICS IN ART HISTORY (3 credits)**

These illustrated lecture courses deal with a limited topic in the field of art history. The course may be coordinated with an external event such as an exhibition, publication or study trip. Lab fee required. (Cross-listed with ART 4930)

**Prerequisite(s)/Corequisite(s):** ART 2060 or instructor permission.

## Athletic Training (ATHT)

**ATHT 8110 ATHLETIC TRAINING TECHNIQUES (2 credits)**

Overview course including basic components of the athletic training profession including the prevention, recognition, evaluation and immediate care of athletic injuries. Medical terminology, tissue healing, taping procedures, and professional considerations will be covered.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training. Not open to non-degree graduate students.

**ATHT 8120 EMERGENCY MANAGEMENT OF INJURY AND ILLNESS (2 credits)**

The purpose of this course is to prepare students to respond to emergent conditions that affect patients involved in physical activity. Students will learn to recognize the signs and symptoms of acute injury and illness, assess patients using evidence-based methods, apply appropriate treatments, make appropriate referral decisions, and implement effective prevention strategies to reduce the risk of injury and illness.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training program. Not open to non-degree graduate students.

**ATHT 8130 THERAPEUTIC INTERVENTIONS I (2 credits)**

This course will cover the pathophysiology of musculoskeletal injuries as well as the theory, physiology and application of physical agents used in the treatment of these injuries. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ATHT 8230 THERAPEUTIC INTERVENTIONS II (2 credits)**

This course will introduce students to the use of basic theories and principles of athletic injury rehabilitation including therapeutic exercise. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8130/HEKI 8130. Not open to non-degree graduate students.

**ATHT 8240 ORTHOPEDIC ASSESSMENT I (2 credits)**

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the lower extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the foot, ankle, lower leg, knee, thigh and hip. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Arts in Athletic Training Program. Not open to non-degree graduate students.

**ATHT 8250 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (2 credits)**

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training program, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Not open to non-degree graduate students.

**ATHT 8330 THERAPEUTIC INTERVENTIONS III (2 credits)**

This course will introduce students to the use of basic theories and principles of physical agents and manual therapies. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8230/HEKI 8230. Not open to non-degree graduate students.

**ATHT 8340 ORTHOPEDIC ASSESSMENT II (2 credits)**

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the upper extremity. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the shoulder, elbow, wrist, hand and fingers. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8240/HEKI 8240. Not open to non-degree graduate students.

**ATHT 8350 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (2 credits)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8250/HEKI 8250 Clinical Practicum I. Not open to non-degree graduate students.

**ATHT 8360 ADVANCED ORTHOPEDIC & MEDICAL ASPECTS OF ATHLETIC TRAINING (3 credits)**

This course will provide the student with knowledge and skill in the area of orthopedic and medical aspects of athletic training. Students will gain this knowledge through directed observation, experiential learning, literature review, and hands-on experience under the supervision of local medical professionals. The student will be exposed to advanced evaluation of medical conditions, systemic diseases, and other disorders; observe common surgical procedures for orthopedic conditions; and medical management of patients and physically active populations in conjunction with other healthcare providers.

**Prerequisite(s)/Corequisite(s):** Admission to Master of Arts in Athletic Training Program

**ATHT 8410 ATHLETIC TRAINING ADMINISTRATION (2 credits)**

This course will introduce students to administrative topics related to athletic training. Management strategies for financial resources, personnel, facilities, medical records, and third-party reimbursement will be covered. Additionally, legal and ethical professional practice standards will be introduced.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ATHT 8450 INTERNSHIP IN ATHLETIC TRAINING (2 credits)**

This course is designed to provide an immersive athletic training clinical experience for students. The internship is a supervised, educational clinical work experience of at least 300 hours over a minimum of 4-weeks during a single semester. This experience will allow the student the opportunity to take more responsibility for the care, prevention, and rehabilitation of athletic injuries with a particular team or group of patients, as well as help plan and provide daily coverage for practices or clinical appointments.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor or program director. Not open to non-degree graduate students.

**ATHT 8530 THERAPEUTIC INTERVENTIONS IV (2 credits)**

This course will introduce students to the use of basic theories and principles of athletic training related to pharmacology, nutrition and psychosocial wellness. This course will include the development of treatment programs involving these skills utilizing hands-on practical application.

**Prerequisite(s)/Corequisite(s):** ATHT 8330/HEKI 8330. Not open to non-degree graduate students.

**ATHT 8540 ORTHOPEDIC ASSESSMENT III (2 credits)**

The primary purpose of this course is to provide the student with knowledge and skill in the area of advanced athletic injury assessment to the head, face and spine. The student will be exposed to current methodology in the field of orthopedic physical assessment, particularly the head, face and spine. In addition, students will learn how to use the principles of evidence-based practice (EBP) to select and evaluate specific tests during the diagnostic process.

**Prerequisite(s)/Corequisite(s):** ATHT 8340/HEKI 8340. Not open to non-degree graduate students.

**ATHT 8550 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (2 credits)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8350/HEKI 8350 Clinical Practicum II. Not open to non-degree graduate students.

**ATHT 8650 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (2 credits)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** ATHT 8550/HEKI 8550 Clinical Practicum III

## Aviation (AVN)

**AVN 8020 AVIATION MANAGEMENT AND POLICY (3 credits)**

The purpose of the course is to acquaint students with advanced concepts of aviation administration and the implementation of aviation policy within the public sector and to identify key concepts and critical issues both domestic and international. The primary focus is to explore the various affects that have resulted from the formation and enactment of major aviation and transportation regulatory issues. (Cross-listed with PA 8020).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**AVN 8030 INTERNSHIP IN AVIATION ADMINISTRATION (1-6 credits)**

A maximum of 6 hours to be granted upon completion of written report on internship. The internship will be in some area of aviation administration: national, state, local or non-profit agency and in some instances public-oriented private agencies. Students will take the course as Credit/No Credit. May be taken for a maximum of 6 hours of credit.

**Prerequisite(s)/Corequisite(s):** Permission of aviation graduate program coordinator.

**AVN 8040 INTERNSHIP IN AVIATION ADMINISTRATION (1-6 credits)**

A maximum of 6 hours to be granted upon completion of written report on internship. The internship will be in some area of aviation administration: national, state, local or non-profit agency and in some instances public-oriented private agencies. Students will take the course as Credit/No Credit. May be taken for a maximum of 6 hours of credit.

**Prerequisite(s)/Corequisite(s):** Permission of aviation graduate program coordinator.

**AVN 8060 TRANSPORTATION SECURITY (3 credits)**

This course explores contemporary issues in transportation by applying lessons learned from the historical development of national and international transportation security in the post 9/11 world. Topics include the influences of crime and terrorism on the conduct of transportation operations; the role of government in the formulation of transportation security policies, procedures, and practices; the study of individual airport, seaport, rail, and highway security systems; and contemporary passenger and cargo screening issues. Strategies and efforts to counter current and emerging threats will also be examined.

**Prerequisite(s)/Corequisite(s):** PA 8050, PA 8100, PA 8090 (May be taken concurrently with AVN 8045)

**AVN 8086 AIRPORT SAFETY AND SECURITY (3 credits)**

This course will explore the role of airports in relation to safety and security. Topics will include regulations, responsibilities, security issues, ramp safety, disaster preparedness, and emergency management. (Cross-listed with AVN 4080).

**Prerequisite(s)/Corequisite(s):** AVN 1000 or its equivalent or permission of the instructor.

**AVN 8095 AIRPORT ADMINISTRATION AND PLANNING (3 credits)**

The course covers the principles of airport master planning. Fundamental principles of airport layout and design include runway configuration, airside/landside technology, passenger and cargo terminal. Capacity and delay effects will be emphasized. (Cross-listed with AVN 3090).

**AVN 8100 ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS (3 credits)**

This course is designed to advance students' understanding and techniques about the role of leadership and ethics in the public and nonprofit sectors. Special attention will be paid on the application of theories of leadership and ethics to manage various boundary spanning activities including managing external relationships, collaborations/networks, performance, and innovation and change. (Cross-listed with PA 8100)

**Prerequisite(s)/Corequisite(s):** PA 8050 and PA 8090. Not open to non-degree graduate students.

**AVN 8120 ANALYSIS AND DECISION MAKING (3 credits)**

This course assists students to develop their skills in research design and data analysis, covering both qualitative and quantitative data relevant to public affairs. The course introduces students to the fundamentals of research design, data collection, data and statistical analysis, and drawing pertinent policy and management recommendations. (Cross-listed with PA 8120).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**AVN 8155 AVIATION LAW (3 credits)**

This course will increase the student's knowledge of aviation law. Particular attention will focus on the manner in which legal forces affect the aviation system. (Cross-listed with AVN 3150).

**Prerequisite(s)/Corequisite(s):** AVN 1000 or equivalent or instructor permission.

**AVN 8250 AIRPORT ADMINISTRATION (3 credits)**

AVN 8250 provides an extensive overview of the responsibilities associated with the operation and administration of public airports. Federal policies and regulations, contemporary and emerging management issues, and accepted practices related to the operation and management of commercial service and general aviation airports as an integral component of the national and international transportation system will be examined.

**AVN 8360 TRANSPORTATION SAFETY (3 credits)**

Safety is a fundamental concern in any transportation mode and a required competency for individuals working in any transportation or public works field. This course provides a thorough overview of the development and maintenance of safety policies and procedures for transportation activities. The federal Safety Management System (SMS) process including Quality Management Strategies using safety risk management (hazard identification, risk assessment and control) serves as the foundation for understanding the need to implement a safety culture stressing proactive v. reactive transportation safety program development and management. Predictive tools and methods such as Gap Analysis (GA), Fault Tree Analysis (FTA), and data sharing approaches are explored. Environmental Protection and Occupational Health and Safety policy and programs affecting transportation mode safety are also examined.

**Prerequisite(s)/Corequisite(s):** PA 8050

**AVN 8370 AIRPORT DEVELOPMENT (3 credits)**

AVN 8370 focuses on the planning process and applied design criteria associated with the development of public airports. Federal, state and regional systems, and specific airport master planning initiatives will be examined. Application of airport design standards and recommendations for the development of appropriate navigable airspace, airfield facilities, passenger terminals, and other components of the airport's physical plant will be covered.

**Prerequisite(s)/Corequisite(s):** AVN 8250

**AVN 8480 SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION (3 credits)**

The study of public finance administration policy and technique areas. Emphasis is placed on the technical aspects of public finance administration with particular emphasis on the purposes, processes, and issues associated with particular techniques or technique areas. (Cross-listed with PA 8480).

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of department.

**AVN 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with TED 8510, STEM 8510).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**AVN 8605 INTERNATIONAL AVIATION (3 credits)**

This course examines global air transport and its impact on the development of the global economy. Lectures and readings will provide a solid foundation of historical knowledge about international air transport and its development in various countries, before exploring current policy debates about liberalization, global alliances, and other critical issues. (Cross-listed with AVN 3600).

**Prerequisite(s)/Corequisite(s):** AVN 8020 or permission of the instructor.

**AVN 8750 TRANSPORTATION FINANCE (3 credits)**

This course focuses on the financial administration of public transportation facilities with a strong emphasis on commercial service airports. Areas of emphasis include: fiscal and managerial accounting strategies, capital development financing, revenue and cost centers, the economic impact of airports, airport performance measures. Current trends and issues associated with transportation finance are discussed.

**Prerequisite(s)/Corequisite(s):** PA 8010 and AVN 8020

**AVN 8906 SPECIAL TOPICS IN AVIATION (1-3 credits)**

This course will address various topics in the Aviation Industry, determined each time the course is offered. Possible topics include international aviation, current issues and regulatory agencies within the industry, along with other topics. (Cross-listed with AVN 4900)

**AVN 8920 READINGS IN AVIATION ADMINISTRATION (1-3 credits)**

Specially planned readings in public administration for the graduate student who encounters scheduling problems in the completion of his degree program, or who has special preparatory needs and who is adjudged by the department to be capable of pursuing a highly independent course of study.

**Prerequisite(s)/Corequisite(s):** Eighteen hours in the MPA program or permission of graduate program committee.

**AVN 8940 RESEARCH IN AVIATION ADMINISTRATION (1-3 credits)**

The course is intended for advanced graduate students in public administration. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of public administration rather than additional classroom courses.

**Prerequisite(s)/Corequisite(s):** Twenty-one hours in the MPA program or permission of the graduate program committee.

**AVN 8996 AIR TRANSPORTATION (3 credits)**

This course fulfills the Aviation Institute capstone projects for undergraduates. Lectures and readings will cover contemporary issues and problems in air transportation, as well as material related to research design and implementation. (Cross-listed with AVN 4990).

**AVN 9900 ADVANCED TOPICS (3 credits)**

This course provides a format for exploration of topics of interest to advanced students in public administration. Topics covered will change periodically in keeping with the interests of faculty and students. (Cross-listed with PA 9900)

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Public administration or permission of instructor.

**AVN 9970 DIRECTED RESEARCH IN PUBLIC ADMINISTRATION (1-6 credits)**

This course offers a structure for doctoral students to conduct advanced research in their chosen area of specialization. (Cross-listed with PA 9970).

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in public administration and permission of instructor.

**AVN 9980 DIRECTED READINGS IN PUBLIC ADMINISTRATION (1-6 credits)**

This course is designed to provide the advanced graduate student with the opportunity to do extended readings on a specialized public administration topic. (Cross-listed with PA 9980).

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in public administration and permission.

## Bioinformatics (BIOI)

**BIOI 8850 SPECIAL TOPICS IN BIOINFORMATICS (3 credits)**

This course is intended to provide a mechanism for offering instruction in subject areas that are not covered in other regularly scheduled courses. In general, courses offered under the BIOI 8850 designation will focus on evolving subject areas in bioinformatics.

**Prerequisite(s)/Corequisite(s):** Course prerequisites of a specific offering of BIOI 8850 will be determined by the supervising faculty member and will be identified in the course proposal. It is anticipated that permission of the faculty member teaching the course will be required.

## Biology (BIOL)

**BIOL 8010 SEMINAR IN BIOLOGY (1 credit)**

A study of current research in any of the divisions of biology. Graduate students will complete this course once for credit.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8020 INDEPENDENT RESEARCH IN BIOLOGY (1-6 credits)**

Research work under supervision of a member of the graduate faculty. May be taken more than once for credit; up to 4 credits for thesis option of M.S. degree and up to 6 credits for the non-thesis option of the M.S. degree.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8030 EVOLUTION: FROM GENOMES TO ECOSYSTEMS (3 credits)**

This course will prepare students to evaluate and discuss evolution as an underlying concept in all of biology. Further, it will provide a comprehensive overview of evolutionary processes related to the evolution of genomes, development, physiology, morphology, behavior, and ecosystems. (Cross-listed with STEM 8030).

**Prerequisite(s)/Corequisite(s):** Courses for graduate admission or equivalent, or with permission of instructor.

**BIOL 8036 SPECIAL TOPICS IN BIOLOGY (3 credits)**

A lecture and/or laboratory course for biology majors pertaining to a specific biological topic not available in the regular curriculum. Topics will be developed by individual faculty members reflecting their special interests and expertise. The course may be repeated for credit. (Cross-listed with BIOL 4030).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**BIOL 8060 ADVANCED TOPICS IN BIOLOGY (3 credits)**

Lecture and/or laboratory courses for graduate students designed to provide exposure to biological specialties not offered in the regular curriculum.

**Prerequisite(s)/Corequisite(s):** Graduate and permission. Not open to nondegree students.

**BIOL 8070 ADVANCED READINGS IN BIOLOGY (1-3 credits)**

An in-depth study of the literature in a limited segment of the biological sciences under the supervision of a graduate faculty member. May be taken more than once for credit up to a total of six credits.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

**BIOL 8106 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOG 4100, GEOG 8106, GEOL 4100, GEOL 8106)

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**BIOL 8116 STATISTICS FOR BIOLOGICAL SCIENCES (4 credits)**

Introduction to statistical methods and software used to display, summarize, analyze, and interpret biological and medical data. (Cross-listed with BIOL 4110)

**BIOL 8126 CONSERVATION BIOLOGY (3 credits)**

Study of biological diversity at the genetic, species and ecosystem levels, its values, and the factors that threaten it. We will explore the scientific basis of conservation biology and how it can be applied to the maintenance of biological diversity. Usually offered every year. (Cross-listed with BIOL 4120).

**Prerequisite(s)/Corequisite(s):** Graduate student in Biology. Not open to non-degree graduate students.

**BIOL 8136 MOLECULAR GENETICS (4 credits)**

A lecture and lab course that explores the frontiers of molecular genetics research. Topics addressed will include DNA replication, gene function, gene expression, genetic manipulation, cloning, mutational analysis, genome sequencing, and epigenetics. Research techniques will include DNA/RNA isolation, PCR, cloning, gel electrophoresis, transgene generation, data analysis, and quantitative rtPCR. Students will get a solid grounding in scientific writing and presentations, as well as reading and assessing primary scientific literature. Lecture, discussion, and laboratory. Usually offered fall semester. (Cross-listed with BIOL 4130)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2260 or their equivalents. Not open to nondegree students.

**BIOL 8146 CELLULAR BIOLOGY (4 credits)**

This course is a modern study of mammalian cell function. Focus will be placed on developing skills in experimental cellular biology. Material covered will include tissue culture techniques, cell staining applications, fluorescent microscopy, determination of gene expression, and high-throughput assay design. (Cross-listed with BIOL 4140)

**Prerequisite(s)/Corequisite(s):** BIOL 2140, 3020 and CHEM 2210 or 2250. Junior or senior undergraduate standing or graduate standing. Must enroll in laboratory section and lecture for this course. Not open to non-degree graduate students.

**BIOL 8156 CANCER BIOLOGY (3 credits)**

The etiology of cancers, differences between types of malignancies, oncogenes and genetic modifiers, treatments, susceptibility, and tumor-induced immunosuppression are discussed. This is an active course focused on inquiry-based learning and the purpose of this course is to provide students a foundation in cancer biology while applying tools learned through cell biology, genetics, and immunology courses. (Cross-listed with BIOL 4150).

**BIOL 8166 BIOINFORMATICS FOR BIOLOGISTS (3 credits)**

This course intends to introduce fundamental concepts in bioinformatics with an emphasis on how to use biological databases and computational tools to solve common bioinformatics problems in biology and biomedicine. The topics consist of sequence database access and searching, sequence alignment and phylogeny, functional prediction of DNA and protein sequences, and genome sequencing and annotation. Students are expected to learn fundamental concepts in bioinformatics and gain extensive experience with the use of bioinformatics analysis tools. (Cross-listed with BIOL 4160).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 Genetics; BIOL 3020 Molecular Biology of the Cell; Or Permission of instructor

**BIOL 8170 ECOSYSTEM ANALYSIS FOR EDUCATORS (3 credits)**

This course is designed for education graduate students who wish to take a field-based biology course that uses an interdisciplinary approach to understanding the ecosystem of the tallgrass prairie. This course engages graduate students in methods reflecting multidisciplinary STEM strategies (e.g. scientific inquiry, modeling, geographic information system mapping, etc.) associated with research taking place at the Glacier Creek Preserve. Graduate students completing this course will develop advanced knowledge of ecology, restoration ecology, and monitoring of prairie habitat restoration. Graduate students will focus on the technical, biogeochemical, ecological and cultural aspects of analyzing and restoring the prairie ecosystem and its various habitats. (Cross-listed with STEM 8170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**BIOL 8186 FRESHWATER ECOLOGY (4 credits)**

A study of the physical, chemical and biological relationships that serve to establish and maintain plant and animal communities in freshwater environments. (Cross-listed with BIOL 4180, ENVN 4180).

**Prerequisite(s)/Corequisite(s):** Prerequisites: BIOL 1450 and BIOL 1750, junior-senior, or permission of instructor. Registration requirements: Must enroll in lab. Not open to non-degree graduate students.

**BIOL 8190 COMMUNITIES AND ECOSYSTEMS (3 credits)**

Advanced study of populations, communities and ecosystems; may require overnight weekend field trips.

**Prerequisite(s)/Corequisite(s):** BIOL 3340/8345, graduate in biology. Not open to nondegree students.

**BIOL 8200 PLANT ECOLOGY (4 credits)**

Advanced study of plant communities and of individual plant species including relationships with the environment and vegetative dynamics. Emphases on methods of evaluation and analysis. May require overnight field trips.

**Prerequisite(s)/Corequisite(s):** BIOL 3340/8345, graduate in biology. Recommended: BIOL 3530/8535. (Fall) Not open to nondegree students.

**BIOL 8216 FIRE ECOLOGY (3 credits)**

Study of fire in ecosystems including characteristics of fire, effects on flora, fauna and the abiotic environment, and use in maintaining native ecosystems. May include two weekend field exercises. (Cross-listed with BIOL 4210)

**Prerequisite(s)/Corequisite(s):** BIOL 3340, graduate in biology. Not open to nondegree students.

**BIOL 8226 POPULATION BIOLOGY (4 credits)**

Population biology takes a conceptual approach to study the dynamics, ecology, genetics, and evolution of populations. Topics include the growth and regulation of populations, population interactions, selection on individuals and groups, mating systems, and life history evolution. Implications of these topics for areas such as the ecology and evolution of disease, conservation, and resource management will be highlighted. Concepts are reinforced through labs emphasizing interpretation of results from population simulations and the relationship between theory and experimentation in population biology. Usually offered in alternate years. (Cross-listed with BIOL 4220).

**Prerequisite(s)/Corequisite(s):** Graduate student in Biology or permission of instructor

**BIOL 8236 EVOLUTION (3 credits)**

The course emphasizes the general principles of evolution, particularly focusing on evolutionary changes and the mechanisms of evolution (natural selection, gene flow, mutation and genetic drift) that apply to all or most organisms. The course covers micro- and macroevolution, speciation, and human evolution. Students will discover how scientists can learn about what has happened in the evolutionary past and the most common patterns of change (i.e., changes that have characterized various groups of organisms). (Cross-listed with BIOL 4230).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140, junior or senior undergraduate status, Biology graduate status, or permission by the instructor. Not open to non-degree graduate students.

**BIOL 8246 MARINE BIOLOGY (3 credits)**

An introduction to the marine environment, this course explores physical conditions of the ocean including ocean chemistry, salinity, waves and currents, and tides as well as the ecology of planktonic, nektonic and benthic organisms— their communities and environments. Impacts of humans on the marine environment will also be covered. (Cross-listed with BIOL 4240)

**Prerequisite(s)/Corequisite(s):** BIOL 1750

**BIOL 8250 DESIGN AND ANALYSIS OF BIOLOGICAL RESEARCH (3 credits)**

This course examines the statistical aspects of the design of laboratory and field experiments in biology. Basic statistical methods are reviewed and advanced methods presented. Statistical computer packages are used.

**Prerequisite(s)/Corequisite(s):** Undergraduate course in statistics is recommended. Not open to nondegree students.

**BIOL 8256 FIELD MARINE BIOLOGY (1 credit)**

This lab is a hands-on introduction to the marine environment using a field trip to the Gulf Coast. Students will observe first-hand examples of local marine habitats and organisms. Students will be required to take a trip to the Gulf Coast of Texas, Louisiana, Mississippi, and Alabama during Spring Break. Students will be required to provide their own basic camping and snorkeling gear. (Cross-listed with BIOL 4250)

**Prerequisite(s)/Corequisite(s):** BIOL 1750, previous or concurrent enrollment in BIOL 4240 and permission of instructor.

**BIOL 8266 BEHAVIORAL ECOLOGY (3 credits)**

Behavioral ecology is the study of behavior from an evolutionary and ecological point of view. Through the integration of research at different organizational levels and the use of many different organisms, behavioral ecology is one of the most integrative fields in biological sciences. This course will provide an introduction to the basic concepts of behavioral ecology and the integrative approaches used in behavioral ecology. Further, the course will train students in critical reading and discussion of primary literature in writing and in an oral setting. (Cross-listed with BIOL 4260)

**Prerequisite(s)/Corequisite(s):** Admission into the graduate college. Not open to non-degree graduate students.

**BIOL 8276 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with BIOL 4270, PSYC 4270, PSYC 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**BIOL 8286 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with BIOL 4280, PSYC 4280, PSYC 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273. Not open to non-degree graduate students.

**BIOL 8296 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, NEUR 4290, PSYC 8296).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**BIOL 8326 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with BIOL 4320, PSYC 4320, PSYC 8326)

**Prerequisite(s)/Corequisite(s):** Admission to graduate level PSYC program or permission of dept. Not open to non-degree graduate students.

**BIOL 8345 ECOLOGY (4 credits)**

Study of interrelationships between organisms and their biotic and abiotic environment; includes the physical environment, population biology, community dynamics, biotic interactions and evolution. Usually offered Fall, Spring, Summer. (Cross-listed with BIOL 3340).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450 and BIOL 1750; junior-senior or Biology graduate student; or permission by instructor. Not open to non-degree graduate students.

**BIOL 8416 WETLAND ECOLOGY AND MANAGEMENT (3 credits)**

This course will examine the principles and theory of wetland ecology with application towards wetland management and regulation. An interdisciplinary overview of physical, biological and regulatory aspects of wetlands will allow students to synthesize information from their backgrounds in geography, geology and ecology. Definitions, classifications, natural processes and functions of wetland environments will be presented. Labs concentrate on field techniques used to assess specific plant, animal, soil, and hydrological characteristics of wetlands. (Cross-listed with ENVN 4410 and BIOL 4410)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or instructor permission.

**BIOL 8426 RESTORATION ECOLOGY (3 credits)**

Restoration Ecology examines how people assist with the recovery of ecosystems that have been degraded. The course will examine the theory and application of restoration ecology through lecture, discussion, field trips, and development of a restoration management plan for a degraded ecosystem near Omaha. The course will provide information and resources used by restoration and land management professionals to plan, implement, and manage restorations. (Cross-listed with BIOL 4420, ENVN 4420)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**BIOL 8446 PLANT PHYSIOLOGY (4 credits)**

A study of plant processes and functions with emphasis on photosynthesis, growth and development, metabolism and mineral nutrition. (Cross-listed with BIOL 4440)

**Prerequisite(s)/Corequisite(s):** BIOL1450, BIOL1750, and CHEM 2210 or CHEM 2250; or permission of instructor.

**BIOL 8450 BIOLOGY EDUCATION RESEARCH METHODS (3 credits)**

In this course, students will learn the methods of conducting pedagogical research in Biology, understand how people learn the concepts, practices, and ways of thinking in science and engineering; understand the nature and development of expertise in a discipline; help identify and measure appropriate learning objectives and instructional approaches that advance students toward those objectives; contribute to the knowledge base in a way that can guide the translation of statistical findings to classroom practice; and identify approaches to make science and engineering education broad and inclusive. Students will work with live data sets to evaluate effective pedagogical approaches in the biology classroom of various audiences (K-16).

**BIOL 8454 VIROLOGY LABORATORY (1 credit)**

A laboratory to accompany virology lecture. This course enables students to work with viruses in the laboratory and to conduct experiments using viral systems. Experimental design, data gathering, data analysis and manuscript writing will be integral parts of the course. The experiments include host cell characterization, viral infection, virus purification from infected cells, viral genome isolation and viral transfection. Sequence analysis and sequence comparison will also be introduced. Laboratory exercises will emphasize fundamental molecular biology techniques and instrumentation. Usually offered in Fall semester. (Cross-listed with BIOL 4454)

**BIOL 8456 VIROLOGY (3 credits)**

A comprehensive course about viruses. The course will address principles of viral infection, virus-host interaction, viral evolution and viral disease processes. Cellular and molecular aspects of viral infection will be the primary focus. This will include examination of viral particles, viral multiplication cycles, regulation of gene expression, viral assembly and viral escape. Viral immunology, viral defenses, viral vaccines and antiviral compounds will also be addressed. Emerging viruses and current viral topics will be a major part of the course. Usually offered in Fall semester. (Cross-listed with BIOL 4450)

**BIOL 8466 COMPARATIVE IMMUNOLOGY (4 credits)**

This course is an exploration of comparative immunology across kingdoms. There will be a strong focus on human as well as mouse immunology. Laboratory sessions require dissections to determine lymphoid anatomy of representative organisms. Samples will be prepared and analyzed using immunological techniques such as flow cytometry. (Cross-listed with BIOL 4460).

**Prerequisite(s)/Corequisite(s):** Two classroom sessions and one laboratory session per week. Graduate standing. Not open to non-degree graduate students.

**BIOL 8496 MEDICINAL USES OF PLANTS (3 credits)**

A scientific study of the biochemical properties and physiological effects of medicinal plants, including their historical uses, current applications to varying systems of the human body, and pathways by which today's potent drugs have transitioned from wild flora. Usually offered Fall semesters of even-numbered years. (Cross-listed with BIOL 4490)

**BIOL 8535 FLORA OF THE GREAT PLAINS (4 credits)**

A study of common vascular plants found in the Great Plains region, including identification, description, and classification techniques and an introduction to the plant communities of Nebraska. Usually offered every Fall and Summer. (Cross-listed with BIOL 3530.)

**Prerequisite(s)/Corequisite(s):** BIOL 1450-1750. Not open to nondegree students.

**BIOL 8606 GIS APPLICATIONS FOR ENVIRONMENTAL SCIENCE (1 credit)**

This course introduces the use of geographic information systems (GIS) and other geospatial tools for work in the fields of environmental science, ecology, and natural resource management. The course will develop a working knowledge of the common software and hardware tools used by ecologists through hands-on projects. (Cross-listed with BIOL 4600, ENVN 4600)

**Prerequisite(s)/Corequisite(s):** BIOL 3340 or permission of instructor.

**BIOL 8646 MICROBIAL PHYSIOLOGY (4 credits)**

This course will cover the diversity in structures, genetics, metabolism, and regulation observed in microorganisms with a focus on bacteria. Usually offered Fall semesters. (Cross-listed with BIOL 4640).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 2140 and BIOL 3020 or equivalents. Not open to non-degree graduate students.

**BIOL 8654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 4654, CHEM 4654, CHEM 8654).

**BIOL 8656 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 4650, CHEM 4650, CHEM 8656).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. BIOL 8654 must be taken concurrently.

**BIOL 8664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 4664, CHEM 4664, CHEM 8664).

**BIOL 8666 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipid, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 4660, CHEM 4660, CHEM 8666).

**Prerequisite(s)/Corequisite(s):** CHEM 8656 and CHEM 8654 or BIOL 8656 and BIOL 8654 with a grade of B- or better. BIOL 8664 must be taken concurrently.

**BIOL 8685 BIOLOGY OF AFRICA (3 credits)**

Biology of Africa (3) Introduction to the plants, animals, and habitats of Africa. Although other groups are included, this course will focus on the large mammals of east Africa and will pay particular attention to elephant reproduction and biology. Other topics include Serengeti migrations, hippos, lions and other large cats, reptiles, and human evolution. Usually offered alternate Spring semesters. (Cross-listed with BIOL 3680).

**BIOL 8716 TOXICOLOGY (3 credits)**

An overview of the fundamentals of toxicology. Concepts include the dose-response relationship, absorption, distribution and excretion of toxicants, and the biotransformation of xenobiotics. Emphasis will be given to metals, pesticides, pharmaceutical compounds, chemical carcinogenesis and endocrine disruption. Usually offered Fall. (Cross-listed with BIOL 4710)

**Prerequisite(s)/Corequisite(s):** CHEM 2210 or 2260 and BIOL 1750, BIOL 3020 or equivalent.

**BIOL 8735 FAUNA OF THE GREAT PLAINS (3 credits)**

A survey of the common animal groups found in the Great Plains, including their evolution, ecology, distribution and specific adaptations to the environment of the temperate North American grasslands. (Cross-listed with BIOL 3730)

**Prerequisite(s)/Corequisite(s):** BIOL 1750. Not open to nondegree students.

**BIOL 8736 VERTEBRATE ENDOCRINOLOGY (3 credits)**

An overview of the fundamentals of vertebrate endocrinology. Concepts include: the mammalian hypothalamus-pituitary system, the endocrinology of mammalian reproduction, the mammalian adrenal glands, endocrine disruption, endocrinology and metabolism. (Cross-listed with BIOL 4730)

**Prerequisite(s)/Corequisite(s):** Organic chemistry, Biol 1750, Biol 3020 or equivalent.

**BIOL 8746 ANIMAL PHYSIOLOGY (3 credits)**

An overview of the fundamentals of animal physiology. Concepts include: the physiology of nerve and muscle function, endocrine function, cardiovascular and respiratory function, oxygen and carbon dioxide delivery by the blood, and osmoregulation and excretion. The course is comparative in nature, including examples from humans, mammals, vertebrates and invertebrate animals. Usually offered Spring. (Cross-listed with BIOL 4740.)

**BIOL 8760 CLINICAL REASONING (3 credits)**

This is an intensive class in which students will translate biological concepts into solving case-based scenarios in clinical medicine. Relevant readings will prepare students to address these challenges in small-group settings. Intended as an advanced preparatory course for healthcare professionals or students desiring exposure to clinical decision-making. Usually offered during Summer semester.

**Prerequisite(s)/Corequisite(s):** Molecular Biology; Microbiology or Immunology; plus instructor approval.

**BIOL 8766 GENOME TECHNOLOGY AND ANALYSIS (3 credits)**

This course will introduce the latest genome sequencing technologies and their broad applications in biology and medicine. Students will learn how genome sequencing is conducted by different platforms and obtain practical experience of how to use bioinformatics tools for genome analysis. Students are expected to be able to perform sequence analysis efficiently and interpret the results properly. (Cross-listed with BIOL 4760)

**Prerequisite(s)/Corequisite(s):** BIOL2140 Genetics; or Permission of instructor

**BIOL 8770 CLINICAL READINGS (3 credits)**

This course is a rigorous study of current biomedical, translational, and clinical primary literature spanning a wide range of human health and disease.

**Prerequisite(s)/Corequisite(s):** Graduate and written permission of graduate faculty member.

**BIOL 8786 VERTEBRATE ZOOLOGY (4 credits)**

A study of the general biology of the subphylum vertebrata including the morphology, anatomy, physiology and ecology of vertebrate representatives. (Cross-listed with BIOL 4780)

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750, and Junior or Senior standing.

**BIOL 8796 MAMMALOGY (4 credits)**

The biology of mammals, including their evolution, functional morphology, physiology, ecology, zoogeography, behavior, classification and identification, with emphasis on North American groups. Field trips. Usually offered in alternate years. (Cross-listed with BIOL 4790)

**Prerequisite(s)/Corequisite(s):** BIOL 1450, BIOL 1750, junior or senior standing. Must enroll in laboratory section.

**BIOL 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

Seminar on environmental law and regulation. The course will address federal regulations, implementing instructions, legal principles and requirements. The major federal environmental laws, air and water quality, solid and hazardous waste, and pollution prevention and remediation will be discussed. Usually offered Fall semesters.

**Prerequisite(s)/Corequisite(s):** Junior-senior and permission.

**BIOL 8836 DEVELOPMENTAL GENETICS (2 credits)**

This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics. (Cross-listed to BIOL 4830)

**Prerequisite(s)/Corequisite(s):** This course considers experimental approaches in developmental genetics and provides students with first-hand experience in laboratory techniques used in developmental genetics.

**BIOL 8846 HERPETOLOGY (4 credits)**

The biology of amphibians and reptiles, including their evolution, classification, anatomy, physiology, ecology, distribution and identification, with emphasis on North American groups. Methods for studying herptiles are examined. Usually offered in Spring semesters of even years. (Cross-listed with BIOL 4840).

**Prerequisite(s)/Corequisite(s):** Prerequisites are BIOL 1450, BIOL 1750 and Junior-Senior standing. Must enroll in lab. Not open to non-degree graduate students.

**BIOL 8856 DEVELOPMENTAL BIOLOGY (3 credits)**

This course explores principles underlying the development of multicellular organisms, stressing the environmental, genetic, molecular, cellular, tissue, and evolutionary mechanisms of animal development. Usually offered once per year. (Cross-listed with BIOL 4850)

**BIOL 8866 COMPARATIVE GENOMICS (3 credits)**

This course will introduce fundamental concepts in genomics and genome comparison. Students will learn how genomes are constructed, how they evolve, how individual genomes are unique, and what genomic knowledge means in terms of human health and medicine. (Cross-listed with BIOL 4860)

**BIOL 8876 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, NEUR 4870, NEUR 8876).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

**BIOL 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with BIOL 4890, NEUR 4890, NEUR 8896, PSYC 8896)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BIOL 8946 ENTOMOLOGY (4 credits)**

The study of insects; their classification, morphology, physiology, behavior, life histories, ecology and evolution. (Cross-listed with BIOL 4940)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**BIOL 8966 ADVANCED GENETICS (3 credits)**

An in-depth consideration of topics in genetics, including the conceptual and molecular definition of a gene, cytogenetics, mutation, population genetics, developmental genetics, gene regulation and the application of genetics to other areas of biology. (Cross-listed with BIOL 4960).

**Prerequisite(s)/Corequisite(s):** BIOL 2140 and BIOL 3020 and concurrent enrollment or completion of either CHEM 3650 or CHEM 4610 or CHEM 4650 or BIOL 4650, or permission of the instructor.

**BIOL 8976 ADVANCED BOTANY (4 credits)**

Advanced Botany examines plant structures (cells, tissues, and organs) and their connections with plant functions (growth, reproduction, photosynthesis, respiration, and dispersal). Topics covered include energy metabolism, development and morphogenesis, genetics, ecology, and the latest in plant taxonomy and phylogeny, keeping students on the forefront of cutting-edge botanical research. In lab, students conduct activities such as dissecting plant organs, making microscope slides, and conducting plant-based experiments, using plants from the local area, from native Great Plains collections, and from around the world and grown in the greenhouse. Students compare and contrast both physiological and morphological adaptations to varying environments. (Cross-listed with BIOL 4970, ENVN 4970).

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**BIOL 8986 ORNITHOLOGY (4 credits)**

An introduction to the general biology of birds, including their anatomy, physiology, behavior, ecology, classification and identification with emphasis on North American groups. Usually offered in alternate years. (Cross-listed with BIOL 4980)

**Prerequisite(s)/Corequisite(s):** BIOL 1750.

**BIOL 8990 THESIS (1-6 credits)**

An original and independent research project written under the supervision of a faculty thesis advisory committee.

**Prerequisite(s)/Corequisite(s):** Graduate student in biology and written permission of graduate faculty supervisor. Not open to non-degree graduate students.

# Biomechanics (BMCH)

## **BMCH 8000 SEMINAR IN BIOMECHANICS (0 credits)**

Required non-credit course for graduate students in biomechanics. Intended to familiarize the graduate student with current ongoing biomechanical research at UNO and other institutions. The seminar will additionally include topics focusing on professional development, job and educational opportunities, and biomechanical methodologies.

**Prerequisite(s)/Corequisite(s):** Must be a student in BMCH graduate program. Not open to non-degree graduate students.

## **BMCH 8006 BIOMATERIALS (3 credits)**

Students will learn the classification, properties, characterization methods, body interactions, applications, and design principles of biomaterials. (Cross-listed with BMCH 4000).

## **BMCH 8030 BIOSTATISTICS IN BIOMECHANICS I (3 credits)**

The focus of the course is to prepare students to understand and apply research and biostatistical methods needed in the design and analysis of biomechanical investigations. The major topics to be covered include research design and multiple linear regression. (Cross-listed with BMKI 9031)

**Prerequisite(s)/Corequisite(s):** Graduate Standing in Biomechanics program or Department Permission.

## **BMCH 8100 NONLINEAR ANALYSIS FOR MOVEMENT STUDIES (3 credits)**

This course is to introduce different nonlinear methods for the analysis of biological and movement time series. Emphasis will be given on understanding the algorithms behind each nonlinear method. (Cross-listed with BMKI 9101).

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

## **BMCH 8106 BIOINSPIRED ROBOTICS (3 credits)**

The goal of the course is to involve students in an interdisciplinary vision of biomechanics, biology, engineering and architecture by learning how humans and other animals function in their environment. These design principles from nature can be translated into novel devices, structures, and robots. (Cross-listed with BMCH 4100).

## **BMCH 8200 MATLAB FOR MOVEMENT SCIENCES (3 credits)**

Introduction to Matlab software, plotting data, spectral analysis and the Fourier transform, data smoothing, and image analysis of movement related data. All topics will be implemented using Matlab. (Cross-listed with BMKI 9201).

**Prerequisite(s)/Corequisite(s):** Instructor permission.

## **BMCH 8206 METHODS IN BIOMECHANICS I (3 credits)**

In this course students learn about the methods and equipment used in biomechanics as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. (Cross-listed with BMCH 4200).

**Prerequisite(s)/Corequisite(s):** Department Permission

## **BMCH 8216 METHODS IN BIOMECHANICS II (3 credits)**

In this course students learn about advanced methods and equipment used in biomechanics, as well as the analysis of data collected from those methods. Course experiences include both lecture and lab based learning. This course builds on the experience gained in BMCH 4200/8206, Methods in Biomechanics I. (Cross-listed with BMCH 4210).

**Prerequisite(s)/Corequisite(s):** BMCH 8206 or Department Permission

## **BMCH 8400 MOTOR LEARNING I (3 credits)**

Discussion and analysis of scientific principles related to the learning of motor skills; review related literature and research in motor learning. The focus of the course is on recent theories of how movements are acquired and performed, and on factors that have implications for motor learning throughout the life span. (Cross-listed with BMKI 9401).

**Prerequisite(s)/Corequisite(s):** Department Permission.

## **BMCH 8410 MOTOR CONTROL I (3 credits)**

The focus of the course is to explore the study of the conditions and factors that influence the control and performance of motor skills from both neurophysiological and psychobiological perspectives. (Cross-listed with BMKI 9411).

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

## **BMCH 8420 MOTOR DEVELOPMENT (3 credits)**

This course focuses on the study of motor development, the processes that underlie this development and the factors that influence it. Students will gain an understanding of the major theoretical perspectives of motor development across the life span with special emphasis given in child development. (Cross-listed with BMKI 9421).

**Prerequisite(s)/Corequisite(s):** Department Permission.

## **BMCH 8450 ADVANCED BIOMECHANICS (3 credits)**

The course will address the biomechanical basis of human performance including mechanical analysis of human gait, fundamental movement patterns and techniques used for collecting biomechanical data. (Cross-listed with BMKI 9451).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 (Biomechanics) [previously PE 4630] or Instructor Permission.

## **BMCH 8646 ORTHOPEDIC BIOMECHANICS (3 credits)**

Orthopedic Biomechanics focuses on the use of biomechanical principles and scientific methods to address clinical questions that are of particular interest to professionals such as orthopedic surgeons, physical therapists, rehabilitation specialists, and others. (Cross-listed with BMCH 4640).

**Prerequisite(s)/Corequisite(s):** Department Permission

## **BMCH 8666 CLINICAL IMMERSION FOR RESEARCH AND DESIGN (3 credits)**

This course will involve exposure to current clinical practices, identification of unmet clinical needs, and information regarding future career options. In this course, students will be matched with local clinical sites to provide a unique opportunity for innovative and interdisciplinary approaches to problem solving subject to practical constraints. Concepts in clinical rehabilitation, integrated assessments, regulation of medical devices in health care will be covered. This course will review the latest research efforts for rehabilitation in the context of device design and implementation. (Cross-listed with BMCH 4660).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

## **BMCH 8676 INTRODUCTION TO MECHANICS OF BIOMATERIALS (3 credits)**

In this course students will learn how to analyze the stresses and strains in different structures under complex loading conditions with extensive examples from biomaterials and materials generally used in the medical device field. (Cross-listed with BMCH 4670).

**Prerequisite(s)/Corequisite(s):** BMCH 3000 or Department Permission

## **BMCH 8686 SPORTS BIOMECHANICS (3 credits)**

This course is intended to provide students with a foundational knowledge on how to analyze sport movements through biomechanical analytical methods. Students will utilize foundational biomechanical principles and apply them to a variety of sports and associated movements. (Cross-listed with BMCH 4680).

**Prerequisite(s)/Corequisite(s):** BMCH 4630

## **BMCH 8900 INDEPENDENT RESEARCH IN BIOMECHANICS (1-6 credits)**

In this course individuals or groups will conduct research projects for the study and analysis of biomechanical topics.

**Prerequisite(s)/Corequisite(s):** Permission of the Department and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8910 INDEPENDENT STUDY IN BIOMECHANICS (1-6 credits)**

This is a variable credit course designed for graduate students in Biomechanics who would benefit from independent reading assignments and problems. Independent study enables individual students or a small group of students to focus on topics typically not explored in other offerings or to explore topics currently offered in further depth. (Cross-listed with BMKI 9911).

**Prerequisite(s)/Corequisite(s):** Graduate student in BMCH and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMCH 8990 THESIS IN BIOMECHANICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's advisory committee. In this project the student will develop skills in research design, research conduct, data analysis, and reporting. The final product of this course will be an original thesis of independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

## Biomedical Informatics (BMI)

**BMI 8000 ADVANCES IN BIOMEDICAL INFORMATICS (0 credits)**

BMI 8000 provides a regular forum for BMI graduate students, where the latest developments in the field of Biomedical Informatics are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in BMI. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in BMI and PhD in BMI program may register. Not open to non-degree graduate students.

**BMI 8020 ADVANCED COURSE IN BIOINFORMATICS (3 credits)**

This is a special topics course designed to explore the research interests of faculty and students. Therefore, topics may include, but are not limited to, such areas of study as next-generational sequencing, biological networks, proteomics, metabolomics, and biomedical informatics.

**Prerequisite(s)/Corequisite(s):** Admission to the MS/PhD Program in the College of Information Science and Technology, or permission of the instructor. Not open to non-degree graduate students.

**BMI 8080 SEMINAR IN BIOMEDICAL INFORMATICS (1-3 credits)**

This is a variable-content course that engages students in current research in Biomedical Informatics and develops skills in the oral and written presentation of scientific research.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Additional prerequisite courses may be required for particular course offerings.

**BMI 8100 INTRODUCTION TO BIOMEDICAL INFORMATICS (3 credits)**

This course offers students an overview of the field of biomedical informatics, combining perspectives from computing, biosciences and medicine. The historical development of the field and its influence on biological, clinical, and translational research will be discussed. Issues related to bioinformatics, clinical, bioimaging and public health/population informatics will be explored.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8300 PUBLIC HEALTH GENOMICS (3 credits)**

This course will address the biopsychosocial issues that bridge genomics and public health, which are generally considered two vastly different disciplines. The focus will center on understanding how genomics may be incorporated into health promotion and disease prevention efforts for individuals and population.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above.

**BMI 8400 LINEAR ALGEBRA FOR ADVANCED COMPUTING AND AI (3 credits)**

Matrix Analysis and Linear Algebra are at the core of several important algorithms and techniques that are widely used in machine learning for data analytics, imaging informatics, and bioinformatics. The course will explore fundamental concepts of matrix analysis and linear algebra as they apply to machine learning, emphasizing applications over proofs. Students will have an opportunity to perform "pencil and paper" calculations as well as more sophisticated numerical computations using a programming language/statistical environment of their choice. Applications of linear algebra to machine learning in the context of imaging informatics and biomedicine will be covered in depth.

**Prerequisite(s)/Corequisite(s):** Proficiency in programming and knowledge of calculus are required. Familiarity with concepts from biology is beneficial but not required.

**BMI 8540 FOUNDATIONS IN PROGRAMMING FOR BIOMEDICAL INFORMATICS (3 credits)**

Foundations in programming, software development, pipeline management, and version control are critical for developing a capable biomedical informatics workforce. This course will provide foundations in programming skills necessary for students with a limited computer science background to develop fluency and basic skills in the concepts of software development for biomedical informatics. Specific topics covered will include Unix/Linux shell programming, Python, databases, Applications Programming Interface (APIs), software versioning, and data management.

**Prerequisite(s)/Corequisite(s):** Experience with programming in a scripting, database management, or object-oriented programming language is strongly recommended but not required.

**BMI 8850 BIOMEDICINE FOR THE NONMEDICAL PROFESSIONAL (3 credits)**

This course will cover the basic principles of molecular and cellular biology, human anatomy, physiology, and pathology that are essential to an informed use of biomedical data. The biomedical topics will be interspersed and complemented with discussions about relevant data sources and datasets, emphasizing their strengths and weaknesses, and the lectures will be enriched with virtual anatomical dissections. Reading assignments from the primary literature and multimedia materials will supplement the textbook.

**Prerequisite(s)/Corequisite(s):** Class standing of senior or above

**BMI 8866 BIOINFORMATICS ALGORITHMS (3 credits)**

The main objective of this course is to provide an organized forum for students to learn recent developments in Bioinformatics, particularly, from the algorithmic standpoint. The course will present basic algorithmic concepts in Bioinformatics and show how they are connected to molecular biology and biotechnology. Standard topics in the field such as restriction mapping, motif finding, sequence comparison, and database search will be covered. The course will also address problems related to Bioinformatics like next generation sequencing, DNA arrays, genome rearrangements and biological networks. (Cross-listed with BIOI 4860).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOL 1450; Or permission of instructor.

**BMI 8896 GENETIC SEQUENCE ANALYSIS (3 credits)**

The goal of this course is to introduce students to major topics in computerized analysis of genetic sequences. In particular the course will allow students to become familiar with the computational tools and software that aid in the modern molecular biology experiments and analysis of experimental results. Following the completion of this course, it is expected that the students will have a basic understanding of the theoretical foundations of the sequence analysis tools and develop competence in evaluating the output from these tools in a biological context. This course will emphasize hands-on experience with the programs for nucleotide and amino acid sequence analysis and molecular phylogeny.

**Prerequisite(s)/Corequisite(s):** Permission from the instructor.

**BMI 8900 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

The content of the course will vary, however both the student and the faculty member must sign an Independent Research Agreement and file it with the Biomedical Informatics Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward the MS BMI program should be completed.

**BMI 8910 INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the Biomedical Informatics graduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Students must have completed a minimum of 12 credit hours towards the MS in BMI program. Not open to non-degree graduate students.

**BMI 8970 INDEPENDENT STUDY IN BIOINFORMATICS (1-3 credits)**

This is a variable-credit course designed for graduate students in bioinformatics who would benefit from independent reading assignments and research-type problems. Independent study enables coverage of topics not taught in scheduled course offerings.

**Prerequisite(s)/Corequisite(s):** Permission of a supervising faculty member and approval of the Bioinformatics Program Committee Chair. A formal description of the problem area to be investigated, the resources to be used, and the results to be produced must be prepared.

**BMI 8990 THESIS IN BIOMEDICAL INFORMATICS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Graduate major in BMI and approval of the Thesis Advisory Committee. Not open to non-degree graduate students.

**BMI 9900 ADVANCED RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course provides a format for exploring advanced research areas for doctoral students in Biomedical Informatics and related fields. Specific topics will vary in keeping with research interest of faculty and students.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Biomedical Informatics. Not open to non-degree graduate students.

**BMI 9980 INDEPENDENT RESEARCH IN BIOMEDICAL INFORMATICS (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in Biomedical Informatics and permission of instructor. Not open to non-degree graduate students.

**BMI 9990 DISSERTATION (1-12 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee supervisory committee.

The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in health or bioinformatics and demonstrate technical mastery of the discipline.

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in Biomedical Informatics and candidacy for the Ph.D. degree. Prior to enrolling for dissertation hours, the students must have permission of the supervisory committee. Not open to non-degree graduate students.

# Biomechanics and Kinesiology

**BMKI 9000 GRANT WRITING FOR THE BIOMEDICAL SCIENCES (3 credits)**

The purpose of this course is to introduce students to the scientific process and translate it to effective grant writing for biomedical sciences. Topics covered include hypotheses development, strong inference, how to write specific aims, how to generate ideas, federal grant processes with emphasis on National Institutes of Health, National Science Foundation and Veterans' Affairs, how to evaluate calls for grant applications, grant construction, and stylistic writing approaches. Students will compare and contrast successful and unsuccessful grant submissions.

**BMKI 9001 RESEARCH IN HEALTH & KINESIOLOGY (3 credits)**

The course introduces students to scientific writing, quantitative research design, and statistical methods. Considerable emphasis is placed on evaluation of research in scholarly publications. A research proposal in the form of a grant proposal is written as one of the course requirements. Students will develop the skills necessary to analyze study designs in existing literature and create a research proposal. (Cross-listed with HEKI 8030).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BMKI 9010 PRINCIPLES AND PRACTICE OF BIOMEDICAL RESEARCH (3 credits)**

The purpose of this course is to introduce students to a variety of topics related to research practice that will allow them to be successful, independent scientists. Topics covered include manuscript writing and plagiarism, authorship, mentoring, research ethics, responsible conduct of research, presentation skills, research notebook keeping, scientific etiquette, and time and laboratory management.

**BMKI 9031 BIostatISTICS IN BIOMECHANICS I (3 credits)**

The focus of the course is to prepare students to understand and apply research and biostatistical methods needed in the design and analysis of biomechanical investigations. The major topics to be covered include research design and multiple linear regression. (Cross-listed with BMCH 8030)

**Prerequisite(s)/Corequisite(s):** Graduate Standing in Biomechanics program or Department Permission.

**BMKI 9040 BIostatISTICS IN BIOMECHANICS II (3 credits)**

The focus of the course is to prepare graduate students to understand and apply advanced research and biostatistical methods needed in the design and analysis of biomechanical investigations. The major topics to be covered include advanced research design and the general linear model. This course builds upon basic research design and linear regression learned in Biostatistics in Biomechanics I for the application in single factor and multi-factor experimental analyses.

**Prerequisite(s)/Corequisite(s):** Graduate Standing, BMCH 8030/ BMKI 9031 or equivalent

**BMKI 9041 ADVANCED STATISTICS (3 credits)**

This course will be a study in the statistical methods commonly used in descriptive and experimental research in physical education and exercise science. Application, particularly regarding the purpose, selection, and interpretation of statistical procedures will be emphasized. (Cross-listed with KINS 8040).

**Prerequisite(s)/Corequisite(s):** HPER 8030/HEKI 8030 or BMKI 9001/ HPER 9031/HEKI 9031 or equivalent

**BMKI 9050 PHYSICAL ACTIVITY EPIDEMIOLOGY (3 credits)**

This course will cover the broad scope of the issues related to epidemiological methods that are relevant to the study of physical activity populations. It is intended to enhance students' ability to understand and apply epidemiological methods to physical activity related research.

**Prerequisite(s)/Corequisite(s):** PE 8130/KINS 8130 and PE 8040/KINS 8040 or related course, or permission by the instructor. Not open to non-degree graduate students.

**BMKI 9101 NONLINEAR ANALYSIS FOR MOVEMENT STUDIES (3 credits)**

This course is to introduce different nonlinear methods for the analysis of biological and movement time series. Emphasis will be given on understanding the algorithms behind each nonlinear method. (Cross-listed with BMCH 8100).

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**BMKI 9131 IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS (3 credits)**

This course will focus on information necessary to assess, design, implement, and evaluate the need for and effectiveness of physical activity interventions in diverse populations, races, and ethnicities. These populations will include: African American, Native American, Hispanic, Asian American, Pacific Islanders, and Caucasian. Additionally, candidates will complete a health and physical activity service learning project in which they will work with diverse populations in the community. (Cross-listed with KINS 8130).

**Prerequisite(s)/Corequisite(s):** PE 3900/KINS 3900 or PE 8905/KINS 8905 or PE 8700/KINS 8700 or HED 8600/PHHB 8600.

**BMKI 9141 PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH (3 credits)**

This course will cover the broad scope of research on physical activity and public health. Emphasis will be placed on the application of physical activity assessment techniques. (Cross-listed with KINS 8140).

**BMKI 9201 MATLAB FOR MOVEMENT SCIENCES (3 credits)**

Introduction to Matlab software, plotting data, spectral analysis and the Fourier transform, data smoothing, and image analysis of movement related data. All topics will be implemented using Matlab. (Cross-listed with BMCH 8200).

**Prerequisite(s)/Corequisite(s):** Instructor permission.

**BMKI 9401 MOTOR LEARNING I (3 credits)**

Discussion and analysis of scientific principles related to the learning of motor skills; review related literature and research in motor learning. The focus of the course is on recent theories of how movements are acquired and performed, and on factors that have implications for motor learning throughout the life span. (Cross-listed with BMCH 8400).

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMKI 9411 MOTOR CONTROL I (3 credits)**

The focus of the course is to explore the study of the conditions and factors that influence the control and performance of motor skills from both neurophysiological and psychobiological perspectives. (Cross-listed with BMCH 8410).

**Prerequisite(s)/Corequisite(s):** Department Permission. Not open to non-degree graduate students.

**BMKI 9421 MOTOR DEVELOPMENT (3 credits)**

This course focuses on the study of motor development, the processes that underlie this development and the factors that influence it. Students will gain an understanding of the major theoretical perspectives of motor development across the life span with special emphasis given in child development. (Cross-listed with BMCH 8420).

**Prerequisite(s)/Corequisite(s):** PE 2800 (Motor Behavior) or permission of instructor.

**BMKI 9451 ADVANCED BIOMECHANICS (3 credits)**

The course will address the biomechanical basis of human performance including mechanical analysis of human gait, fundamental movement patterns and techniques used for collecting biomechanical data. (Cross-listed with BMCH 8450).

**Prerequisite(s)/Corequisite(s):** BMCH 4630 (Biomechanics) [previously PE 4630] or Instructor Permission.

**BMKI 9460 ADVANCED BIOMECHANICS II (3 credits)**

A comprehensive and advanced detailed investigation of the biomechanics of motor performance in special populations such as stroke, Parkinson's disease, and amputees. Includes advanced study of the mechanical analysis of motor skills and movement patterns and the research techniques for collecting and interpreting biomechanical data. Detailed lectures will cover etiology of such special populations with a focus on the endpoint movement disorders.

**Prerequisite(s)/Corequisite(s):** BMCH 8450 or BKMI 9451/BMCH 9451 or Instructor Permission. Not open to non-degree graduate students.

**BMKI 9500 MOTOR LEARNING II (3 credits)**

The focus of the course is to further explore the study of the conditions and factors that influence the learning and performance of motor skills.

**Prerequisite(s)/Corequisite(s):** BMCH 8400, BMKI 9401/BMCH 9401 or Instructor Permission. Not open to non-degree graduate students.

**BMKI 9510 MOTOR CONTROL II (3 credits)**

The focus of the course is to further explore the study of the conditions and factors that influence the control and performance of motor skills.

**Prerequisite(s)/Corequisite(s):** BMCH 8410, BMKI 9411/BMCH 9411 or Department Permission. Not open to non-degree graduate students.

**BMKI 9520 MOTOR DEVELOPMENT II (3 credits)**

This course focuses on the study of motor development, the processes that underlie this development and the factors that influence it. This course will focus on exploring motor development in clinical populations of people with autism, down syndrome, cerebral palsy, etc. and the factors that influence the progression of motor skills.

**Prerequisite(s)/Corequisite(s):** BMCH 8420 or permission from instructor.

**BMKI 9701 PSYCHOLOGY OF PHYSICAL ACTIVITY (3 credits)**

The central purpose of this course is to examine the psychological antecedents and consequences of exercise and physical activity behaviors. The course will focus on traditional theories/principles of psychology as they relate to various physical activity settings. (Cross-listed with KINS 8700).

**BMKI 9810 HIGHER EDUCATION TEACHING SEMINAR (3 credits)**

The seminar is designed to prepare students for entry into a higher education teaching career. This seminar requires doctoral students to teach an undergraduate or graduate lecture course relevant to their field of preparation. The seminar includes an examination of the roles, responsibilities, and privileges associated with teaching in higher education.

**Prerequisite(s)/Corequisite(s):** Admittance to the UNO Doctoral Program in Biomechanics and Kinesiology and successful completion of 24 hours of doctoral coursework and approval from advisor. Not open to non-degree graduate students.

**BMKI 9820 SERVICE EXPERIENCE IN HIGHER EDUCATION (3 credits)**

This seminar will allow students the opportunity to gain valuable knowledge of the service expectations of faculty in higher education settings. The seminar will focus on service opportunities within the university, within the profession and within the community. Participants in the seminar will complete appropriate service activities.

**Prerequisite(s)/Corequisite(s):** Admittance to the UNO Doctoral program in Biomechanics and Kinesiology, successful completion of 24 hours of doctoral coursework, and approval from advisor. Not open to non-degree graduate students.

**BMKI 9851 EXERCISE FOR SPECIAL POPULATIONS (3 credits)**

The course will examine the physiological and medical limitations imposed on people with various common chronic diseases/conditions including arthritis, osteoporosis, exercise-induced asthma, obesity, diabetes, hypertension and pregnancy. Special groups such as children and elders will be discussed. Content will emphasize the etiology and guidelines for exercise testing, prescription, and supervision. (Cross-listed with HEKI 8850).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or PE 8946/KINS 8946

**BMKI 9870 MUSCULOSKELETAL SIMULATION (3 credits)**

This course covers knowledge and skills needed to generate dynamic models, analyses, and simulations of the human musculoskeletal system for different types of movement. In this course, students build and analyze computer simulations implemented on common software platforms to gain insight into movement biomechanics and control. The materials covered in this course may be of interest to engineers, physical therapists, and biomedical researchers looking to apply their technical skills to solving clinical problems. This course emphasizes the technical skills necessary to conduct and analyze musculoskeletal simulations of movement.

**Prerequisite(s)/Corequisite(s):** Department Permission.

**BMKI 9910 DOCTORAL SEMINAR (3 credits)**

The major goal of this course is to teach the graduate student how to write manuscripts/grants and be an effective academician with strong ethics. The outcome of this course is for the student to produce a manuscript based on data acquired in the laboratory from the ideas developed in the seminar or submit a grant that will support the research ideas developed in at least one semester. The material covered is intended to equip students with the skills necessary to be successful in their academic careers with emphasis given on writing scientific papers.

**Prerequisite(s)/Corequisite(s):** Admission into the PhD program. Not open to non-degree graduate students.

**BMKI 9911 INDEPENDENT STUDY IN BIOMECHANICS (1-6 credits)**

This is a variable credit course designed for graduate students in Biomechanics who would benefit from independent reading assignments and problems. Independent study enables individual students or a small group of students to focus on topics typically not explored in other offerings or to explore topics currently offered in further depth. (Cross-listed with BMCH 8910).

**Prerequisite(s)/Corequisite(s):** Graduate student in BMCH and approval by Faculty Advisor. Not open to non-degree graduate students.

**BMKI 9951 ADVANCED EXERCISE PHYSIOLOGY (3 credits)**

A detailed analysis of selected topics including acute and chronic effects of exercise on metabolic, pulmonary, and cardiovascular function; and sports nutrition. Current research findings and methodology will be emphasized. (Cross-listed with KINS 8950).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or equivalent

**BMKI 9960 ADVANCED EXERCISE PHYSIOLOGY II (3 credits)**

The focus of this course is a detailed analysis of the mechanisms responsible for acute and chronic responses to exercise at the cellular and molecular level. Current and historical research will be emphasized.

**Prerequisite(s)/Corequisite(s):** PE 8950/KINS 8950 or BMKI 9951/PE 9951/KINS 9951. Not open to non-degree graduate students.

**BMKI 9990 DISSERTATION (1-15 credits)**

The course provides doctoral candidates in Biomechanics & Kinesiology with a process to complete a dissertation research plan. The course learning activities will focus on the completion of a candidate's dissertation. The course is designed to allow advanced doctoral candidates to demonstrate technical mastery of the discipline and to advance knowledge by completing an investigation.

**Prerequisite(s)/Corequisite(s):** Admittance to UNO Doctoral Program in Biomechanics & Kinesiology, successful completion of doctoral coursework & comprehensive exams, dissertation supervisory committee chair approval & advancement to candidacy. Not open to non-degree graduate students.

## Black Studies (BLST)

**BLST 8020 RACE, ETHNICITY, AND AMERICAN CULTURE (3 credits)**

This course explores two central themes, race and ethnicity, which have played a dominant role in the shaping of American society and American culture. (Cross-listed with UBNS 8020).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 1100, or permission by the instructor.

**BLST 8036 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 8036, RELI 4030, BLST 4030).

**BLST 8040 AFRO-AMERICAN SOCIOLINGUISTICS (3 credits)**

The aim of this course is to examine Black American English (i.e., vernacular theory) and the contributions of language to our understanding of sociolinguistic theory. The course demonstrates how Black American English reveals the complexities of the African American experience. The course also examines significant theories and arguments concerning the genesis, maintenance and social function of African American English.

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2100 or permission of instructor.

**BLST 8070 ADVANCED AFRICAN AMERICAN HISTORIOGRAPHY (3 credits)**

The purpose of this course is to examine the conceptual and historical foundations of Afro-American historiography. To achieve this, the course takes as its point of departure the concept of vindication as it has traditionally been used by African American scholars, namely the conflict between white racism and the African American assertion of a counter identity.

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 1100, or permission of instructor. BLST8070

**BLST 8080 SPECIAL TOPICS IN BLACK STUDIES (3 credits)**

The content of this course will change periodically. Each time this course is offered it will focus, in detail and in depth, on some aspect of the black experience, such as language and dialect, historiography and historicity, theology and religion, musicology, literature, etc. Students may repeat this course as often as they like, as long as a specific subject is not duplicated.

**BLST 8096 BLACK STUDIES ORAL HISTORY (3 credits)**

The focus of this course is to examine the method, procedure, transcription and the use of oral history in black studies research. Emphasis will be directed toward describing and evaluating the variables of memory, history and cultural authority, to produce written source materials collected from oral interviews. (Cross-listed with BLST 4090.)

**BLST 8110 GLOBAL-LOCAL: OPPORTUNITIES, BARRIERS, ENGAGEMENT (3 credits)**

This course focuses on global cultural and social forces and how they interact to form nexuses of both opportunity and obstacle to constructive human engagement on a wide array of social issues. An overview of topics covered in the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. This course will provide students with the analytical tools, collaborative engagement skills, and applied problem-solving techniques that will help students succeed in this concentration and program. (Cross-listed with CACT 8110)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**BLST 8156 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with BLST 4150, PSYC 4150, PSYC 8156).

**Prerequisite(s)/Corequisite(s):** BLST 1000 and Junior standing or Instructor permission

**BLST 8205 BLACK NATIONALISM AND PAN AFRICANISM (3 credits)**

A study of the development of movements for self-determination in Afro-America and analysis of various nationalistic conceptual frameworks in the Diaspora and on the continent. (Cross-listed with BLST 3200).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 2410, or permission of instructor.

**BLST 8266 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce graduate students to the multicultural, literary experience, creativity and contributions of women of color writers to contemporary world literature. (Cross-listed with BLST 4260)

**BLST 8560 BLACK LEADERS OF THE TWENTIETH CENTURY (3 credits)**

This course is an intellectual study of selected African American leaders of the 20th century, such as: Booker T. Washington, T. Thomas Fortune, Ida Wells-Barnett, W.E.B. DuBois, James Weldon Johnson, Marcus Garvey, Mary McLeod Bethune and Charles Hamilton Houston. Direct emphasis will focus on examining issues and schemes of race, gender and class, relative to the selected subjects and their participation in mass social movements.

**BLST 8570 SEMINAR IN BLACK STUDIES (3 credits)**

This course introduces the student to the professional background of the academic field of Africana Studies. Among the topics to be covered are the predecessors to the current field, the main proponents of the intellectual traditions of Africana studies, the fundamental philosophical bases of the field, the key documents and texts, the professional journals and associations, the Afrocentric perspective and critique, and the protocols of academic and scholarly work in Africana studies.

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 1050, BLST 3950.

**BLST 8580 SEMINAR IN RESEARCH AND WRITINGS OF W.E.B. DUBOIS (3 credits)**

This course examines the life and writings of W.E.B. DuBois, who stands as the most eminent intellectual produced by people of African descent in the United States. Perhaps, next to Cheikh Anta Diop, DuBois is the most respected and honored African scholar of the 20th century. Within the context of Western traditions, DuBois is in the top category of prodigious intellectuals developed in the West. He is the father of modern American sociology, the founder of reconstruction history, the leader in urban analysis, the first serious student of inter-racial relations, as well as a novelist, poet, playwright, and essayist.

**BLST 8586 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with BLST 4580, CMST 4580, CMST 8586)

**BLST 8596 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 8596, MUS 4590, BLST 4590).

**Prerequisite(s)/Corequisite(s):** Music major standing or permission of instructor.

**BLST 8656 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 4650, HIST 4070, HIST 8076, LLS 8656).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**BLST 8700 AFRICAN PHILOSOPHY (3 credits)**

Explores ancient, traditional and contemporary philosophical/theological concepts and doctrines of Africans through an investigation of their cosmological, metaphysical, ontological, and ethical world view.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**BLST 8716 BROWN V. BOARD OF EDUCATION (3 credits)**

Brown v. Board of Education traces the educational history of African Americans from segregation to desegregation to re-segregation. This course will review the legal cases before and after the Supreme Court's Brown decision, their aftermath, and the effects on educational policies and practices. (Cross-listed with BLST 4710).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**BLST 8756 CRITICAL QUANTITATIVE RESEARCH METHODS (3 credits)**

This online undergraduate/graduate course is a comprehensive source for foundational concepts in quantitative behavioral research. The course is designed to expose students to the role and importance of critical quantitative research of marginalized and underrepresented groups. Students will examine and gain definitional and empirical knowledge about conducting culturally relevant quantitative research and will learn both the logic behind and procedures for critical quantitative research, including research ethics, correlational and experimental designs, data collection, sampling, analysis, and reporting. (Cross-listed with BLST 4750).

**Prerequisite(s)/Corequisite(s):** Graduate student or instructor permission

**BLST 8886 SEMINAR ON BLACK LEADERSHIP IN AMERICA (3 credits)**

Designed as a senior and graduate seminar, this course will examine the meaning and attributes of effective leadership. The role of black leadership in the African American experience will be examined. Profiles of selected African American leaders and their political strategies also will be analyzed in the seminar. (Cross-listed with BLST 4880).

**Prerequisite(s)/Corequisite(s):** Senior or graduate student or instructor permission.

# Business Administration (BSAD)

## **BSAD 8000 BUSINESS ETHICS: ACHIEVING SOCIAL RESPONSIBILITY (2 credits)**

This core MBA course will explore the relationship between law and ethics, will examine the generally-accepted theoretical principles associated with doing business ethically, and will examine practical ethical issues associated with various facets of business.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent) or admission to the MAcc program. Students with an undergraduate major or a graduate degree in Law may not include this course in a plan of study for the MBA degree. Not open to non-degree students

## **BSAD 8010 LEGAL, SOCIAL AND ETHICAL ENVIRONMENT (3 credits)**

Focus upon law and ethics. Business law, legal processes, and regulation will be the subject matter focus. Business ethics will be a recurring focus of analysis. Analysis of the social environment will include public policy. Both subject matter and analysis will be integrated to build the student's critical thinking skills.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation requirements and BSAD 8060 (BSAD 8060 prior to or concurrent); or admission to the MAcc program. Not open to nondegree students.

## **BSAD 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with ECON 8020)

**Prerequisite(s)/Corequisite(s):** Principles of Microeconomics (ECON 2200) and Principles of Macroeconomics (ECON 2220), or Analytical Foundations of Economics (BSAD 8180), or permission of the instructor. Not open to non-degree graduate students.

## **BSAD 8026 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper. (Cross-listed with ECON8296.)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

## **BSAD 8030 INFORMATION TECHNOLOGY IN BUSINESS (3 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent). Not open to nondegree students.

## **BSAD 8040 BUSINESS AND INFORMATION TECHNOLOGY: CONNECTING PEOPLE AND INFORMATION (2 credits)**

The premise of this course is that today's managers must learn to use information technology to create competitive firms, manage global corporations and provide useful products and services to customers. Accordingly, the content of this course is focused on use of information technology for competitive advantage. Students will develop case studies of firms who have achieved this objective. Furthermore, the course will address emerging technologies and their current and potential application.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management information systems may not include this course in a plan of study for the MBA degree. Not open to non-degree graduate students.

## **BSAD 8050 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, and the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of the statistical techniques of analysis to the business situation, within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180. Not open to nondegree students.

## **BSAD 8060 PEOPLE: CULTIVATING SKILLS FOR LEADERSHIP (2 credits)**

This course will prepare students with the skills to effectively enact the critical leadership skills of listening, employee feedback and coaching, goal-setting, empowerment/delegation, influencing, interviewing, conflict, negotiation, intercultural awareness, team/group discussions, and business etiquette.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program. Not open to non-degree graduate students.

## **BSAD 8066 HEALTHCARE ANALYTICS FOR BUSINESS (3 credits)**

This course will focus on the use of analytics to develop key performance indicators that integrate and evaluate clinical, administrative, and financial performance. Key concepts in this course will include information management, performance metrics, data visualization, and communication of results across the healthcare ecosystem. Specific topics will include health outcomes analysis, financial performance, developing an analytics strategy, data quality and governance, and the four stages of actionable intelligence. (Cross-listed with MGMT 4060, SCMT 4060).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

## **BSAD 8070 EXECUTIVE COMMUNICATION (1 credit)**

This course emphasizes both strategic and practical approaches to business communication from an executive perspective and provides students with tools to improve their business communication skills. This course will focus on composing effective executive/business documents business reports, and briefings.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

## **BSAD 8076 INTERNATIONAL LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the logistics of international trade and how managers facilitate the flow of goods and services in import and export environments. Students will learn about infrastructure and business practices needed to manage international transportation, communications, services, and regulatory requirements. Students will develop an understanding of international terms of trade, transaction risk management, and location decisions for placement of warehouses and distribution centers. (Cross-listed with SCMT 4070).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8080 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with ECON 8310).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**BSAD 8090 ESSENTIAL LEADERSHIP SKILLS (3 credits)**

This course will teach students the interpersonal skills necessary to effectively manage others. Second, this course will serve as a vehicle to assess the business content knowledge and computer literacy of incoming MBA students in order to provide customized remediation recommendations for each student. Third, the course will collect information that will be used for assessment and accreditation purposes to evaluate the effectiveness of the MBA program. This course will address the following MBA program themes: communication, change agent, teamwork, information technology, critical thinking and information gathering and analysis.

**Prerequisite(s)/Corequisite(s):** Admission to the MBA program and completion of MBA foundation courses (or equivalent) or may be taken concurrently with the final foundation course. Not open to nondegree students.

**BSAD 8096 PRINCIPLES OF COLLABORATION (3 credits)**

Students will work with techniques for team leadership, interpersonal collaboration, consensus-building, creative problem solving, negotiation, facilitation, group process design, collaborative workspace design, and collaboration engineering. Students will gain hands-on experience with collaboration technologies. (Cross-listed with MGMT 4090, ITIN 4090)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program at UNO or the STRATCOM Leader Fellow Program. Not open to non-degree students.

**BSAD 8100 MANAGERIAL ECONOMICS (3 credits)**

The course will offer students tools of analysis drawn from consumer theory and the theory of the firm in order to improve the understanding of human behavior as it is constrained in the context of business decision-making. This course is intended for students who are seeking the degree of Master of Science in Economics or the degree of Master of Business Administration. (Cross-listed with ECON 8210).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and 2220 or BSAD 8180 and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8110 ACCOUNTING AND FINANCIAL FUNDAMENTALS (3 credits)**

The course is designed to give incoming graduate students the foundation in accounting that is necessary for subsequent graduate courses. Emphasis is on introducing the students to as many accounting concepts as possible.

**Prerequisite(s)/Corequisite(s):** Graduate admission or permission of the appropriate graduate advisor. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8136 HUMAN RESOURCE MANAGEMENT (3 credits)**

This course is a comprehensive review of human resource management concepts and practices. The course is designed to educate future managers and leaders on the importance of utilizing effective human resource methods that comply with federal laws and provide the organization with high-quality talent that provides a competitive advantage. (Cross-listed with MGMT 4030).

**BSAD 8146 TOTAL REWARDS (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee compensation and benefit programs. The course is designed to enable future managers and human resource professionals to utilize effective strategies for managing the single largest controllable expense for organizations; employee pay and benefits. (Cross-listed with MGMT 4010).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor

**BSAD 8150 ECONOMICS: ESSENTIAL CONCEPTS FOR MANAGERS (2 credits)**

This course exposes MBA students to fundamental economic concepts necessary for successful business planning and financial success. Topics include: Comparative advantage and international trade, market dynamics, the role that the competitive landscape plays in company decision-making, macroeconomic growth and development, and monetary and fiscal policy and their impact on business activity.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in economics may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8156 TALENT DEVELOPMENT (3 credits)**

This course is a comprehensive review of the theory and practice of developing and implementing cost-effective employee training and development programs to optimize human capital effectiveness in modern organizations. The course is designed to enable future managers and human resource professionals to utilize effective strategies for assessing employee training needs and developing appropriate solutions to maximize talent utilization. (Cross-listed with MGMT 4120).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8166 STAFFING THE ORGANIZATION (3 credits)**

This course is a comprehensive review of issues and techniques related to the acquisition of high-quality human resources for optimal organizational effectiveness. The course is designed to enable future managers and human resource professionals to utilize effective strategies for recruiting, selecting, placing, and integrating new employees into the organization's workforce. (Cross-listed with MGMT 4110).

**Prerequisite(s)/Corequisite(s):** BSAD 8136 or permission of instructor.

**BSAD 8176 EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on megatrends influencing supply chain management and design in the 21st century. Key concepts in this course will include contemporary opportunities and challenges in creating customer value via the supply chain with a focus on globalization, sustainability, and risk management. Specific topics will include the influence of the empowered customer on supply chain design, global supply chain trends, and the need for integration of technology and talent to create a competitive advantage. (Cross-listed with SCMT 4170).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8180 ANALYTICAL FOUNDATIONS OF ECONOMICS (3 credits)**

To familiarize students with the basic economic theory and policy analysis (principles level) required to analyze economic problems and to understand and evaluate recommendations designed to solve those problems. This is a course for students and professionals seeking a degree of Master of Business Administration with little or no formal background in economics.

**Prerequisite(s)/Corequisite(s):** Graduate. This course cannot be used in a plan of study for any graduate program at UNO. Not open to non-degree graduate students.

**BSAD 8200 MANAGERIAL ACCOUNTING (3 credits)**

A study of concepts, analysis and procedures of accounting utilizing internal financial and non-financial data which provides management with information for planning and controlling routine operations, for non-routine decisions, policy-making and long-range planning; and for external reporting to stockholders, governments and interested parties.

**Prerequisite(s)/Corequisite(s):** ACCT 2010 and 2020 or BSAD 8110, and BSAD 8060. BSAD 8060 may be taken prior to or concurrent. Not open to nondegree students.

**BSAD 8206 CONSULTATIVE SELLING PRINCIPLES (3 credits)**

The primary focus of the Consultative Selling Principles course is to develop the behaviors, methodologies, principles, and processes required to successfully lead and manage complex selling initiatives to a win-win close. The course examines and applies, through role playing and other activities, the critical relationship building, critical thinking, problem solving, listening and negotiating capabilities which are the foundation skills underlying consultative selling. (Cross-listed with MKT 4200)

**Prerequisite(s)/Corequisite(s):** MKT 3310 with 'C+' or better; MKT 3100 with C+ or better; GPA of 2.5 or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8210 ACCOUNTING: DECISIONS & CONSEQUENCES (2 credits)**

Managers and administrators must be able to understand, analyze, and use accounting information to make operational and strategic business decisions. In this course, we will study practical uses of accounting information to address the problems and decisions managers face in business. Emphasis is placed on the user of accounting information rather than the preparer. Upon completion of this course, a student should be able to use accounting information to make management decisions, understand how accounting rules inform those decisions, and consequently, how those decisions affect a company's financial reports.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or graduate degree in accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8216 SELLING FINANCIAL SERVICES (3 credits)**

Selling Financial Services concentrates on methods to effectively sell services and products in the financial services industry, including the banking, brokerage and insurance sectors. Targeting, initiating, and acquiring client relationships, expanding business opportunities, and maintaining long-term client relationships are the course's focal points. This integrative course is designed to provide students with a basic understanding of the selling profession and sales culture within the financial services industry. (Cross-listed with MKT 4210, FNBK 4210).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**BSAD 8226 GLOBAL STRATEGIC ACCOUNT MANAGEMENT (3 credits)**

Throughout this course, the management of strategic account programs at national, multi-country, and global levels will be addressed. The primary focus of the curriculum is on the critical success factors for driving revenue, sustainable long term-growth and profitability with a base of core strategic buyers.

**Prerequisite(s)/Corequisite(s):** Senior or graduate student standing and permission of the instructor. Not open to non-degree graduate students.

**BSAD 8230 CHANGE MANAGEMENT (2 credits)**

This course provides a theoretical as well as pragmatic approach to change management for executive and senior level leaders in all types of organizations. Focus is given to organizational structure, managing culture, and critical components of senior level management effectiveness in leading change.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8240 EXECUTIVE LEADERSHIP DEVELOPMENT (2 credits)**

This course aims to enhance the leadership effectiveness of students by developing executive competencies in problem solving, collaborative behaviors, teamwork, and conflict resolution. Students will gain crucial experience in using effective leadership tools to become leaders who act with a deeper understanding of themselves, their organizations, and their communities, and contribute positively to the growth of each.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8250 ORGANIZATIONAL BEHAVIOR: ENHANCING HUMAN & ORGANIZATIONAL CAPABILITIES (2 credits)**

This course will prepare students with the knowledge necessary to manage and lead organizations effectively. Students will learn management theories, understand important research findings in organizational behavior, and apply both theory and research results to real organizational situations, thus giving them the capacity to use OB theories to enhance organizational effectiveness.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in management may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8260 ACCOUNTING THEORY & PRACTICE (2 credits)**

This course is designed to enhance students' understanding of financial statements and how executive decisions can influence these statements. Financial statements, including footnotes and explanatory material, are the primary instruments utilized by parties external to the enterprise in making judgments about the enterprise. By understanding how management decisions are reflected in the financial statements, managers will understand how they can influence their judgment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8280 STEWARDSHIP OF THE FIRM'S RESOURCES: HUMAN RESOURCE MANAGEMENT (2 credits)**

This course provides a comprehensive review of effective human resource theory and practice with an emphasis on managerial influence on attracting, retaining, developing, and rewarding employees.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8300 ORGANIZATION THEORY & DESIGN (3 credits)**

A study of theories and guidelines for enhancing organizational effectiveness by matching an organization's structure to its environment, strategy, technology and size.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8310 MANAGING PERFORMANCE IN ORGANIZATIONS (3 credits)**

A human behavior course emphasizing the areas of individual behavior, interpersonal behavior, group behavior and the interplay of human and non-human factors.

**Prerequisite(s)/Corequisite(s):** Essential Leadership Skills (BSAD 8060) or admission to the MAcc program. Not open to nondegree students.

**BSAD 8326 SALES MANAGEMENT (3 credits)**

The student will be exposed to current research findings in sales management and to business cases and simulations where sales management theories and concepts will be applied. This course will prepare students to develop and implement specific compensation, motivation, and evaluation strategies for managing sales professionals across a wide variety of organizations. (Cross-listed with MKT 4320.)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8330 STRATEGIC COLLABORATION: LEADING HIGH IMPACT TEAMS (1 credit)**

This course is designed to enhance students' understanding of collaboration principles, practices and processes. In this interactive course, students will learn how to utilize collaboration tools and techniques and creative problem solving methods to enhance strategic decision making. Other concepts that will be introduced include building and assessing high-performing teams, managing and leading teams, identifying and resolving team dysfunctions, and team decision making approaches. Ultimately, students will learn how to be more influential and improve interactions so people and organizations can work together more efficiently.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8336 PROJECT MANAGEMENT (3 credits)**

This course will focus on the planning and execution of complex projects within an organization. Students will learn how to conduct stakeholder analysis, plan the scope of a project, develop a project budget, lead a project team, and define the steps necessary to bring a complex project to a successful conclusion. Students will recognize how the strategy, structure, and culture of an organization can be used to identify and prioritize complex projects. (Cross-listed with MGMT 4330, SCMT 4330)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program; or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8340 INTERNATIONAL BUSINESS STUDY ABROAD (3 credits)**

This course provides students with an international business and cultural experience through a study tour in a selected international location. Students will develop an understanding of the factors that affect international business decisions by visiting American companies operating abroad and foreign companies that export goods and services to the U.S. Typically, travel is conducted during Spring Break.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**BSAD 8345 CONSUMER BEHAVIOR (3 credits)**

Consumers purchase, use, experience, and dispose of products and services as part of their consumption process. How and why consumers choose various brand options, form judgments about these brands, and decide which options to buy and/or re-buy are essential knowledge for marketing professionals. The course covers the psychological and social issues that guide consumption decisions. (Cross-listed with MKT 3320).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor.

**BSAD 8350 SEMINAR IN MANAGEMENT (3 credits)**

A student participation course emphasizing current issues and problems in the areas of management theory and operation.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8356 GLOBAL SOURCING AND INNOVATION (3 credits)**

This course focuses on global suppliers as partners in the development and commercialization of new products. Students will learn about open innovation and the integration of internal and external business systems in new product innovation. Students will develop an understanding of regulatory policies related to information sharing and the intellectual property rights of buyers and suppliers. (Cross-listed with SCMT 4350).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8360 FINANCIAL MANAGEMENT FOR EXECUTIVES (3 credits)**

Students will develop strategic decision making skills by using financial concepts including time value of money, capital budgeting processes, cash flow forecasting and project risk analysis. Topics covered include: capital budgeting, financial statement analysis, capital structure, financial risk analysis and others..

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA program. Not open to non-degree graduate students.

**BSAD 8366 E-MARKETING (3 credits)**

This course focuses on utilizing the Internet as a marketing platform. Course content includes discussion of how the Internet is used by businesses for designing products, pricing, promotions, distribution, positioning, gathering information, and cultivating relationships with stakeholders. The discussion about the rise of social media, sharing economy, virtual reality devices, and other relevant trends will also be part of the course. (Cross-listed with MKT 4360).

**Prerequisite(s)/Corequisite(s):** BSAD 8400 with a grade of 'B' or above. Not open to non-degree graduate students.

**BSAD 8370 BUSINESS LAW AND ETHICS (2 credits)**

Only students who have been admitted to the Executive MBA program may take this course. A comprehensive examination of the existing structure and mechanisms used to resolve disputes in the United States, which allows the student to understand the strengths and weaknesses of this system. It will specifically examine the body of substantive law that affects management, including court decisions, statutes (federal and state), traditional ethical theories as they relate to the law, and international problems that exist in the legal environment.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8376 SUPPLY CHAIN ANALYTICS (3 credits)**

This course focuses on integrating supply chain management through the use of key performance indicators. Key concepts in this course include data visualization, supplier performance metrics, service-dominant logic, and the supply chain for data. Specific topics include the influence of the empowered customer on supply chain metrics, using metrics to develop a competitive advantage, data-driven decision making, and the four stages of actionable intelligence. (Cross-listed with SCMT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8380 STRATEGIC OPERATIONS MANAGEMENT (2 credits)**

Students will learn how effective decision-making skills can be used to create a long-term competitive advantage for an organization through operational excellence. Key concepts in this course will include operations management, quality management, and data analytics. Specific topics will include process improvement, quality assurance, supply chain management, project management, and performance assessment.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8386 INDUSTRIAL PURCHASING AND LOGISTICS MANAGEMENT (3 credits)**

This course will focus on the strategic procurement of products and services in order to gain a competitive advantage through integrated supply management. Students will learn about strategic supply management, contract negotiation, and supplier quality management. Students will develop an understanding of supplier performance management through the use of supply chain information systems. (Cross-listed with MKT 4380, SCMT 4380)

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8396 MARKETING ANALYTICS (3 credits)**

This course focuses on the application of data analytics in marketing decision making (e.g., segmentation, sales forecasting, and resource allocation). Students will learn to apply statistics and econometrics to solve marketing problems. Key topics in this course include marketing data visualization, marketing metrics, descriptive and predictive analytics, and digital marketing analytics. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job. (Cross-listed with MKT 4370).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8400 MARKETING POLICIES (3 credits)**

This course provides an introduction to the fundamental concepts of marketing, including a customer orientation, matched with attention to competition and core strengths. The course will illustrate strategies and principles that will help you understand how marketing managers, product managers or service managers must think through their situations, determine their goals and lay a course to achieve those goals.

**Prerequisite(s)/Corequisite(s):** Completion of MBA foundation courses and BSAD 8060 (prior to or concurrent); or admission to MAcc program. Not open to nondegree students.

**BSAD 8420 MARKETING: UNDERSTANDING CONSUMERS AND MARKETS (2 credits)**

This course exposes MBA students to the fundamental concepts, practices and issues of marketing. A wide range of marketing practices and structures will be explored including product and service firms, consumer and business markets, profit and not-for-profit organizations, domestic and global companies, and small and large businesses.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent). Students with an undergraduate major or a graduate degree in marketing may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8426 BUSINESS DEMOGRAPHICS (3 credits)**

The goal of this course is to develop a demographic perspective in order to assist in understanding the business environment and business policy. How population change impacts consumer markets and all of the functions (for example, accounting, finance and management) that must exist for these markets to perform. Includes a history of population change and policy as well as a view toward international population considerations. (Cross-listed with MKT 4420).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8430 STRATEGIC BRAND MANAGEMENT (3 credits)**

An exploration of the characteristics, meanings, and management of brands in the business world. The course examines brands as a strategic asset, and draws on managerial, consumer, and cultural perspectives.

**Prerequisite(s)/Corequisite(s):** BSAD 8420 or permission of instructor. Not open to nondegree students.

**BSAD 8440 DECISION ANALYTICS (2 credits)**

Students will learn to use statistical and decision making tools to interpret data to solve practical management problems and gain desired results. Areas of focus will include market research, decision analysis, data analytics, and business forecasting.

**Prerequisite(s)/Corequisite(s):** Enrollment in Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8450 SEMINAR IN MARKETING (3 credits)**

Exploration, study and critical analysis of contemporary marketing problems, trends, methods and approaches for seminar discussion and written report.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8456 MANAGERIAL NEGOTIATION STRATEGIES (3 credits)**

This course introduces students to the theory and practice of negotiation. The ability to negotiate successfully rests on a combination of analytical and interpersonal skills. In this course we will develop a set of conceptual frameworks that should help students better analyze negotiations in general and prepare more effectively for future negotiations in which they may be involved. This course is designed to help students better understand the theories, processes, and practices of negotiation, as well as conflict resolution and relationship management so that students can be more effective negotiators in a wide variety of situations. (Cross-listed with MGMT 4450, SCMT 4450).

**BSAD 8466 SUPPLY CHAIN INTEGRATION (3 credits)**

This course will focus on the integration of internal and external systems designed to maximize the efficiency and effectiveness of supply chain networks developed by industrial organizations, government agencies, and not-for-profit organizations. Key concepts will include supply chain design, trends in technology, and cross-functional collaboration, coordination, and communication along the value chain. Specific topics will include the influence of empowered customers on supply chain integration, global supply chain trends, closed-loop supply chains, and the challenges and benefits of integrating technology and talent in the workplace. (Cross-listed with SCMT 4460).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8480 APPLICATIONS IN ECONOMICS (2 credits)**

Students will learn how to apply micro-economic concepts to corporate strategy. Topics covered include demand analysis and consumer behavior, cost efficiencies such as economies of scale and scope, market structure and strategic pricing, applications of game theory to strategy, and others. The course will also cover macroeconomic conditions and concepts that affect business decisions such as the detection, measurement, and determinants of business cycles and the resulting impact of macroeconomic policy.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8510 SECURITY ANALYSIS (3 credits)**

Study of the efficient market, fundamental and technical analysis approaches for the valuation of marketable securities. Methods of analysis are considered for the economy, industry groups and individual corporations.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8520 SEMINAR INVESTMENT MANAGEMENT (3 credits)**

This course focuses upon the modern portfolio theory of investment management and its application in formulation of policies for individuals and institutional investors. Topics addressed will include qualitative and quantitative analysis of the risks and returns of portfolio management using efficient market, fundamental analysis, and technical analysis approaches.

**Prerequisite(s)/Corequisite(s):** BSAD 8510. Not open to nondegree students.

**BSAD 8530 BANK & FINANCIAL MARKETS (3 credits)**

This course focuses on the theory and practice in managing commercial banks. Topics covered include but not limited to: bank regulations, bank performance analysis, asset liability management, credit analysis and consumer loans. The course emphasizes the link between theory and practice through assigned course related readings, guest lecturers from industry experts, and a comprehensive bank research project on a local bank of your choice. At the end of the course, students should have a good understanding of basic banking theories as well as banking practices, and current issues and challenges facing the banking industry.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to non-degree graduate students.

**BSAD 8540 MULTINATIONAL FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on multinational financial management as viewed and practiced by the multinational firm and on current developments in international financial markets, including global banking. Familiarity with certain areas of the firm's environment, such as the international monetary system, the European Monetary System, and determination of exchange rates under alternative regimes, is essential to the international financial manager.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8550 SEMINAR IN FINANCE (1-3 credits)**

Selected topics from areas of business finance.

**Prerequisite(s)/Corequisite(s):** BSAD 8500. Not open to nondegree students.

**BSAD 8560 MARKETING STRATEGIES (3 credits)**

Marketing is the core of an operating business. Marketing is the art and science of creating customer value and market place exchanges that benefit the organization and its stakeholders. It is an organizational philosophy and a set of guiding principles for interfacing with customers, competitors, collaborators, and the environment. Students will learn how successful businesses match their objectives and resources with opportunities in the marketplace by identifying and measuring consumer needs, determining target markets and deciding which products and services to offer. Strategies for pricing, promoting and distributing the firm's products and services to create competitive advantage in domestic and international markets are covered.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8570 STRATEGIC MANAGEMENT (3 credits)**

This course centers around the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. Students will develop the strategic thinking skills needed to formulate and execute successful strategies for firms/organizations in a variety of industries and dynamic environments. Emphasis is given to the contributions of several business disciplines of study, such as marketing, finance and management, to understanding both the internal operations of the organization and the influences of the external environment. This course is integrative and introduces both the theory and practice that enables that integrative process.

**Prerequisite(s)/Corequisite(s):** Enrollment in UNO's Executive MBA program. Not open to non-degree graduate students.

**BSAD 8576 INVESTMENT MANAGEMENT FOR FINANCIAL ANALYSTS (3 credits)**

This course provides critical knowledge needed for students pursuing a career in investment management. The topic areas bridge academic theory, current industry practice, and ethical and professional standards and comprehensively address the areas assessed in the Chartered Financial Analyst examinations. (Cross-listed with FNBK 4570)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**BSAD 8590 SEMINAR IN BUSINESS ADMINISTRATION (3 credits)**

This course hosts the international business consulting project. Both a theory and a practical course, it examines opportunities and challenges for a domestic U.S. firm or industry attempting to enter or expand its presence in an international market. Emphasis is placed on developing focused and appropriate research objectives, the collection and analysis of data for decision-making, development and evaluation of strategy alternatives, and on the production and presentation of a professional, prescriptive consulting report.

**Prerequisite(s)/Corequisite(s):** Admittance to the Executive MBA Program. Not open to nondegree students.

**BSAD 8596 RISK MANAGEMENT FOR BUSINESS MANAGERS (3 credits)**

An analysis of risk management techniques for handling the risk exposures most businesses face, including insurance, self insurance, risk control, and risk avoidance, among others. (Cross-listed with FNBK 4590.)

**BSAD 8600 REAL ESTATE FINANCE THEORY AND APPLICATIONS (3 credits)**

This course explores advanced financial analysis tools and methodologies used to quantify complex factors surrounding real estate productivity, value, investment, and project feasibility. Specific course topics will coincide with student interest in one of three focus areas: Investment, Development, or Commercial Finance.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of Real Estate Program Director.

**BSAD 8605 REAL ESTATE CONCEPTS AND APPLICATIONS (3 credits)**

Upper-level survey course in real estate principles, concepts, and their applications. The course will familiarize students with industry terminology, current practices, and cover the following topics: Licensure, property rights, legal descriptions, real estate law and contracts, appraisal, financing, investments, Fair Housing, and related topic areas. NOTE: Students cannot receive credit for both RELU 2410 and RELU 3410. (Cross-listed with RELU 3410).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program, or permission of Real Estate Program Director.

**BSAD 8606 FINANCIAL RISK MANAGEMENT (3 credits)**

The course provides students with an intermediate level analysis of financial derivatives, and the use of these instruments for managing risk in financial institutions. (Cross-listed with FNBK 4600.)

**Prerequisite(s)/Corequisite(s):** BSAD 8500 and 8510 or their equivalent, and graduate standing. Not open to nondegree students.

**BSAD 8610 REAL ESTATE APPRAISAL (3 credits)**

This course addresses the fundamentals of real estate valuation and appraising, including factors affecting value, valuing land, improvements, and special classes of residential property, appraisal practice and rules, depreciation and obsolescence, and the mathematics of appraising.

**Prerequisite(s)/Corequisite(s):** RELU 3410 and BSAD 8630, or permission of instructor.

**BSAD 8620 VALUATION OF INTELLECTUAL PROPERTY (3 credits)**

Intellectual Property (IP) is critical to business success. Accounting, economics, and finance all struggle to quantify "value" of individual IP (e.g., trademark) and bundles of IP (e.g., patent pool). Value depends on the context (e.g., infringement versus depreciation versus sale). This course focuses on application of theory.

**Prerequisite(s)/Corequisite(s):** BSAD 8010 or BSAD 8100 or BSAD 8110 or BSAD 8500, or its equivalents. Not open to non-degree graduate students.

**BSAD 8630 FINANCE: UNDERSTANDING CAPITAL AND CASH (2 credits)**

As a comprehensive introduction to financial management, the course will cover various fields of finance and discuss topics including the time value of money, bond and stock valuation, capital budgeting.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070, 8150 and 8210. Students with an undergraduate major or a graduate degree in finance or accounting may not include this course on their plan of study for the MBA degree. Not open to non-degree graduate students.

**BSAD 8640 IT: STRATEGIC DEVELOPMENT AND DEPLOYMENT (1 credit)**

Students will gain a strategic perspective of information technology management, including current trends and best practices, and understand how technology can be used in competitive positioning. Processes for innovation and research and development spending and new business models will be covered.

**BSAD 8650 INTERNATIONAL: COMPETING IN GLOBAL MARKETS (2 credits)**

This course allows students to develop an understanding of the evolution of the global political economy, challenges faced when operating in the global business environment, and how to evaluate the risks and returns of global expansion. Students will also learn how to effectively communicate in international settings, to successfully manage international conflicts, and to conduct effective cross-border business negotiations.

**Prerequisite(s)/Corequisite(s):** Enrollment in the Executive MBA Program. Not open to non-degree graduate students.

**BSAD 8696 EMERGING TECHNOLOGY AND INNOVATION (3 credits)**

This course equips entrepreneurially-minded students with a more complete range and vision of the viability of various startup opportunities (with a specific focus on innovative technologies and innovative business models). Students will become familiarized with the new and emerging technologies and innovations that define modern industries and product categories, as well as the various shifts in the way cutting-edge business gets done, regardless of industry. (Cross-listed with ENTR 4690, MGMT 4690).

**Prerequisite(s)/Corequisite(s):** Admission to a UNO graduate degree program or permission of instructor

**BSAD 8700 BUSINESS ANALYTICS: MAKING SENSE OF DATA (2 credits)**

The purpose of this course is to provide business managers with an understanding of the important role data analytics has assumed in today's organizations. Data analytics has become a key component in accomplishing strategic and operational goals. This course is designed to familiarize students with the concepts and principles of analytics. It is targeted for graduate or MBA students who have little or no background in analytics. Therefore, it focuses on breadth of coverage rather than depth in any specific area.

**Prerequisite(s)/Corequisite(s):** BSAD 8060 or BSAD 8070 (prior to or concurrent); or admission to the MAcc program. Not open to non-degree graduate students.

**BSAD 8710 SUPPLY CHAIN MANAGEMENT (3 credits)**

This course will focus on supply chain management as a key functional area of organizational success. Students will learn about current techniques used by supply chain practitioners to make strategic and tactical decisions that support the overall strategy and day-to-day operations of an organization. Students will develop an understanding of how supply chain decisions and appropriate metrics of performance can be utilized to improve the operational efficiency and effectiveness of an organization.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College, MBA Program or by permission of the instructor. Not open to non-degree graduate students.

**BSAD 8720 STRATEGIC FINANCIAL MANAGEMENT (2 credits)**

This course is intended to be advanced financial management. It will stress the theory and application of topics including, but not limited to capital budgeting, cash flow estimation, real options, capital structure, dividends and share repurchases, working capital management, budgeting, planning and forecasting, and lease management. The material covered in Strategic Financial Management will increase the student's knowledge of how to strategically manage financial resources to increase the intrinsic value of the organization.

**Prerequisite(s)/Corequisite(s):** For MBA students, BSAD 8630. For MAcc students, completion of all Master of Accounting (MAcc) foundation courses. Not open to non-degree graduate students.

**BSAD 8726 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with ENTR 4720, ITIN 4720, ITIN 8256, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or by instructor permission

**BSAD 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, ECON 8436)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students

**BSAD 8750 TELECOMMUNICATIONS IN BUSINESS (3 credits)**

This course is designed to introduce students to basic technology of modern telecommunications, including voice, data and video, as well as the contemporary issues of telecommunication policy. In addition, the course will address managerial issues of modern telecommunications in business.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to non-degree graduate students.

**BSAD 8766 SELLING IN AN ENTREPRENEURIAL CONTEXT (3 credits)**

Successful entrepreneurs are able to identify unmet needs in the marketplace and then design and sell products or services that fulfill those needs. Sales effectiveness is essential for entrepreneurs because they must be able to build sustainable sales pipelines that ensure profitable growth as other pressing issues such as financing, staffing, product development are addressed. This course will focus on consultative solution-based sales fundamentals that can be applied in the entrepreneurial selling environment. (Cross-listed with ENTR 4760, MKT 4760)

**Prerequisite(s)/Corequisite(s):** GPA 2.5 or better; MKT 3100 with a 2.5 grade or better; MKT 3310 with a 2.5 grade or better; or permission of instructor. Not open to non-degree graduate students.

**BSAD 8776 INTRODUCTORY MAVERICK VENTURE FUND (1 credit)**

This course teaches the basics of venture capital, including, the topics of term sheets, due diligence and learning the perspectives of the entrepreneur and investor. Students in this course have the opportunity to observe more advanced students making investments, ranging from 5,000 dollars to 10,000 dollars plus. This course is the first of three, one-credit courses where students gain more advanced venture funding knowledge and application at each level. (Cross-listed with ENTR 4770).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must apply and interview to take this course. Preference is given to students in their junior year, and must have three semesters of school left before graduating.

**BSAD 8786 INTERMEDIATE MAVERICK VENTURE FUND (1 credit)**

In this course, students source deals, listen to pitches, and select start-ups to be funded. Investments typically range from 5,000 dollars to 10,000 dollars plus. This course is the second in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4780).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8776 with a grade of C or better.

**BSAD 8796 ADVANCED MAVERICK VENTURE FUND (1 credit)**

This course applies advanced concepts of venture capital. Students will learn how to monitor and assist start-ups in the scaling process. Students learn how to leverage community partners to amplify investment opportunities. This course is the third in a set of three courses that increase in difficulty with each course. (Cross-listed with ENTR 4790).

**Prerequisite(s)/Corequisite(s):** This course requires instructor approval. Students must have completed BSAD 8786 with a grade of C or better.

**BSAD 8800 MBA PROJECT-FOCUSED CAPSTONE (2 credits)**

In this Master's of Business Administration (MBA) required project-focused capstone course, students complete a service-learning consulting project for a non-profit or other type of organization. This consulting project will focus on the application of the knowledge and skills learned in the MBA program.

**Prerequisite(s)/Corequisite(s):** Students must complete this course in the final semester or within the final 9 credits of their MBA program courses. A minimum B grade required to successfully complete the course and qualify for graduation. Not open to non-degree graduate students.

**BSAD 8810 APPLIED STRATEGIC LEADERSHIP (3 credits)**

Applied and integrative course in the MBA program, with an emphasis on field experiences when possible.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in, or completion of, BSAD 8060. Not open to nondegree students.

**BSAD 8820 SUSTAINABLE BUSINESS PRACTICES (1 credit)**

This course exposes students to motivations for, and implications of business engagement in, sustainable management practices. As such the course addresses why firms have increasingly been investing in energy and natural resource conservation, recycling, green products, green branding, and environmental impact mitigation. This course addresses a firm's market-based incentives to grow profits, gain market share and/or otherwise differentiate themselves from their competition through green initiatives.

**Prerequisite(s)/Corequisite(s):** BSAD 8150 or permission of instructor. Not open to non-degree graduate students.

**BSAD 8830 STRATEGY: DEVELOPING SUSTAINABLE COMPETITIVE ADVANTAGE (2 credits)**

This course centers on the theme that a company achieves sustained success if and only if its managers (1) develop, and revise as needed, an action-oriented strategic plan and (2) implement and execute the plan with some proficiency. The primary objective of this course is to sharpen the ability of students to think strategically, to diagnose situations from a strategic perspective and to develop creative solutions to enable firms to achieve a sustainable competitive advantage.

**Prerequisite(s)/Corequisite(s):** Students must successfully complete BSAD 8150 and BSAD 8210 before enrolling in this course. This course must be taken within the first 20 hours of the MBA program. Not open to non-degree graduate students.

**BSAD 8880 ARTS AND THE EXECUTIVE (3 credits)**

The course will provide the graduate student with an understanding of the organizational and managerial issues involved in an arts organization as the role of the arts in the business community.

**Prerequisite(s)/Corequisite(s):** Graduate. Not open to nondegree students.

**BSAD 8900 INDEPENDENT STUDY (1-6 credits)**

Individual research in an academic area in business administration.

**Prerequisite(s)/Corequisite(s):** Graduate and permission of MBA Advisor. Requires submission of completed Independent Study Contract to MBA Advisor prior to registration. Not open to non-degree graduate students.

**BSAD 8910 SPECIAL TOPICS IN BUSINESS (1-3 credits)**

May be repeated up to (6). A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate in good standing and as indicated for specific workshop or seminar. Not open to non-degree graduate students.

**BSAD 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with ECON 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**BSAD 8990 THESIS (1-6 credits)**

A research project, under the supervision of a faculty thesis adviser in the College of Business Administration, in which the student establishes his capacity to design, conduct and complete an independent, scholarly investigation of a high order of originality. The research topic and the completed project must be approved by the student's faculty thesis adviser and two other faculty members, one of whom must be from outside the program area.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser. Not open to non-degree graduate students.

## Chemical Engineering (CHME)

**CHME 8306 CHEMICAL ENGINEERING LAB (4 credits)**

Selected experiments in chemical engineering. Emphasis on experimental design, interpretation of results, and formal oral and written reports. (Cross-listed with CHME 4300).

**Prerequisite(s)/Corequisite(s):** CHME 2030 and CHME 3330 and (coreq CHME 4420 or CHME 8426)

**CHME 8346 DIFFUSIONAL OPERATIONS (3 credits)**

Application of diffusional theory to the design of processing equipment required for absorption, adsorption, leaching, drying, and chemical reactions. (Cross-listed with CHME 4340).

**Prerequisite(s)/Corequisite(s):** CHME 3330 and CHME 4420 and MATH 2350

**CHME 8426 CHEMICAL REACTOR ENGINEERING AND DESIGN (3 credits)**

Basic principles of chemical kinetics are coupled with models descriptive of rates of energy and mass transfer for the analysis and design of reactor systems. (Cross-listed with CHME 4420).

**Prerequisite(s)/Corequisite(s):** CHME 3230

**CHME 8896 AIR POLLUTION, ASSESSMENT AND CONTROL (3 credits)**

Survey of the present status of the air pollution problem and the application of engineering and scientific principles to its practical and effective coordinated control. (Cross-listed with CHME 4890).

**Prerequisite(s)/Corequisite(s):** Senior standing, not open to nondegree students

# Chemistry (CHEM)

## **CHEM 8040 SEMINAR IN TEACHING ADVANCED PLACEMENT CHEMISTRY (2 credits)**

This course provides an introduction to the Advanced Placement high-school chemistry course and includes instruction on content and methods specific to teaching an Advanced Placement chemistry course. Emphasis will be placed on subject content and adaptations of college-level laboratory experiments to the high-school level.

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in the Advanced Placement Chemistry Institute at UNO and current employment as a high-school science teacher or instructor permission.

## **CHEM 8215 INTRODUCTION TO MOLECULAR MODELING (3 credits)**

The course covers the advantages and limitations of current modeling systems, the criteria for choosing the appropriate modeling system to best solve a given problem and the computer resources needed to conduct the modeling experiments. Following an introduction to the theory behind a variety of modeling systems, students model organic and bioorganic compounds in projects designed to mimic real world applications. (Alternate Spring semesters). (Cross-listed with CHEM 3210).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a grade of C- or better.

## **CHEM 8236 ADVANCED ORGANIC CHEMISTRY - SYNTHESIS (3 credits)**

An advanced lecture course in modern theories and organic reactions with application to synthesis. (Alternate Fall semesters) (Cross-listed with CHEM 4230).

## **CHEM 8246 ADVANCED ORGANIC CHEMISTRY - MECHANISM (3 credits)**

An advanced lecture course in organic chemical reactions. (Cross-listed with CHEM 4240).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2400 with a C- or better

## **CHEM 8256 ADVANCED ORGANIC CHEMISTRY: MECHANISMS AND MODELING (4 credits)**

Presentation of advanced topics in organic chemistry focused on structure, bonding and reaction mechanisms. The use of molecular modeling software as means to predict structure, relative stabilities and reaction thermodynamics are covered in a hands-on environment. The course will survey various modeling methods and show its relevance to molecular orbital theory. The basic methodologies used to explore organic mechanisms are presented and then used to study mechanistic details of various reaction types. Students cannot count both Chem 4250 and Chem 4240 toward their degree. (Cross-listed with CHEM 4250).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274 with a C- or better

## **CHEM 8316 POLYMER CHEMISTRY (3 credits)**

An introduction to the chemical and physical properties of polymers. Emphasis will be on physical properties and structure/property relationships. Topics will include kinetics and synthesis. Students will gain an understanding of the characteristics of polymers and their applications.

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 3350 with a grade of C or better, or instructor permission.

## **CHEM 8355 PHYSICAL CHEMISTRY I (3 credits)**

A presentation of selected topics from the areas of classical thermodynamics and electrochemistry. (Fall) (Cross-listed with CHEM 3350).

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in CHEM 8359.

## **CHEM 8359 PHYSICAL CHEMISTRY I LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in thermodynamics, kinetics and electrochemistry, to be taken concurrently with CHEM 3350/8355. Instruction and practice in scientific writing is also an emphasis of the course. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Fall. (Cross-listed with CHEM 3354).

## **CHEM 8365 PHYSICAL CHEMISTRY II (3 credits)**

A presentation of selected topics from the areas of quantum mechanics, spectroscopy, kinetics and statistical mechanics. (Cross-listed with CHEM 3360).

**Prerequisite(s)/Corequisite(s):** CHEM 3350 and CHEM 3354 with a grade of C- or better.

## **CHEM 8369 PHYSICAL CHEMISTRY II LABORATORY (1 credit)**

Physical chemistry laboratory covering topics in quantum mechanics, computational chemistry, spectroscopy, and kinetics, to be taken concurrently with CHEM 3360. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. Offered in Spring. (Cross-listed with CHEM 3364).

## **CHEM 8406 INSTRUMENTAL ANALYSIS (3 credits)**

Study of instrumentation for use in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 4400).

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in CHEM 8409

## **CHEM 8409 INSTRUMENTAL ANALYSIS LABORATORY (1 credit)**

Investigation of instrument performance and use of instrumentation in quantitative and trace analysis. Advanced instrumental methods and electronics for instrumentation are included. (Spring) (Cross-listed with CHEM 4404).

**Prerequisite(s)/Corequisite(s):** Concurrent enrollment in CHEM 8406

## **CHEM 8429 SPECTROMETRIC CHARACTERIZATIONS (1 credit)**

Laboratory course involving the use of spectrometric instrumentation for the identification of compounds containing organic functional groups. (Cross-listed with CHEM 3424).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2274, CHEM 2400 and CHEM 2404 with a grade of C or better.

## **CHEM 8506 ADVANCED INORGANIC CHEMISTRY (3 credits)**

The application of bonding models for understanding of the composition, structure, and reactions of inorganic molecules, including organometallic and bioinorganic complexes. (Cross-listed with CHEM 4500).

**Prerequisite(s)/Corequisite(s):** CHEM 8355 or may be taken concurrently.

## **CHEM 8654 BIOCHEMISTRY I LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in biochemistry lecture with the development of biochemical laboratory skills including experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on protein properties, including enzyme activity. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Fall) (Cross-listed with BIOL 4654, BIOL 8654, CHEM 4654).

**CHEM 8656 BIOCHEMISTRY I (3 credits)**

A comprehensive introduction to biochemistry emphasizing: structure-function relationships for proteins, carbohydrates, lipids, and nucleic acids; protein purification; enzyme kinetics and mechanisms; membranes and membrane transport; carbohydrate metabolism including glycolysis, the citric acid cycle and oxidative phosphorylation; and important applications of thermodynamics and the properties of water to living systems. (Fall) (Cross-listed with BIOL 4650, BIOL 8656, CHEM 4650).

**Prerequisite(s)/Corequisite(s):** CHEM 2260 and CHEM 2274; and either CHEM 2400 or BIOL 3020, all with a C- or better. Other comparable courses taken at accredited colleges or universities are acceptable. CHEM 8654 must be taken concurrently.

**CHEM 8664 BIOCHEMISTRY II LABORATORY (1 credit)**

A laboratory course to help integrate the concepts learned in Biochemistry II lecture with the development of biochemical laboratory skills, to gain practical experience in experimental design, data analysis, presentation of results and communication of scientific information, with a focus on formal instruction in journal-style writing and notebook skills. There is an emphasis on nucleic acid properties. Fulfills the third writing course requirement for students majoring in chemistry when NSCI 3940 and another approved laboratory course have been completed with a C- or better. (Spring) (Cross-listed with BIOL 4664, BIOL 8664, CHEM 4664).

**CHEM 8666 BIOCHEMISTRY II (3 credits)**

A continuation of the study of the structure and function of biomolecules and biochemical reactions with an emphasis on metabolism of carbohydrates, lipids, amino acids and nucleotides, and the chemistry of signal transduction and genetic information transfer. (Spring) (Cross-listed with BIOL 4660, BIOL 8666, CHEM 4660).

**Prerequisite(s)/Corequisite(s):** CHEM 8656 and CHEM 8654 or BIOL 8656 and BIOL 8654 with a grade of B- or better. CHEM 8664 must be taken concurrently.

**CHEM 8676 PROTEIN PURIFICATION AND CHARACTERIZATION (2 credits)**

This course is a study of protein biochemistry, protein purification techniques, and characterization strategies with an emphasis on chromatography and crystallography. The course has a significant laboratory component. (Cross-listed with CHEM 4670).

**Prerequisite(s)/Corequisite(s):** CHEM 8656 and CHEM 8654 (grade of B or better), or permission of instructor.

**CHEM 8936 SPECIAL TOPICS IN CHEMISTRY (1-3 credits)**

Selected special topics in chemistry. (Cross-listed with CHEM 4930).

**Prerequisite(s)/Corequisite(s):** CHEM 2260, CHEM 2400 with a grade of C or better. Some topics will require more advanced prerequisites and will be accepted for advanced course work in chemistry.

**CHEM 8966 CHEMISTRY PROBLEMS (1-3 credits)**

Independent student research and communication of results. (Cross-listed with CHEM 4960).

**Prerequisite(s)/Corequisite(s):** CHEM 4950 with a grade of C or better and permission of instructor.

**CHEM 8990 RESEARCH IN CHEMISTRY (0 credits)**

Experimental or theoretical work in chemistry or an interdisciplinary field involving chemical content, analysis and communication of results.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, graduate, and sufficient grounding in the research area to fully support successful project accomplishment.

## College of Information Science & Technology (CIST)

**CIST 9040 COLLOQUIUM ON IT RESEARCH (1 credit)**

The purpose of the course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to professional success as researchers. Topics to be discussed include: nature of research in information technology; research problem selection, development, and presentation with special emphasis on the doctoral dissertation; dissertation process; development and crafting of papers for journals; collaboration on research projects; and review process for journal papers.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor.

**CIST 9050 COLLOQUIUM ON IT TEACHING (1 credit)**

The purpose of the course is to provide a forum for interaction among doctoral student and faculty on topics of relevance to professional success as teachers/educators in university settings. Topics to be discussed include: issues and challenges of teaching; getting started in teaching; course preparation; teaching methods; assessment of students; on-going course development; diversity in the classroom; use of technology in teaching including online education; and developing and maintaining a teaching portfolio.

**Prerequisite(s)/Corequisite(s):** Doctoral students in Information Technology and Biomedical informatics. Students from doctoral programs across the University of Nebraska are welcome to register with permission of instructor. Not open to non-degree graduate students.

**CIST 9060 COLLOQUIUM ON IT PROFESSION AND ETHICS (1 credit)**

The purpose of this course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to professional success as members of the academy. Some of the topics to be discussed will include: ethics and professional code of conduct; strategies for dealing with academic dishonesty/plagiarism; academic and professional organizations in the IT profession (e.g., IEEE, ACM, AIS, PMI, AITP); challenges of human subjects research; developing survival skills: balancing service, teaching and research, etc.; career development and progression; and role and nature of local, national, and international service.

**Prerequisite(s)/Corequisite(s):** Any IS&T PhD student is eligible to attend; other Doctoral students can attend with permission of instructor. Not open to non-degree graduate students.

**CIST 9080 RESEARCH DIRECTIONS IN I.T. (3 credits)**

The purpose of this course is to provide a forum for interaction among doctoral students and faculty on topics of relevance to IT research and make them familiar with current and future research directions in IT. Students will examine what constitutes a research contribution, gain hands-on experience with directed research, and explore the breadth of sub-disciplines within IT research.

**Prerequisite(s)/Corequisite(s):** Doctoral standing in Information Technology or permission of course coordinators. Not open to non-degree graduate students.

**CIST 9100 SEMINAR ON READINGS IN IT (1 credit)**

Seminar focused on IT literature within a topic area aligned with PhD in IT concentrations, providing opportunity for in-depth review and discussion of materials in the concentration reading list. Provides exposure to current topics, research methods, and professional practice for the concentration.

**Prerequisite(s)/Corequisite(s):** Open to all currently admitted PhD students and other graduate students by instructor permission. May be repeated up to 3 times for credit in Major Field of Study, and up to 3 times as an elective.

**CIST 9900 SPECIAL TOPICS IN INFORMATION TECHNOLOGY (1-3 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the information technology area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Additional prerequisite courses may be required for particular topic offerings.

**CIST 9970 RESEARCH OTHER THAN THESIS (1-3 credits)**

This is a directed research course enabling students to pursue a research topic individually under the direction of a graduate faculty member.

Research problems should help introduce students to practical research methods in the field of computing, and they should be framed in such a way to enable the student to complete the work in the course of one semester.

**Prerequisite(s)/Corequisite(s):** Requires instructor permission. Only open to doctoral students in the IT PhD program. Course cannot be taken for credit after candidacy nor count towards core/major field of study requirements in the IT PhD. Not open to non-degree graduate students.

**CIST 9980 INDEPENDENT STUDY IN INFORMATION TECHNOLOGY (1-3 credits)**

This course allows students to research a topic of their interest that is not available in a formal course. The topic to be studied must be agreed upon by the student and the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**CIST 9990 DISSERTATION (1-12 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty supervisory committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in information systems and/or information technology.

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in Information Technology. Admission to candidacy for the Ph.D. degree. Prior to enrolling for dissertation hours, the students must have permission of the supervisory committee. Not open to non-degree graduate students.

## Civil Engineering (CIVE)

**CIVE 819 FLOW SYSTEMS DESIGN (3 credits)**

Application of hydraulic principles to the design of water distribution systems, wastewater and stormwater collection systems, channelized flow systems and treatment facilities. (Cross-listed with CIVE 419).

**Prerequisite(s)/Corequisite(s):** CIVE 326 or CIVE 327; Corequisite: CIVE 352

**CIVE 821 HAZARDOUS WASTE MANAGEMENT AND TREATMENT (3 credits)**

Survey of the hazardous waste management system in the USA. State and federal hazardous waste regulations. Chemical characteristics of hazardous waste and unit operations and processes used for treatment of soil, water, and air. (Cross-listed with CIVE 421).

**Prerequisite(s)/Corequisite(s):** CIVE 326.

**CIVE 822 POLLUTION PREVENTION: PRINCIPLES AND PRACTICES (3 credits)**

Introduction to pollution prevention (P2) and waste minimization methods. Practical applications to small businesses and industries. Legislative and historical development of P2 systems analysis, waste estimation, P2 methods, P2 economics, and sources of P2 information. (Cross-listed with CIVE 422).

**CIVE 823 PHYSICAL & CHEMICAL TREATMENT PROCESSES IN ENVIRONMENTAL ENG (3 credits)**

Evaluation and analysis of physical and chemical unit operations and processes applied to the treatment of water, wastewater, and hazardous wastes.

**Prerequisite(s)/Corequisite(s):** CIVE326 and CIVE425

**CIVE 824 SOLID WASTE MANAGEMENT ENGINEERING (3 credits)**

Planning design and operation of solid and waste collection processing, treatment, and disposal systems including materials, resources and energy recovery systems. (Cross-listed with CIVE 424).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 334

**CIVE 826 DESIGN OF WATER TREATMENT FACILITIES (3 credits)**

Analyses of water supplies and design of water treatment and distribution systems. (Cross-listed with CIVE 426).

**Prerequisite(s)/Corequisite(s):** CIVE425

**CIVE 827 DESIGN OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES (3 credits)**

Analysis of systems for wastewater treatment and disposal. (Cross-listed with CIVE 427).

**Prerequisite(s)/Corequisite(s):** CIVE 425

**CIVE 828 ENVIRONMENTAL ENGINEERING CHEMISTRY (3 credits)**

Basic concepts from general chemistry. Thermodynamic and kinetic basis for the composition of aquatic systems. Equilibrium chemistry, including acid-base reactions, reduction-oxidation reactions, metal speciation and precipitation, and gas/liquid partitioning.

**Prerequisite(s)/Corequisite(s):** CIVE 326. Not open to non-degree graduate students.

**CIVE 829 BIOLOGICAL WASTE TREATMENT (3 credits)**

Principles of biological processes and their application in the design of waste treatment systems.

**Prerequisite(s)/Corequisite(s):** CIVE 326 or equivalent.

**CIVE 830 FUNDAMENTALS OF WATER QUALITY MODELING (3 credits)**

Comprehensive study of water quality and the effects of various water pollutants on the aquatic environment; modeling of water quality variables. (Cross-listed with CIVE 430).

**Prerequisite(s)/Corequisite(s):** CIVE 326

**CIVE 831 SMALL TREATMENT SYSTEMS (3 credits)**

Design of small and decentralized waste water management systems. (Cross-listed with CIVE 431.)

**Prerequisite(s)/Corequisite(s):** CIVE 326 or permission. Not open to non-degree graduate students.

**CIVE 834 SOIL MECHANICS II (3 credits)**

(Lecture 3, option Lab 3) Application of the effective stress principle to shear strength of cohesive soils; analysis of stability of slopes. Development of continuum relationships for soils; solutions for stresses and displacements for an elastic continuum, solution of the consolidation equation for various initial and boundary conditions.

**Prerequisite(s)/Corequisite(s):** CIVE334

**CIVE 836 FOUNDATION ENGINEER (3-4 credits)**

(Lecture 3, Optional Lab 3) Subsoil exploration and interpretation; selection of foundation systems; determination of allowable bearing capacity and settlement; design of deep foundations; pile driving analysis; control of groundwater.

**Prerequisite(s)/Corequisite(s):** CIVE334

**CIVE 839 INTRODUCTION TO BRIDGE ENGINEERING (3 credits)**

Structural types, bridge loads, design of bridge slabs, steel girder bridges, and prestressed concrete girder bridges. Evaluation of existing bridges. Problems related to fatigue and corrosion. Field testing of bridges.

**Prerequisite(s)/Corequisite(s):** CIVE440 or CIVE441 or CIVE840

**CIVE 840 REINFORCED CONCRETE DESIGN I (3 credits)**

Introduction to the design of reinforced concrete building components. Emphasis is placed on the design of flexural and compression members, simple walls, foundations, and floor systems using the latest ACI design requirements.

**Prerequisite(s)/Corequisite(s):** CIVE341

**CIVE 842 STRUCTURAL DYNAMICS (3 credits)**

Dynamic behavior of civil engineering structures. Free and forced vibrations of multi degree-of-freedom systems. Response of continuous beam and frames. Elasto-plastic behavior. Dynamic loads on bridges. Analysis and design considerations for buildings and bridges subjected to seismic loadings. Emphasis is on application of computer-aided numerical procedures.

**Prerequisite(s)/Corequisite(s):** CIVE341

**CIVE 843 ADVANCED STRUCTURAL ANALYSIS (3 credits)**

Matrix analysis methods and computer solutions for indeterminate structures. Additional topics: static condensation, shear deformations, and non-prismatic members in matrix-based analyses, moment distribution method, load cases and load combinations for buildings and bridges, and influence lines and analysis for moving loads. (Cross-listed with CIVE 443)

**Prerequisite(s)/Corequisite(s):** CIVE 341. Not open to non-degree graduate students.

**CIVE 844 STRUCTURAL DESIGN AND PLANNING (3 credits)**

Principles of design of steel and reinforced concrete structural building systems, planning of building vertical and horizontal load resisting systems, and bridge systems. Several design projects involve indeterminate analysis and design concepts for both steel and reinforced concrete. (Cross-listed with CIVE 444).

**Prerequisite(s)/Corequisite(s):** CIVE 440 and CIVE 441

**CIVE 846 STEEL DESIGN II (3 credits)**

A continuation of CIVE 441. The principles and procedures used in design of steel buildings, design of plate girders, design and analysis of building systems, design and analysis of composite steel-concrete building systems, innovative building systems, and introduction to seismic design of steel buildings. Plate buckling, beam, column, and beam-column design. Frame stability. Introduction to connection design.

**Prerequisite(s)/Corequisite(s):** CIVE441

**CIVE 847 REINFORCED CONCRETE II (3 credits)**

Shear friction theory, strut-and-tie modeling, anchorage, deflection, slender and bi-axially loaded members, torsion, two-way action and punching shear, and footing design. Excel spreadsheets are developed and used for various design tasks. (Continuation of topics covered in CIVE 440/CIVE 840.) (Cross-listed with CIVE 447).

**Prerequisite(s)/Corequisite(s):** CIVE 440 or CIVE 840

**CIVE 849 INTRODUCTORY FINITE ELEMENT ANALYSIS IN SOLID MECHANICS (3 credits)**

Matrix methods of analysis. The finite element stiffness method with a focus on solid mechanics. Isoparametric elements formulation based on energy principles. Perform finite element analyses using commercial software.

**Prerequisite(s)/Corequisite(s):** CIVE 443 or 843

**CIVE 850 PRESTRESSED CONCRETE (3 credits)**

Analysis and design of prestressed concrete members. Axial force, bending, shear, torsion, prestress losses, initial and long-term deflection, partial prestressing, statically indeterminate structures.

**Prerequisite(s)/Corequisite(s):** CIVE341 and CIVE440

**CIVE 851 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. The finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow. (Cross-listed with CIVE 451).

**Prerequisite(s)/Corequisite(s):** MENG 3250 or EMEC 3250; and MENG 4800 or EMEC 4800.

**CIVE 852 WATER RESOURCES DEVELOPMENT (3 credits)**

Theory and application of systems engineering with emphasis on optimization and simulation techniques for evaluating alternatives in water resources developments related to water supply, flood control, hydroelectric power, drainage, water quality, water distribution, irrigation and water measurement. (Cross-listed with CIVE 452).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 853 GIS IN WATER RESOURCES (3 credits)**

Familiarization with a wide range of spatial information and used in hydrologic and water resources analysis. Development of expertise in GIS systems, especially ArcGIS, Digital mapping and analysis of water resources information. Hydrologic terrain analysis using digital elevation models. Integration of time series and geospatial data. Hydrologic Information Systems. River and watershed networks. Evapotranspiration, Precipitation (PRISM), Soil, and Landuse maps, and databases. Use of Remote Sensing tools.

**CIVE 854 HYDRAULIC ENGINEERING (3 credits)**

Fundamentals of hydraulics with applications of mechanics of solids, mechanics of fluids, and engineering economics to the design of hydraulic structures. Continuity, momentum, and energy principles are applied to special problems from various branches of hydraulic engineering. (Cross-listed with CIVE 454).

**Prerequisite(s)/Corequisite(s):** CIVE 352

**CIVE 855 NONPOINT SOURCE POLLUTION CONTROL ENGINEERING (3 credits)**

Identification, characterization, and assessment of nonpoint source pollutants; transport mechanisms and remediation technologies; design methodologies and case studies. (Cross-listed with CIVE 455).

**Prerequisite(s)/Corequisite(s):** CIVE 326 and CIVE 352

**CIVE 856 SURFACE WATER HYDROLOGY (3 credits)**

Stochastic analysis of hydrological data and processes including rainfall, runoff, infiltration, temperature, solar radiation, wind, and non-point pollution. Space-time hydrologic modeling with emphasis on the application of techniques in the design of engineering projects. (Cross-listed with CIVE 456).

**CIVE 857 APPLIED STRUCTURAL ANALYSIS (3 credits)**

Review of basic concepts. Mesh generation using a preprocessor. 2D and 3D Model generation. Boundary conditions. Implicit and explicit solution algorithms. Interpretation of analysis results using a post-processor. Solution of problems using existing FE software.

**Prerequisite(s)/Corequisite(s):** CIVE851

**CIVE 858 GROUNDWATER ENGINEERING (3 credits)**

Application of engineering principles to the movement of groundwater. Analysis and design of wells, well fields, and artificial recharge. Analysis of pollutant movement. (Cross-listed with CIVE 458).

**Prerequisite(s)/Corequisite(s):** CIVE 352.

**CIVE 859 RELIABILITY OF STRUCTURES (3 credits)**

Fundamental concepts related to structural reliability, safety measures, load models, resistance models, system reliability, optimum safety levels, and optimization of design codes.

**Prerequisite(s)/Corequisite(s):** CIVE341, not open to nondegree students

**CIVE 861 URBAN TRANSPORTATION PLANNING (3 credits)**

Development of urban transportation planning objectives and goals. Data collection procedures, land use and travel forecasting techniques, trip generation, trip distribution, modal choice analysis, and traffic assignment. Site development and traffic impact analysis. (Cross-listed with CIVE 461).

**Prerequisite(s)/Corequisite(s):** CIVE 361

**CIVE 862 HIGHWAY DESIGN (3 credits)**

Design of roadways, intersections, interchanges, parking facilities, and land development site access and circulation. Emphasis on design projects. (Cross-listed with CIVE462)

**CIVE 863 TRAFFIC ENGINEERING (3 credits)**

Design of signalized intersections, arterial street and network signal systems, and freeway control systems. Emphasis on design projects. (Cross-listed with CIVE463)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 864 ANALYSIS AND ESTIMATION OF TRANSPORTATION DEMAND (3 credits)**

Introduction to conceptual, methodological and mathematical foundations of analysis and design of transportation services; review of probabilistic modeling; application of discrete choice models to demand analysis.

**Prerequisite(s)/Corequisite(s):** CIVE461 or CIVE861 or equivalent

**CIVE 865 HIGHWAY GEOMETRICS (3 credits)**

Principles of highway geometrics. Sight distances, design vehicles, vehicle characteristics, horizontal and vertical alignment, cross section elements, and at-grade intersections and interchanges.

**Prerequisite(s)/Corequisite(s):** (CIVE462 or CIVE862), not open to nondegree students

**CIVE 866 TRAFFIC CHARACTERISTICS (3 credits)**

Use of the concepts of volume, speed, density, and capacity to describe the characteristics and performance of surface, air, and water transportation systems.

**Prerequisite(s)/Corequisite(s):** (CIVE463 or CIVE863) and (STAT3800 or MATH3800)

**CIVE 867 TRANSPORTATION SAFETY ENGINEERING (3 credits)**

Safety criteria in the planning, design and operation phases of highway, rail, airport, mass transit, pipeline, and waterway transportation systems. Background of safety legislation and funding requirements. Identification of high accident locations and methods to determine cost/effectiveness of improvements.

**Prerequisite(s)/Corequisite(s):** Permission.

**CIVE 868 AIRPORT PLANNING AND DESIGN (3 credits)**

Planning and design of general aviation and air-carrier airports. Land-side components include vehicle ground access systems, vehicle circulation parking and terminal buildings. Air-side components include aircraft apron-gate area, taxiway system, runway system and air traffic control facilities and airspace. Emphasis on design projects. (Cross-listed with CIVE468)

**Prerequisite(s)/Corequisite(s):** CIVE361

**CIVE 869 COMPUTER-AIDED INTERCHANGE DESIGN (3 credits)**

Principles of high-speed traffic operations, safety, and decision making related to critical design parameters used for optimal interchange geometric design through development of an interchange design project using graphical and civil engineering software.

**Prerequisite(s)/Corequisite(s):** CIVE 862. Not open to non-degree graduate students.

**CIVE 871 BITUMINOUS MATERIALS AND MIXTURES (3 credits)**

Understanding of the physical, chemical, geometrical, and mechanical characteristics and practical applications of bituminous materials and mixtures. Fundamental mechanics for elastic and inelastic materials and basic theories associated with mechanical data analyses and designs. Recent advances and significant research outcomes for further discussions. Applications of theories to laboratory and field testing. (Cross-listed with CIVE 471)

**Prerequisite(s)/Corequisite(s):** CIVE 378. Not open to non-degree graduate students.

**CIVE 872 PAVEMENT DESIGN AND EVALUATION (3 credits)**

Thickness design of flexible and rigid pavement systems for highways and airports; design of paving materials; evaluation and strengthening of existing pavements. (Cross-listed with CIVE 472).

**Prerequisite(s)/Corequisite(s):** CIVE 334

**CIVE 875 WATER QUALITY STRATEGY (3 credits)**

A holistic approach to the selection and analysis of planning strategies for protecting water quality from nonpoint sources of contamination. An introduction to the use of methods of analyzing the impact of strategies on whole systems and subsystem for selecting strategies; and for evaluating present strategies.

**CIVE 881 COMPUTATIONAL PROBLEM SOLVING IN CIVIL ENGINEERING (3 credits)**

Introduction of numerical methods to solve problems in civil engineering, including finding roots of equations, solving linear algebra equations, optimization, curve fitting, numerical differentiation and integration, and finite difference method. Computational methods in numerical integration, matrix operations and ordinary differential equations as they apply to civil engineering problems. (Cross-listed with CIVE 481)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CIVE 898 SPECIAL TOPICS IN CIVIL ENGINEERING (1-6 credits)**

Special problems, topics, or research in civil engineering. (Cross-listed with CIVE 498).

**CIVE 899 MASTERS THESIS (1-10 credits)**

Master's Thesis

**Prerequisite(s)/Corequisite(s):** Admission to masters degree program and permission of major adviser, Not open to nondegree students.

**CIVE 916 ENVIRONMENTAL LAW AND WATER RESOURCE MANAGEMENT SEMINAR (3 credits)**

An interdisciplinary seminar with the Department of Civil Engineering. Contemporary environmental issues and water resource Management.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CIVE 940 BEHAVIOR OF STEEL MEMBERS (3 credits)**

Behavior and/or design of structural steel members and their connections. Torsion effects on open and closed thin walled members. Frame buckling and stability considerations in structural steel frames. Dynamic analysis and seismic design considerations.

**Prerequisite(s)/Corequisite(s):** CIVE 446/CIVE 846. Not open to non-degree graduate students.

**CIVE 945 STRUCTURAL ANALYSIS AND DESIGN FOR DYNAMIC LOADS (3 credits)**

Behavior of structural materials and systems under dynamic loads. Analysis and design for dynamic loads. Computational techniques. Selected laboratory demonstrations of the dynamic behavior of structural systems.

**Prerequisite(s)/Corequisite(s):** CIVE 443 or CIVE 843, and CIVE 842; or permission. Not open to non-degree graduate students.

**CIVE 948 BLAST-RESISTANT STRUCTURAL DESIGN (3 credits)**

Introduction to explosion effects. Air-blast. Fragmentation. Single-Degree-of-Freedom (SDOF) analysis. Equivalent SDOF systems. Pressure-impulse diagrams. Energy solutions. Steel design. Reinforced concrete design. Masonry design. Progressive collapse. Windows and doors.

**Prerequisite(s)/Corequisite(s):** CIVE842

**CIVE 949 STEEL BRIDGE DESIGN (3-6 credits)**

Analysis and design of steel bridges for short, medium-, and long-span road and water crossings. Stringer bridges. Truss, arch, cable-stayed, and suspension bridges. High performance steel and accelerated construction.

**Prerequisite(s)/Corequisite(s):** (CIVE436 or CIVE836) and (CIVE446 or CIVE846). Not open to non-degree graduate students.

**CIVE 954 ADVANCED HYDRAULICS (3 credits)**

Advanced studies involving pipe and culvert hydraulics, rapidly-varied flow in open channels, sediment transport, river mechanics, control, and design.

**Prerequisite(s)/Corequisite(s):** CIVE 854. Not open to non-degree graduate students.

**CIVE 958 CONTAMINANT TRANSPORT IN POROUS MEDIA (3 credits)**

Theory of flow and contaminant transport in porous media including groundwater flow, multiphase flow, equilibrium contaminant distribution, reactive transport of contaminants, and colloid transport in porous media.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CIVE 961 MASS TRANSIT SYSTEMS (3 credits)**

The place of mass transit in solving urban transportation problems: transit system and terminal characteristics and planning criteria. Speed, capacity, accessibility, and operation of mass transit systems. Future prospects in transit technology and case studies of existing systems.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

**CIVE 962 APPLICATION OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) TO TRANSPORTATION (3 credits)**

Geographic Information Systems (GIS) structure, function, and concepts such as spatial data models, relational databases, and spatial analyses. GIS project planning, management, and applications to transportation-related issues.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

**CIVE 963 HIGHWAY SAFETY DATA ANALYSIS (3 credits)**

Highway safety issues and appropriate accident data analysis. Quantify changes in safety when modifications are made to highways in an effort to enhance safety. Judge reported safety improvements and carry out appropriate analysis for assessing the effectiveness of safety improvements.

**Prerequisite(s)/Corequisite(s):** STAT8805, not open to nondegree students

**CIVE 964 THEORY TRAFFIC FLOW (3 credits)**

Analysis of traffic characteristics as applied to traffic engineering facility design and flow optimization. Capacity of expressways, ramps, weaving sections, and intersections. Analytical approaches to flow analysis, queueing theory, flow density relationships, and traffic simulation.

**Prerequisite(s)/Corequisite(s):** CIVE 866 and (STAT 3800 or STAT 8805). Not open to non-degree graduate students.

**CIVE 965 TRAFFIC CONTROL SYSTEMS (3 credits)**

Principles of traffic control. Design and analysis of intersection, arterial street, network, and freeway control systems. Traffic surveillance and driver information systems.

**Prerequisite(s)/Corequisite(s):** CIVE 966 and permission. Not open to non-degree graduate students.

**CIVE 966 TRANSPORTATION PLANNING AND ECONOMICS (3 credits)**

Community growth and development based on planning decisions regarding land use whereby transportation facilities are fitted to land use. Economic studies that consider the consequences to transportation agencies, users, and nonusers. Agency expenditures, capital outlay and annual expenses for maintenance and operations. User consequences such as vehicle operating costs; commercial time costs; accident costs; discomfort and inconvenience costs; and assignment of money valuations to pleasure, recreation, and culture. Nonusers consequences items such as cost reductions or increases in public services; increases in value of crops and natural resources where areas become more readily accessible; changes in business and industrial activities; and increase or decrease of residential property values.

**Prerequisite(s)/Corequisite(s):** Permission.

**CIVE 967 ANALYSIS AND DESIGN OF TRANSPORTATION SAFETY SYSTEMS (3 credits)**

Operations research techniques for modeling system performance and design of transportation services. Routing and scheduling problems. Network equilibration and partially distributed queueing systems.

**Prerequisite(s)/Corequisite(s):** Not open to nondegree students

**CIVE 989 SEMINAR IN CIVIL ENGINEERING (1-6 credits)**

Current topics, research projects, and review of current literature in the various areas of civil engineering.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CIVE 998 SPECIAL PROBLEMS IN CIVIL ENGINEERING (1-6 credits)**

Reading and evaluation of technical publications concerned with theory and/or experimental data. Subsequent assignments are coordinated with the student's particular interests in his/her field of specialization.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CIVE 999 DOCTORAL DISSERTATION (1-24 credits)**

Doctoral Dissertation.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair. Not open to nondegree students.

## Communication (COMM)

**COMM 8010 COMMUNICATION RESEARCH METHODS SEMINAR: QUANTITATIVE (3 credits)**

Philosophy of scientific investigation from a quantitative standpoint, including process and products, in comparison to other ways of knowing. Introduces students to quantitative designs and statistical applications for communication research and to data gathering methods appropriate for such designs. Emphasis is placed on preparing, evaluating and writing quantitatively oriented communication research proposals and reports.

**Prerequisite(s)/Corequisite(s):** Graduate majoring in communication or permission of instructor. Not open to non-degree graduate students.

**COMM 8020 COMMUNICATION RESEARCH METHODS SEMINAR: QUALITATIVE (3 credits)**

This course is an introduction to the methodology and practice of qualitative research. Within the course, students will be exposed to research paradigms, approaches to qualitative research, and ways to collect and analyze qualitative data. Students will be required to design and carry out their own qualitative research project.

**Prerequisite(s)/Corequisite(s):** Open to School of Communication Graduate Students only

**COMM 8030 TOPICAL SEMINAR: RESEARCH METHODS (3 credits)**

This variable-content course provides students with in-depth knowledge about various communication research methods (e.g., survey or experimental, content analysis, legal, assessment strategies, ethnography, advanced critique, etc.) or other communication methods and assessment in context with particular areas of study.

**Prerequisite(s)/Corequisite(s):** Graduate student status

**COMM 8110 GRADUATE TEACHING ASSISTANT SEMINAR (1 credit)**

This course provides weekly training, assessment, and teaching strategies for graduate teaching assistants within the the School of Communication.

**Prerequisite(s)/Corequisite(s):** School of Communication Graduate Teaching Assistants Only. Not open to non-degree graduate students.

**COMM 8180 TOPICAL SEMINAR: COMMUNICATION STUDIES (3 credits)**

A variable content course dealing with communication studies. Each offering will treat a single aspect of communications studies in-depth - e.g., interpersonal conflict, gender and communication, organizational culture, health systems communication, relational communication, political communication, marital and family communication, communication education, rhetorical critique, etc. Course may be repeated.

**Prerequisite(s)/Corequisite(s):** Graduate Student Standing

**COMM 8200 SEMINAR IN POPULAR CULTURE, MASS MEDIA AND VISUAL RHETORIC (3 credits)**

This course studies how discursive meaning is made through established and emerging visual technologies and the impact visual symbol systems are having upon the field of rhetoric in general. Students will investigate how visual technologies, discourse theory, and semiotic theory has intersected with and expanded contemporary rhetorical theories, and they will apply these theories to visual texts. (Cross-listed with ENGL 8760).

**COMM 8300 TOPICAL SEMINAR: JOURNALISM AND MEDIA COMMUNICATION (3 credits)**

Substantive study of specialized areas and modes of journalism and media communication (broadcasting, film, print, public relations, advertising, social media, etc). Content will vary. Course may be repeated.

**Prerequisite(s)/Corequisite(s):** Graduate Student Status

**COMM 8436 GLOBAL MEDIA COMMUNICATION (3 credits)**

In-depth study of global media communication systems. This course will examine cultural influence of dominant global media, the changing global media climates, information flow, regulation and censorship of media worldwide. Students will look at the various aspects of mass communication including advertising, public relations, broadcasting, movies and social media. There will be an emphasis on global communication theories and on critical examinations of media systems. (Cross-listed with JMC 4430)

**COMM 8470 FOUNDATIONS SEMINAR: COMMUNICATION STUDIES (3 credits)**

This course is part of the Communication graduate degree core coursework. The course exposes students to the structure and historical development of the Communication Studies discipline. It also addresses issues involved in conceptualizing, evaluating, and doing research in Communication Studies from post-positive, interpretive, and critical perspectives. Additionally, the course examines Communication Studies in selected contexts and sub-disciplines. Finally, current and future directions in the development of the Communication Studies discipline are addressed.

**Prerequisite(s)/Corequisite(s):** Communication graduate students admitted to program; others may enroll only with instructor permission

**COMM 8500 TOPICAL SEMINAR: COMMUNICATION THEORY (3 credits)**

This course has a twofold purpose: (1) to expose students to different perspectives on building and critiquing theory (e.g., the classical versus the interpretive naturalistic perspectives.) (2) to apply perspectives to the analysis and critique of a range of influential theoretical approaches employed in the communication discipline (e.g., systems theory, semiotics, message reception/processing theories).

**Prerequisite(s)/Corequisite(s):** Graduate Student status

**COMM 8570 FOUNDATIONS SEMINAR: JOURNALISM AND MEDIA COMMUNICATION (3 credits)**

This course is part of the Communication graduate degree core coursework. This course presents a broad-based historical, theoretical, and methodological introduction to Mass Communication research and interconnection with Communication Studies. Course content moves from the initial, early 20th century research through contemporary studies and critique.

**Prerequisite(s)/Corequisite(s):** Communication graduate students admitted to program; others may enroll only with instructor permission. Not open to non-degree graduate students.

**COMM 8970 GRADUATE PROJECT (3 credits)**

Project Option students must complete a three-hour graduate project written under the supervision of an adviser. A two-member graduate committee must approve the project.

**Prerequisite(s)/Corequisite(s):** COMM 8010, 8020, 8470, 8570 and student must be admitted to candidacy.

**COMM 8980 INDEPENDENT STUDY (1-3 credits)**

Students conduct independent research under the supervision of an adviser. May be taken multiple times with approval of graduate adviser.

**COMM 8990 THESIS (1-6 credits)**

Independent research project written under the supervision of an adviser.

**COMM 9400 SEMINAR IN COMMUNICATION & TECHNOLOGY (3 credits)**

A synthesis of speech and mass communication research as it relates to the study of computers and technology. Computer Mediated Communication (CMC) will be emphasized. Students write a research paper appropriate for submission to an academic conference.

**Prerequisite(s)/Corequisite(s):** COMM 8470 or 8570, and COMM 8010 or 8020, or permission of instructor.

## Communication Disorders (CDIS)

**CDIS 8240 LANGUAGE DISORDERS IN SCHOOL-AGE CHILDREN (3 credits)**

This course focuses on the relationship between spoken and written language and its role in language-based learning disabilities in school-age students. It addresses the characteristics of language and reading impairments; the subtypes of these disorders including dyslexia; and the different diagnostic strategies, assessment tools, and intervention approaches used with them. Various models of language and reading as they relate to development and disorders will be reviewed.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology and a course in later (school age) language development. Not open to non-degree graduate students.

**CDIS 8396 HEARING SCIENCE (3 credits)**

This course is designed for undergraduate majors in speech-language pathology and audiology and for graduate candidates in education of the deaf/hard of hearing. The course will include basic terminology, anatomy and physiology of the hearing mechanism, acoustics and physics of sound, the processes of human hearing, elements of basic hearing measurements, psychophysics. This course will prepare speech-language pathology candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with CDIS 4390).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**CDIS 8410 MOTOR SPEECH DISORDERS (3 credits)**

This course is designed to integrate background information from neurophysiology related to motor speech disorders (MSD). The term motor speech disorders refers to speech deficits and differences resulting from injury to the human nervous system. This course will focus on acquired movement-based disorders of speech production that impact one or more of the following subsystems of speech: respiration, phonation, resonance, and/or articulation, including the dysarthrias and apraxia of speech. This course will entail clinical description and characteristics of the impairments as well as on the psychosocial changes in life activities and participation of individuals who live with MSD.

**Prerequisite(s)/Corequisite(s):** SPED 4470/CDIS 4470 or SPED 8470/CDIS 8470 or equivalent; graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8420 VOICE DISORDERS (3 credits)**

The purpose of this course is to provide candidates the opportunity to study the disorders of voice in depth so that they are able to effectively orchestrate caseloads including this disorder type. Voice disorders of both organic and functional etiology will be studied. Candidates will have opportunities to conduct instrumental voice evaluation techniques. The disorders will be discussed to cover the range of topics including etiology, symptomology, assessment and diagnosis, prognosis, and treatment, both medical and non-medical.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8430 FLUENCY DISORDERS (3 credits)**

This course examines the types and causes of rate, rhythm, and stress pattern differences as they relate to child, adolescent, and adult fluency disorders. Theory, current research, and contemporary practice information will constitute the foundation within which to address issues of identification, general assessment, differential assessment, prescription, and the implementation and evaluation of treatment strategies. The course is intended for graduate students in speech-language pathology.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology. Not open to non-degree graduate students.

**CDIS 8440 APHASIA & RELATED LANGUAGE DISORDERS (3 credits)**

This course is designed to integrate background information from neurophysiology to aphasia and related disorders such as right hemisphere syndrome, traumatic brain injury (TBI), and dementia. The term aphasia refers to linguistic deficits and differences resulting from injury to the human nervous system. This course will focus on acquired cognitive and linguistic-based disorders of the human communication system. This course will entail clinical description and characteristics of the impairments as well as on the psychosocial changes in life activities and participation of individuals who live with aphasia and/or related disorders.

**Prerequisite(s)/Corequisite(s):** SPED 4470/SPED 8470, CDIS 4470/CDIS 8470 or equiv; grad standing in SLP. Grad SLPs without SPED 4470/CDIS 4470 can concurrently enroll in SPED 4470/SPED 8470 or CDIS 4470/CDIS 8470 with advisor permission. Not open to non-degree graduate students.

**CDIS 8470 NEUROPHYSIOLOGY OF SPEECH AND LANGUAGE (3 credits)**

The purpose of this course is to provide speech-language pathology graduate candidates an introduction to human neuroanatomy and neurophysiology of the speech, language and hearing mechanisms, across the lifespan. Emphasis is placed on developing an understanding of the neurophysiological underpinnings of human communication and its disorders. Ultimately, the course will prepare speech-language pathology graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate Standing Speech-Language Pathology Majors in the CDIS 4380 or equivalency. Not open to non-degree graduate students.

**CDIS 8486 RESEARCH METHODS IN COMMUNICATION DISORDERS (3 credits)**

This course will provide candidates with an introductory set of skills to interpret and evaluate research in communication disorders and closely related fields. In addition, this course will provide candidates with basic knowledge regarding research designs and analyses commonly used in communication disorders and related fields. The content addressed in this course will prepare candidates to judiciously evaluate evidence-based practice and apply the scientific method to clinical decision-making. It offers an opportunity to cultivate critical thinking skills imperative to becoming dedicated practitioners, reflective scholars, and responsible citizens who can adeptly meet the ever-evolving challenges of their profession.

**Prerequisite(s)/Corequisite(s):** This course is designed for graduate and undergraduate students majoring in speech-language pathology and is a required course for speech-language pathology candidates.

**CDIS 8500 BASIC CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY (2 credits)**

These courses are designed to provide the speech-language pathology candidate clinicians with diverse clinical experiences prior to full-semester clinical externships in the educational, and medical settings.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology Program, completed any previous semester of 8500 with a B or above, currently maintain at least a 3.0 GPA overall. Permission from program faculty. Not open to non-degree graduate students.

**CDIS 8510 EDUCATIONAL EXTERNSHIP IN COMMUNICATION DISORDERS (4 credits)**

This course is designed to provide the speech-language pathology candidate with experiences of a clinical nature in educational settings. The purpose of the course is to advance the candidate's skills in the evaluation and management of communication and swallowing disorders.

**Prerequisite(s)/Corequisite(s):** Successful completion of "Foundation Block" (CDIS 4550/8556; SPED 8030, 8120 or equivalent) and three semesters of SPED 8500/CDIS 8500 unless otherwise indicated. Permission required. Not open to non-degree graduate students.

**CDIS 8520 MEDICAL EXTERNSHIP IN COMMUNICATION DISORDERS (4 credits)**

This course is designed to provide the speech-language candidate with experiences of a clinical nature in medical settings. The purpose is to advance the candidates' skills in the evaluation and management of communication and swallowing disorders.

**Prerequisite(s)/Corequisite(s):** Three semesters of SPED 8500/CDIS 8500 unless otherwise indicated plus permission. Not open to non-degree students.

**CDIS 8530 SEMINAR IN SPEECH-LANGUAGE PATHOLOGY (3 credits)**

This course is designed to provide intensive discussion of research or problems of current professional interest based on current literature in speech-language pathology. This course will prepare candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CDIS 8540 AUTISM SPECTRUM DISORDER (2 credits)**

This course is designed to familiarize candidates with the features of, and interventions for, individuals with autism spectrum disorder. The course will emphasize evidence-based practices when utilizing various methodologies for supporting social and communication skills.

**Prerequisite(s)/Corequisite(s):** Co-requisite: SPED 8560/CDIS 8560. Admission to the Graduate College. Not open to non-degree graduate students.

**CDIS 8556 SPECIAL NEEDS STUDENTS FROM DIVERSE COMMUNITIES (3 credits)**

The purpose of this course is to study the impact of cultural and linguistic diversity on communication, learning, and behavior. The contrast between what is considered 'normal' language / learning development and in the presence of culturally and linguistically diverse (CLD) P-12 students will receive special emphasis.

**CDIS 8560 AUGMENTATIVE & ALTERNATIVE COMMUNICATION (2 credits)**

This course is designed to introduce students to the nature and process of augmentative and alternative communication (AAC), current theories and models of AAC, basic elements of AAC systems, and contemporary AAC clinical practices and principles. Topics will be examined from educational and rehabilitation perspectives as they relate to assessment, prescription, implementation and evaluation. The course will emphasize practical solutions in AAC for children and adults using both high technology and other less-complex communication strategies. Students will explore high-tech, low-tech, and no-tech options of AAC and gain knowledge of and experience with assessment of clients for AAC needs, prescription of an appropriate level of AAC, practice with implementing various AAC systems, and on-going evaluation of the AAC system's effectiveness with clients.

**Prerequisite(s)/Corequisite(s):** Graduate standing in Speech-Language Pathology program; co-requisite: SPED 8540/CDIS 8540.

**CDIS 8570 DYSPHAGIA (3 credits)**

This course is designed to integrate background information from neurophysiology to dysphagia. The term dysphagia refers to swallowing disorders resulting from congenital birth anomalies (i.e., cleft palate, cerebral palsy, etc.) as well as acquired injury to the central nervous system (i.e., stroke, head injury, etc.). This course will introduce candidates to bedside, radiographic, and endoscopic assessment procedures as well as direct, indirect, and medical management techniques of dysphagia. Additionally, this course will provide clinical description and characteristics of swallowing impairments as well as on the psychosocial changes in life activities and participation of individuals who live with dysphagia.

**Prerequisite(s)/Corequisite(s):** SPED 4470/CDIS 4470 or equivalent, graduate standing in speech-language pathology. Not open to non-degree graduate students.

**CDIS 8590 EARLY INTERVENTION: BIRTH TO FIVE (3 credits)**

This course is designed to provide candidates with knowledge about supporting communicative disorders in young children, and their families, within a multicultural and global framework. It will cover assumptions underlying current approaches to the evaluation and treatment in the developing child. Major emphasis will be upon the theoretical foundations of the study and treatment of communication disorders in children from birth to age five.

**Prerequisite(s)/Corequisite(s):** SPED 4420/CDIS 4420 or equivalent. Admission to Graduate Program in Speech-Language Pathology. Not open to non-degree graduate students.

## Communication Studies (CMST)

**CMST 8116 RHETORICAL THEORY AND CRITICISM (3 credits)**

Rhetorical theory and criticism, emphasizing ways of evaluating oral communication. (Cross-listed with CMST 4110)

**CMST 8126 COMMUNICATION AND SOCIAL PROTEST (3 credits)**

This class will examine the role played by communication in movements for social change in contemporary society. We will examine social movements which rely on speeches (i.e. women's rights movements), social movements which rely on the grassroots political efforts of their members (i.e. the environmental rights movement) and the overall strategies of persuasion utilized in movements which seek social change, including emerging communication technologies. (Cross-listed with CMST 4120)

**Prerequisite(s)/Corequisite(s):** Non-degree or admission to School of Communication M.A. program.

**CMST 8136 FAMILY COMMUNICATION (3 credits)**

This course emphasizes the role of communication in family relationships. Theories, models, and research methods will be used to examine the family in various cultures and contexts (e.g., nuclear families, single-parent families, and blended families). Topics that will be covered in this course include: family conflict, family roles, family stories, family stress, family well-being, genograms, marriage, and divorce. (Cross-listed with CMST 4130)

**Prerequisite(s)/Corequisite(s):** Graduate majoring in the School of Communication or permission of instructor. Not open to non-degree graduate students.

**CMST 8146 COMMUNICATION AND HUMAN RELATIONSHIPS (3 credits)**

This course applies theories of interpersonal processes and communication principles to the study of close, significant and personal human relationships. Discussion focuses on the communication in different types of relationships and relational stages, e.g., strangers, acquaintances, friendships and intimates. (Cross-listed with CMST 4140)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8156 CORPORATE TRAINING AND DEVELOPMENT (3 credits)**

This course introduces students to the process of designing communication training programs and workshops for a variety of professional settings. It provides students, especially those who are prospective trainers and/or consultants, with experiential and cognitive knowledge about needs assessment, adult learning, communication training research, objectives writing, module design, interactive delivery methods and program evaluation. (Cross-listed with CMST 4150)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**CMST 8166 COMMUNICATION FOR INSTRUCTIONAL SETTINGS (3 credits)**

This course is designed to help prospective instructors and/or trainers understand and apply the principles of communication in instructional settings (i.e., classrooms, workshops, training programs). It introduces students to the research area in the speech communication discipline called 'Instructional Communication' by covering these five units:

1) Communication Strategies, Objectives, & Content; 2) Student Communication Needs & Expectations; 3) Feedback, Reinforcement, & Discussion; 4) Context, Climate, & Influence; and 5) Teacher Communicator Style, Characteristics, & Behaviors. (Cross-listed with CMST 4160)

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**CMST 8176 ORGANIZATIONAL COMMUNICATION (3 credits)**

This course will help students understand organizational communication theories, models, and processes; apply these principles in organizational communication speaking exercises; and learn management and leadership skills. (Cross-listed with CMST 4170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8186 COMMUNICATION LEADERSHIP AND POWER AND ORGANIZATIONS (3 credits)**

This course provides theoretical and experiential knowledge about such topics as communication leadership styles and tactics, superior and subordinate interactions, power, ethical responsibilities, and diversity gender issues related to communication leadership. (Cross-listed with CMST 4180)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8196 COMPUTER-MEDIATED COMMUNICATION (3 credits)**

Computer-Mediated Communication addressing emerging issues of virtual communities, identity, civic life and participation, online relationships, collaborative work environments, digital networks, gender race class issues, legal and ethical considerations of technology, and commodification of mediated communication. (Cross-listed with CMST 4190)

**Prerequisite(s)/Corequisite(s):** Admission into the graduate program

**CMST 8226 HEALTH COMMUNICATION (3 credits)**

This course introduces students to the interdisciplinary field of health communication. In this course, students will learn various theories of health communication as well as current research and trends in health communication and its related fields. To speak to the complexity and dynamism of health communication, this course will expose students to the multiple voices and perspectives involved in the delivery of health and healthcare. (Cross-listed with CMST 4220)

**Prerequisite(s)/Corequisite(s):** Junior standing; a minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**CMST 8516 PERSUASION AND SOCIAL INFLUENCE (3 credits)**

The primary goal of this course is to provide students with a solid grounding in theories, principles, and strategies of persuasion social influence as they apply to everyday contexts in which influence attempts take place. Students should gain familiarity with findings from empirical investigations on persuasion, social influence, and compliance gaining, and will learn about strategies and techniques of persuasion relating (Cross-listed with CMST 4510)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**CMST 8526 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with CMST 4520)

**Prerequisite(s)/Corequisite(s):** Admission into graduate program. Not open to non-degree graduate students.

**CMST 8536 INTERCULTURAL COMMUNICATION-US (3 credits)**

This course will provide a foundation that leads to Intercultural Communication competence. Specifically, this course is to introduce the concepts of cross-cultural communication. Theory and research are integrated with application and necessary skills are identified and developed. (Cross-listed with CMST 4530)

**CMST 8546 CONTEMPORARY SYSTEMS OF COMMUNICATION (3 credits)**

An adaptation of General Systems Theory concepts to the study of human communication processes with emphasis on systems analysis of contemporary interpersonal communication perspectives. (Cross-listed with CMST 4540)

**Prerequisite(s)/Corequisite(s):** Graduate standing and major in communication; or permission of instructor.

**CMST 8556 NONVERBAL COMMUNICATION (3 credits)**

This course is designed to familiarize the student with current knowledge and research about nonverbal communication and to provide a wide variety of practical experiences through which the student can analyze and evaluate his or her own nonverbal behavior and that of others. The course, also, reviews the functions, areas and applied contexts of nonverbal communication. (Cross-listed with CMST 4550)

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**CMST 8566 COMMUNICATION, TEAMWORK, & FACILITATION (3 credits)**

This course focuses on the communication practices, process tools, and theory associated with team problem solving, group discussion, facilitation skills, facilitative leadership, meeting management, and training in effective group interaction. (Cross-listed with CMST 4560)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to nondegree students.

**CMST 8576 INTERCULTURAL COMMUNICATION IN THE GLOBAL WORKPLACE (3 credits)**

This course examines the intercultural perspective of organizational communication in a modern global world by focusing on the management of cultural differences in the global workplace. The trend towards a global economy is bringing people of different ethnic and cultural background together. Thus, the development of greater intercultural understanding has become an essential element of global workplace. After taking this course you will be more aware of cultural diversity in an organizational setting and further develop intercultural sensitivity and intercultural competence that will help you adapt to your future organizational life. (Cross-listed with CMST 4570)

**CMST 8586 COMMUNICATING RACE, ETHNICITY & IDENTITY (3 credits)**

This is an undergraduate/graduate course that provides students with definitional and experiential knowledge about the origin of racial concepts, theories, and practices, definitions of ethnicity and identity, and the communicative relationship between race, ethnicity, and identity. (Cross-listed with CMST 4580, BLST 4580, BLST 8586)

**CMST 8606 COMMUNICATION THEORY AND APPLICATION (3 credits)**

This course begins by introducing students to two broad categories of theory development - objective and interpretive. Then concepts and assumptions associated with each of these two perspectives are employed to critically evaluate several specific theories that fall within different of the sub-disciplines of the field of communication: interpersonal, group, organizational, mass, public/thetorical, cultural, and intercultural/gender. Along with critically evaluating and comparing/contrasting different communication theories, emphasis is placed on how the theories can be effectively applied in concrete settings and circumstances. (Cross-listed with CMST 4600)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CMST 8626 DIRECTING FORENSICS (3 credits)**

To provide students planning to teach speech in high school or college with a philosophy and detailed knowledge of how to direct a forensic program. (Cross-listed with CMST 4620)

**CMST 8706 INTERPERSONAL CONFLICT (3 credits)**

This course provides an overview of interpersonal conflict processes. It examines perspectives on conflict, patterns of constructive and destructive conflict, conflict styles and tactics, interpersonal power, negotiation strategies, conflict assessment, and conflict skill development. (Cross-listed with CMST 4700)

**Prerequisite(s)/Corequisite(s):** Communication major

**CMST 8806 CONFLICT MEDIATION (3 credits)**

This course develops knowledge of mediation theory, research, and practice and communication skills essential to the effective mediation of disputes in various contexts. (Cross-listed with CMST 4800)

**Prerequisite(s)/Corequisite(s):** Graduate major in Communication or Master of Business Administration (MBA) program, or instructor permission.

## Community & Regional Planning (CRP)

**CRP 8006 INTRODUCTION TO PLANNING (3 credits)**

The field of community and regional planning is introduced and is studied in relation to the history of cities, urbanization, and regionalization. The course explores the origins and evolution of American urban and regional planning practice. The planning process as a response to social, political, physical, and economic factors is analyzed. The course introduces the community comprehensive planning process, plan implementation, and functional areas of planning. Cross-listed with CRP-4000.

**CRP 8020 PLANNING THEORY (3 credits)**

Linkages between knowledge and organized action in planning practice are analyzed in terms of philosophical underpinnings, decision theory, programming, policy formulation, politics, goals, values and social change. The historical traditions of contemporary planning theory are studied. The identities, roles, and relationships of planners with society are explored.

**Prerequisite(s)/Corequisite(s):** CRP 4000/8006

**CRP 8040 LEGAL ASPECTS OF PLANNING (3 credits)**

Applications of constitutional, common, administrative, and statutory law in the planning process are studied. The roles of the branches of American government in the regulation and control of land use and development, as well as in the planning, development, and delivery of public services and facilities are examined. Legal theories, issues, cases, and applications relevant to planning are included.

**Prerequisite(s)/Corequisite(s):** CRP 4000/8006

**CRP 8506 SOCIAL PLANNING & POLICY (3 credits)**

The area of social planning and policy is introduced and studied through a historical presentation of U.S. social welfare policy, an exploration of models and methods utilized by government and human service agencies in the planning of social programs, and analysis of contemporary social policy issues. Areas to be covered include privatization, universalism vs. selectivity, race and ethnicity, homelessness, and poverty. Cross-listed with CRP 4500.

**CRP 8606 PLANNING AND DESIGN IN THE BUILT ENVIRONMENT (3 credits)**

The course introduces principles and practices of planning, design, and implementation for multiple-structure built environments. The influences of physical, social, environmental, and economic factors upon planned and designed environments are studied. Various planning and design methods, processes, and products are introduced. Means of project implementation are explored, and examples of existing and proposed projects are studied. (Cross-listed with CRP 4600).

**CRP 8706 ENVIRONMENTAL PLANNING AND POLICY (3 credits)**

The course introduces environmental planning, including its history and origins. Major environmental issues throughout the world, and the roles of planning in addressing these problems, are discussed. The environmental planning process and environmental legislation are studied. (Cross-listed with CRP 4700).

**CRP 8806 ECONOMIC DEVELOPMENT AND REGIONAL PLANNING (3 credits)**

This course introduces the theory and principles of economic development planning and regional planning involving multiple jurisdictions. Concepts, analytical approaches, and theories of economic growth of local communities and multijurisdictional regions are introduced. The course includes consideration of local economic development plans for small communities, as well regional plans for multijurisdictional areas. International perspectives of economic development and regional planning are also discussed. (Cross-listed with CRP 4800).

**CRP 8900 PROFESSIONAL SEMINAR (1 credit)**

Diverse issues relating to contemporary professional planning practice are studied through abbreviated case studies and presentations by visiting specialists and participants in the planning process. Interrelated social, economic, political, and physical factors affecting specific planning situations are studied. Current and emerging roles for professional planners are discussed and analyzed.

**Prerequisite(s)/Corequisite(s):** CRP major

**CRP 8976 SELECTED TOPICS, COMMUNITY & REGIONAL PLANNING (1-6 credits)**

Group investigation of a topic in community and regional planning and development. (Cross-listed with CRP 4970).

**CRP 8980 SPECIAL PROBLEMS IN COMMUNITY AND REGIONAL PLANNING (1-6 credits)**

Individual or group investigations of problems relating to community and regional planning.

**Prerequisite(s)/Corequisite(s):** MCRP degree candidate

**CRP 9000 PROFESSIONAL PLANNING PRACTICE (3 credits)**

Current concepts, ideas, and issues relating to professional planning practice are studied. The course examines the contexts of planning practice, the professional planner's relationship to society, ethics in professional planning practice, and political and organizational behavior in plan making and policy implementation. Roles of citizens, client groups, and consultants in the planning process are explored. Forms of collaborative problem solving, including meditation and negotiation, are explored. Planning office and project management issues and approaches, including personnel administration and project financing and budgeting, are discussed.

**Prerequisite(s)/Corequisite(s):** CRP 4000/CRP 8006 or concurrent

## Computer Science (CSCI)

**CSCI 8000 ADVANCED CONCEPTS IN PROGRAMMING LANGUAGES (3 credits)**

Logic/Declarative programming is an important programming paradigm in which problems are described in terms of the properties they possess. As a result, in this style of programming many algorithmic elements, which explicitly must be articulated when writing programs in other programming languages, can be omitted. Core elements of logic programming play important roles in AI.

**Prerequisite(s)/Corequisite(s):** CSCI 3320; CSCI 3660; CSCI 4220. Not open to non-degree graduate students.

**CSCI 8010 FOUNDATIONS OF COMPUTER SCIENCE (3 credits)**

This is a foundational course for students enrolled in the graduate program in computer science. The objectives are to introduce students to a large body of concepts so that they are better prepared for undertaking the core courses in the graduate program. It is assumed that student would have programmed in a high-level language and have exposure to basic college level mathematical concepts such as logarithms, exponents, sequences, and counting principles.

**Prerequisite(s)/Corequisite(s):** Students are expected to have written programs using a high-level programming language and should understand basic mathematical concepts including exponents, logarithms, sequences, and counting principles. Not open to non-degree graduate students.

**CSCI 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with MATH 4010, MATH 8016, CSCI 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

**CSCI 8040 LARGE SCALE NETWORK ANALYSIS ALGORITHMS (3 credits)**

The course will provide a review of the properties of large complex network systems, such as those occurring in social networks, epidemiology and biological systems. We will discuss algorithms to analyze these properties, their implementations, their stability under information fluctuation and how information spreads through networks.

**Prerequisite(s)/Corequisite(s):** Students should be comfortable w/ programming, have knowledge of data structures, preliminary graph algorithms, & linear algebra. Suggest Prep Courses: CSCI 4150 or CSCI 8156; CSCI 3320; MATH 4050 or Permission. Not open to non-degree graduate students.

**CSCI 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with MATH 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**CSCI 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with MATH 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**CSCI 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with MATH 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**CSCI 8100 EXPERT SYSTEMS (3 credits)**

A study of the theoretical basis and practical design of expert systems. Knowledge engineering. Foundations in logic programming, the architecture of expert systems, languages (Prolog, LISP) for expert systems, expert system shells, knowledge acquisition, current issues.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent. Not open to non-degree graduate students.

**CSCI 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with MATH 8105, MATH 3100, CSCI 3100).

**CSCI 8110 ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE (3 credits)**

An in-depth study of one or more topics selected from: search techniques, knowledge representation, knowledge programming, parallel processing in Artificial Intelligence, natural language processing, image processing, current and future directions, etc. May be repeated with different topics, with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456 or equivalent.

**CSCI 8150 ADVANCED COMPUTER ARCHITECTURE (3 credits)**

Various parallel architectures, models of parallel computation, processor arrays, multiprocessor systems, pipelined and vector processors, dataflow computers and systolic array structures.

**Prerequisite(s)/Corequisite(s):** CSCI 4350, CSCI 4500 and graduate. Not open to non-degree graduate students.

**CSCI 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, MATH 4150, MATH 8156).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**CSCI 8160 INTRODUCTION TO VLSI DESIGN (3 credits)**

Introduction to the principle concepts of integrated circuit layout. Presentation of the hardware foundations, algorithmic mathematical and graph theoretical foundations of circuit layout. Partitioning problems in integrated circuits. Placement and floor planning phase in layout. Routing algorithms and compaction techniques. Applications of graph theory in several steps of the design process of VLSI circuits.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4350 or CSCI 8356. Not open to non-degree graduate students.

**CSCI 8170 VLSI TESTING (3 credits)**

This course covers topics in VLSI testing. In particular, topics covered include fault modeling, fault simulation, test generation, testability profiles, built-in tests, and binary decision diagrams.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee; CSCI 4350. Not open to non-degree graduate students.

**CSCI 8200 INTERCONNECTION NETWORKS (3 credits)**

This course is to introduce the technology of interconnection networks from topology of networks, through routing and flow control, to a discussion of hardware/software fault tolerance, and to understand parameters affecting performance.

**Prerequisite(s)/Corequisite(s):** Bachelors degree and permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8210 ADVANCED COMMUNICATIONS NETWORKS (3 credits)**

Advanced study of communication networks, analysis of communication needs, special problems encountered in different types of networks, efficiency and traffic analysis and emerging hardware software technologies. Detailed "hands-on" study of the TCP/IP networking protocols.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or 8555 or equivalent. Not open to non-degree graduate students.

**CSCI 8256 HUMAN COMPUTER INTERACTION (3 credits)**

Human computer interaction is concerned with the joint performance of tasks by humans and machines; human capabilities to use machines (including learnability of interfaces); algorithms and programming of the interface; engineering concerns that arise in designing and building interfaces; the process of specification, design, and implementation of interfaces; and design trade-offs. (Cross-listed with CSCI 4250).

**CSCI 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, ITIN 4260, ITIN 8266).

**CSCI 8300 IMAGE PROCESSING AND COMPUTER VISION (3 credits)**

This course introduces the computer system structures and programming methodologies for digital image processing and computer vision. The course will cover the mathematical models of digital image formation, image representation, image enhancement and image understanding. Techniques for edge detection, region growing, segmentation, two-dimensional and three-dimensional description of object shapes will be discussed. The course will concentrate on the study of knowledge-based approaches for computer interpretation and classification of natural and man-made scenes and objects.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 and CSCI 3220. Not open to non-degree graduate students.

**CSCI 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, MATH 3300, MATH 8305).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor

**CSCI 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, MATH 4300, MATH 8306).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**CSCI 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, MATH 4310, MATH 8316).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**CSCI 8325 DATA STRUCTURES (3 credits)**

This is a core that will cover a number of data structures such as tree, hashing, priority queues and graphs as well as different algorithm design methods by examining common problem-solving techniques. (Cross-listed with CSCI 3320)

**CSCI 8340 DATABASE MANAGEMENT SYSTEMS II (3 credits)**

A continuation of the study of Data Base Management Systems. Extended discussion of logical data base design, normalization theory, query optimization, concurrent issues. Advanced topics including distributed data bases, deductive data bases, data base machine, and others.

**Prerequisite(s)/Corequisite(s):** CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8350 DATA WAREHOUSING AND DATA MINING (3 credits)**

Covers topics related to decision support queries. In particular, topics covered include building data warehouses, On-Line Analysis Processing (OLAP), maintenance of materialized views, indexing, various data mining techniques, and integration of OLAP and data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8856; bachelors degree and permission from Graduate Committee. Not open to non-degree graduate students.

**CSCI 8360 MACHINE LEARNING FOR TEXT (3 credits)**

This course focuses on the fundamental techniques for extraction of various insights from text data which is ubiquitous on the Web, social media sites, emails, news articles, digital libraries, and other sources. The course topics will include concepts and techniques used by search engines to crawl, index, and rank web pages on the Web, machine learning techniques for categorization of news articles into different categories, sentiment and opinion analysis of social media chats, text summarization, and information extraction.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**CSCI 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CYBR 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CSCI 8390 ADVANCED TOPICS IN DATA BASE MANAGEMENT (3 credits)**

An in-depth study of one or more topics in the field of Data Base Management Systems, such as logical and/or physical data base design, query optimization, distributed data bases, intelligent knowledge-based systems, emerging technologies and applications. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** CSCI 4850 or CSCI 8856 or equivalent. Not open to non-degree graduate students.

**CSCI 8400 ADVANCED COMPUTER GRAPHICS (3 credits)**

Computer graphics continues to play an important role in computer science. This course covers the mathematical foundations of three-dimensional representation and animation; ray tracing and path tracing rendering methods; using the graphical processing unit (GPU) for real time applications; and concludes with simulation of natural phenomenon.

**Prerequisite(s)/Corequisite(s):** Bachelors degree or permission from the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CYBR 8410)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalent(s). Not open to non-degree graduate students.

**CSCI 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CYBR 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8430 TRUSTED SYSTEM DESIGN, ANALYSIS AND DEVELOPMENT (3 credits)**

This course examines in detail: the principles of a security architecture, access control, policy and the threat of malicious code; the considerations of trusted system implementation to include hardware security mechanisms, security models, security kernels, and architectural alternatives; the related assurance measures associated with trusted systems to include documentation, formal specification and verification, and testing, and approaches that extend the trusted system, into applications and databases and into networks and distributed systems.

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or equivalents, or instructor permission. Not open to non-degree graduate students.

**CSCI 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CYBR 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366

**CSCI 8446 INTRODUCTION TO PARALLEL COMPUTING (3 credits)**

Need for higher-performance computers. Topics discussed include: classification of parallel computers; shared-memory versus message passing matchings; for ms of parallelism, measure of performance; designing parallel algorithms; parallel programming and parallel languages; synchronization constructs; and operating systems for parallel computers. (Cross-listed with CSCI 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 4500 or CSCI 8506 (May be taken concurrently). Not open to non-degree graduate students.

**CSCI 8450 ADVANCED TOPICS IN NATURAL LANGUAGE UNDERSTANDING (3 credits)**

The course will provide in depth study of the topics in natural language processing and understanding, such as syntax, lexical and computational semantics, natural language ambiguities and their disambiguation, logical form construction and inference. The course will survey state-of-the-art natural language processing toolkits and knowledge bases that boost the development of modern language processing and understanding applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 OR CSCI 3660 OR CSCI 4450. Not open to non-degree graduate students.

**CSCI 8456 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3 credits)**

An introduction to artificial intelligence. The course will cover topics such as machine problem solving, uninformed and informed searching, propositional logic, first order logic, approximate reasoning using Bayesian networks, temporal reasoning, planning under uncertainty and machine learning. (Cross-listed with CSCI 4450).

**CSCI 8476 PATTERN RECOGNITION (3 credits)**

Structures and problems of pattern recognition. Mathematics model of statistical pattern recognition, multivariate probability, Bay's decision theory, maximum likelihood estimation, whitening transformations. Parametric and non-parametric techniques, linear discriminant function, gradient-descent procedure, clustering and unsupervised learning, and feature selection algorithms. (Cross-listed with CSCI 4470)

**Prerequisite(s)/Corequisite(s):** CSCI 1620 with C- or better, and MATH 2050. Recommended: MATH 4740/8746 or STAT 3800/8805.

**CSCI 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with MATH 8480)

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**CSCI 8486 ALGORITHMS FOR ROBOTICS (3 credits)**

This course provides an introduction to software techniques and algorithms for autonomously controlling robots using software programs called controllers. Students will be taught how to program and use software controllers on simulated as well as physical robots. (Cross-listed with CSCI 4480).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 with C- or better. CSCI 4450/8456 is a recommended but not essential pre-requisite.

**CSCI 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with MATH 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8506 OPERATING SYSTEMS (3 credits)**

Operating system principles. The operating system as a resource manager; I/O programming, interrupt programming and machine architecture as it relates to resource management; memory management techniques for uni-multiprogrammed systems; process description and implementation; processor management (scheduling); I/O device, controller, and channel management; file systems. Operating system implementation for large and small machines. (Cross-listed with CSCI 4500).

**Prerequisite(s)/Corequisite(s):** CSCI 3710, CSCI 3320/8325, MATH 1950, and CSCI 4350/8356 with C- or better.

**CSCI 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with MATH 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**CSCI 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with MATH 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**CSCI 8530 ADVANCED OPERATING SYSTEMS (3 credits)**

State of the art techniques for operating system structuring and implementation. Special purpose operating systems. Pragmatic aspects of operating system design, implementation, and use.

**Prerequisite(s)/Corequisite(s):** CSCI 4500/8506. Not open to nondegree students.

**CSCI 8555 COMMUNICATION NETWORKS (3 credits)**

This course is designed to bring students up to the state of the art in networking technologies with a focus on Internet. It will cover the principles of networking with an emphasis on protocols, implementations and design issues. (Cross-listed with CSCI 3550)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 with C- or better. Data structures and algorithms. C or C++ programming.

**CSCI 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, MATH 4560, MATH 8566).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**CSCI 8590 FUNDAMENTALS OF DEEP LEARNING (3 credits)**

This course is an introduction to deep learning, a branch of machine learning concerned with the development and application of neural networks. Deep learning trains the machine to learn patterns that it is presented with rather than requiring the human operator to define the patterns that the machine should look for. Deep learning is behind many recent advances in artificial intelligence, such as face recognition, speech recognition and autonomous driving. This course will cover the foundations of deep learning, learning theory, basic/advanced neural networks and problem domains of many selected applications.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or instructor permission

**CSCI 8610 FAULT TOLERANT DISTRIBUTED SYSTEMS (3 credits)**

This course is to study the theory and practice of designing computer systems in the presence of faulty components. Emphasizes the basics of how faults can affect systems and what is required to mask or compensate for their efforts.

**Prerequisite(s)/Corequisite(s):** CSCI 4500 and CSCI 4350. Not open to non-degree graduate students.

**CSCI 8620 MOBILE COMPUTING AND WIRELESS NETWORKS (3 credits)**

Contemporary issues in mobile computing and wireless networks, including the differences between mobile computing and the traditional distributed computing paradigm, impediments of the mobile and wireless environments, problems and limitations due to such impediments, using the spectrum, wireless data networks, various network layers solutions, location management techniques, mobile IP, wireless LANs, wireless TCP, ad hoc networks, performance issues, security issues.

**Prerequisite(s)/Corequisite(s):** CSCI 3550 or CSCI 8555. Not open to non-degree graduate students.

**CSCI 8626 COMPUTER GRAPHICS (3 credits)**

An introduction to the acquisition, manipulation and display of graphical information using digital techniques. Topics include discussion of the various hardware devices used for input and output, the classical algorithms and data structures used in manipulation of graphical objects, the user interface to the graphics system, and applicable standards. (Cross-listed with CSCI 4620).

**Prerequisite(s)/Corequisite(s):** ISQA 3300 or CSCI 3320.

**CSCI 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, MATH 4660, MATH 8666).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/ CSCI 8325.

**CSCI 8700 SOFTWARE SPECIFICATIONS AND DESIGN (3 credits)**

A continuation of the study of software engineering with an emphasis on early phases of software development, namely requirements engineering/ specification and architectural design. Includes an in-depth study of practices for effective software requirements specification and architectural design, as well as formal specifications of software systems. Related topics such as metrics and support tools are also covered.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8706 COMPILER CONSTRUCTION (3 credits)**

Assemblers, interpreters and compilers. Compilation of simple expressions and statements. Analysis of regular expressions. Organization of a compiler, including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation and error diagnostics. (Cross-listed with CSCI 4700).

**CSCI 8710 MODERN SOFTWARE DEVELOPMENT METHODOLOGIES (3 credits)**

Designed to introduce students to advanced object technology and other modern methodologies for developing software systems. Intended for graduate students who have mastered the basic concepts and issues of software engineering. Course covers advanced object-oriented software development. The course also covers several offshoots of object technology, including: component-based software engineering, aspect-oriented software development, software product line engineering, service-oriented computing, etc.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836.

**CSCI 8760 FORMAL METHODS IN SOFTWARE ENGINEERING (3 credits)**

In the high consequence system domain, a primary objective of any construction technique employed is to provide sufficiently convincing evidence that the system, if put into operation, will not experience a high consequence failure or that the likelihood of such a failure falls within acceptable probabilistically defined limits. Systems for which such evidence can be provided are called high assurance systems. The objective of this course is to examine software-engineering techniques across the development life cycle that are appropriate for high assurance systems. The course will analyze the nature of the evidence provided by various techniques (e.g., does a given technique provide sufficiently strong evidence in a given setting).

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and CSCI 8836 or CSCI 4830

**CSCI 8766 TOPICS IN MODELING (3 credits)**

Selection of such topics as formulation and analysis of various models involving Markov chains, Markov processes (including birth and death processes), queues, cellular automata, difference and differential equations, chaotic systems and fractal geometries. (Cross-listed with CSCI 4760).

**Prerequisite(s)/Corequisite(s):** MATH 2350 and MATH 4740 or MATH 8746.

**CSCI 8790 ADVANCED TOPICS IN SOFTWARE ENGINEERING (3 credits)**

An in-depth study of one or more topics in the field of software engineering such as human factors in software engineering, software specifications and modeling, reuse and design recovery, software valuations, software management, emerging technology and applications.

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836. Not open to non-degree graduate students.

**CSCI 8836 INTRODUCTION SOFTWARE ENGINEERING (3 credits)**

Basic concepts and major issues of software engineering, current tools and techniques providing a basis for analyzing, designing, developing, maintaining and evaluating the system. Technical, administrative and operating issues. Privacy, security and legal issues. (Cross-listed with CSCI 4830).

**CSCI 8856 DATABASE MANAGEMENT SYSTEMS (3 credits)**

Basic concepts of data base management systems (DBMSs). The relational, hierarchical and network models and DBMSs which use them. Introduction to data base design. (Cross-listed with CSCI 4850).

**CSCI 8876 DATABASE SEARCH AND PATTERN DISCOVERY IN BIOINFORMATICS (3 credits)**

This required course for undergraduate bioinformatics majors provides foundational knowledge on database aspects used in the field and an overview of their applications in bioinformatics, biomedical informatics, and health/clinical informatics. The course begins with a brief review of key concepts in computational molecular biology related to database search/ development, database management systems, the difference between primary and secondary databases, and bioinformatics-related aspects of modeling and theory in computer science. The major focus is on the multiple challenges and aspects of bio-database development, search, and pattern discovery. The course uses problem-based learning to help students develop database management skills as they apply to high throughput "omics." data, the basics of data management, data provenance and governance, standards, and analysis through KDD-based workflows. This course will also consider the fundamentals of artificial intelligence and machine learning as they pertain to bioinformatics, from the perspective of database storage, I/ O, and analysis. (Cross-listed with BIOI 4870)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 and BIOI 3500, or permission of instructor; BIOI 3500 can be taken concurrently. Prior completion of CSCI 4850 is strongly recommended but not required. Not open to non-degree graduate students.

**CSCI 8910 MASTER OF SCIENCE CAPSTONE (3 credits)**

The capstone course is to integrate coursework, knowledge, skills and experimental learning to enable the student to demonstrate a broad mastery of knowledge, skills, and techniques across the Master degree curriculum of Computer Science for a promise of initial employability and further career advancement. The course is designed to be in a student-centered and student-directed manner which requires the command, analysis and synthesis of knowledge and skills. Students may apply their knowledge and skill to a project which serves as an instrument of evaluation. Students are encouraged to foster an interdisciplinary research and cultivate industry alliances and cooperation in this course. This capstone course should be taken only after students have completed at least 3/4 of course requirements for the major.

**Prerequisite(s)/Corequisite(s):** Master's degree of Computer Science with course-only option (program III). Not open to nondegree students.

**CSCI 8920 ADVANCED TOPICS COMPUTER SCIENCE (3 credits)**

An in-depth study, at the graduate level, of one or more topics that are not treated in other courses. May be repeated with different topics with permission of adviser.

**Prerequisite(s)/Corequisite(s):** Permission of instructor; will vary with offering. Not open to non-degree graduate students.

**CSCI 8950 GRADUATE INTERNSHIP IN COMPUTER SCIENCE (1-3 credits)**

The purpose of this course is to provide students with opportunities to apply their academic studies in environments such as those found in business, industry, and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate program chairperson and a minimum grade point average of 3.0 (B), with at most one grade below B, but not lower than C+ for all CS graduate classes. Not open to non-degree graduate students.

**CSCI 8960 THESIS EQUIVALENT PROJECT IN COMPUTER SCIENCE (1-6 credits)**

This course allows a graduate student to conduct a research project in computer science or a related area. The project is expected to place an emphasis on applied, implementations-based, or experimental research. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, and final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 8970 INDEPENDENT STUDY (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available in a formal course. The topics to be studied will be in a graduate area of computer science to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of the Graduate Program Committee. Not open to non-degree graduate students.

**CSCI 8980 GRADUATE SEMINAR (1-3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques and methodologies, and/or the current research results in the fundamental areas of computer science. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** Permission of the Instructor. Not open to non-degree graduate students.

**CSCI 8986 TOPICS IN COMPUTER SCIENCE (1-3 credits)**

A variable topic course in computer science at the senior/graduate level. Topics not normally covered in the computer science degree program, but suitable for senior/graduate-level students. (Cross-listed with CSCI 4980).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**CSCI 8990 THESIS (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.

**CSCI 9210 TYPE SYSTEMS BEHIND PROGRAMMING LANGUAGES (3 credits)**

Empirical evidence suggests that a large number of errors made when writing software can be detected by analyzing the behavior of the program from the perspective of type. This course provides an in-depth exploration of various type systems for programming languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9220 REWRITING AND PROGRAM TRANSFORMATION (3 credits)**

This course begins by exploring the foundations of term rewriting. Topics such as unification, confluence, completion and termination are covered. Then a strategic framework is considered in which the application of rewrite rules can be controlled.

**Prerequisite(s)/Corequisite(s):** CSCI 8000. Not open to non-degree graduate students.

**CSCI 9350 MATHEMATICAL AND LOGICAL FOUNDATIONS OF DATA MINING (3 credits)**

With the maturity of data mining techniques, it is extremely important to examine the foundations of data mining. Instead of providing coverage of basic data mining methods, the course will focus on methodology employed in data mining, logical and mathematical foundations of data mining, as well as other issues related to the intrinsic nature of data mining.

**Prerequisite(s)/Corequisite(s):** CSCI 8456, CSCI 8856, and CSCI 8390. Not open to non-degree graduate students.

**CSCI 9410 ADVANCED TOPICS IN LOGIC PROGRAMMING (3 credits)**

This course will examine some advanced topics in logic programming, in particular logic programming under stable model (or answer set) semantics. Answer set programming is a common name of the field. Formal syntax, semantics, and proofs of correctness for logic programs will be considered. Elements of inductive and Prolog programming will also be introduced. Each advanced topic will be followed by how it has been applied in practice. Advanced applications of logic programming will be covered in detail.

**Prerequisite(s)/Corequisite(s):** CSCI 8000 and doctoral student standing in Information Technology or the permission of the instructor.

**CSCI 9420 INTELLIGENT AGENT SYSTEMS (3 credits)**

This course covers the principles of interaction between agents in multi-agent systems using game theory. Relevant topics studied in this course include competitive games, statistical Bayesian games, cooperative games, and mechanism design. Students will have to implement projects related to the material studied in the course.

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and CSCI 4450 or CSCI 8456. Not open to non-degree graduate students.

**CSCI 9710 METHODS IN SOFTWARE ENGINEERING RESEARCH (3 credits)**

This course provides guidelines on how to conduct research in the field of software engineering by presenting the research methods, classic readings, and development of theories and their application to real life problems. The main emphasis of the course is to provide opportunity for in-depth study of topics such as contemporary methods for software development.

**Prerequisite(s)/Corequisite(s):** CSCI 8836 or equivalent course and doctoral student standing in Information Technology or permission of the instructor. Not open to non-degree graduate students.

**CSCI 9810 RESEARCH FOUNDATIONS IN THEORETICAL COMPUTING (3 credits)**

This course offers an up-to-date coverage of the contemporary and emerging concepts, models, techniques, and methodologies, and/or the current research results in the fundamental areas of theoretic computing. The course will examine advanced research topics in computer science and engineering, including foundations of automata theory, computability, complexity analysis, computational logics and algorithmic analysis, hybrid dynamic systems theory, number theory, adaptation and learning theory, concepts and principles in computational geometry, stochastic processes, and random optimization. Each topic will be discussed with a perspective of research issues and directions. Active student participation in investigation of the research topics, survey of the current state-of-art, and identifying the future research insights is required. Students will take turn presenting their research results on specific topics. Topics to be covered by the course will vary in different semesters.

**Prerequisite(s)/Corequisite(s):** The prerequisites of this course vary depending on the areas to be covered in the semester the course is offered. Good standing in Ph.D. program is required. Permission of the instructor may be required. Not open to non-degree graduate students.

## Computer Science Teacher Education (CSTE)

**CSTE 8020 EXPLORING COMPUTER SCIENCE FOR TEACHERS (3 credits)**

This course provides a breadth first introduction to computer science for pre-service and in-service teachers. The Exploring Computer Science curriculum (<http://www.exploringcs.org>) serves as a guiding framework for this course, which introduces domain knowledge and appropriate teaching techniques related to teaching human computer interaction, computational problem solving, web design, programming, data analysis, and artificial intelligence in school environments. The course also covers ethical and social issues in computing along with an overview of computing careers.

**CSTE 8030 COMPUTER SCIENCE PRINCIPLES FOR TEACHERS (3 credits)**

This course introduces pre-service and in-service teachers to the foundational principles of computer science. It aims to help them learn the essential thought processes used by computer scientists to solve problems, expressing those solutions as computer programs. It prepares them to teach the AP CS Principles course (<https://apcentral.collegeboard.org/courses/ap-computer-science-principles>) as defined by the College Board. Students explore several different curricula available through College Board endorsed providers.

**Prerequisite(s)/Corequisite(s):** MATH 1120 or MATH 1130 or MATH 1220 or equivalent with C- or better.

**CSTE 8040 OBJECT ORIENTED PROGRAMMING FOR TEACHERS (3 credits)**

This course provides an in-depth treatment of the fundamentals of object-oriented programming (OOP) in Java programming language environment. Topics include data types and information representation, control structures, classes and objects, methods, encapsulation, and use of introductory data structures to solve real-world problems. Additionally, this course interleaves coverage of OOP content with discussion of common learner misconceptions and teaching strategies/tools that can be employed to aid learners' mastery of this material. This course prepares students to implement the Advanced Placement Computer Science A curriculum in a secondary school setting.

**Prerequisite(s)/Corequisite(s):** CSTE 8020 or CSTE 8030.

**CSTE 8910 CAPSTONE IN CS EDUCATION (3 credits)**

This course will allow graduate students, as an individual or as part of a group, to study and analyze specific problems related to teaching computing in schools. Projects will be concerned with the curriculum and/or instruction of computing and should address a broad scope of application rather than a specific level. (Cross-listed with STEM 8910).

**Prerequisite(s)/Corequisite(s):** The student must have completed at least 21 credit hours in the Masters of CS Education program.

**CSTE 8920 SEMINAR IN CS EDUCATION: SPECIAL TOPICS (1-3 credits)**

This course will cover variable content focusing on CS education topics relevant to PK-12 teachers and based on current research trends. New curricula, tools, assessments, programming languages, or related standards may be covered.

**Prerequisite(s)/Corequisite(s):** Advisor and/or instructor approval.

**CSTE 8960 THESIS EQUIVALENT PROJECT IN CS EDUCATION (1-6 credits)**

This course allows a graduate student to conduct a research project in computing education. The process for development and approval of the project must include: appointment of supervisory committee (chaired by project adviser), a proposal approved by the supervisory committee, monitoring of the project by the supervisory committee, an oral examination over the completed written product conducted by the supervisory committee, & final approval by the supervisory committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines. Project credits must be completed over two or more academic terms.

**Prerequisite(s)/Corequisite(s):** Completion of required Core courses and approval of advisor.

**CSTE 8970 CS ED INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of the department and graduate faculty member.

**CSTE 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option. Thesis credits must be completed over two or more academic terms.

**Prerequisite(s)/Corequisite(s):** Completion of Required Core Courses and approval of advisor. Not open to non-degree graduate students.

## Construction Engineering (CONE)

**CONE 960 PROFESSIONAL PRACTICE (0 credits)**

CONE 0960 is required of CONE majors prior to graduation. The work experience must be pre-approved by the faculty adviser in the CONE department. Work experience in a construction related work area.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 8166 WOOD/CONTEMPORARY MATERIALS DESIGN (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4160)

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CONE 8176 FORMWORK SYSTEMS (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design, masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4170)

**Prerequisite(s)/Corequisite(s):** CONE 4160; Pre/Co-req.: CIVE 441

**CONE 8210 CONSTRUCTION RISK ASSESSMENT AND MANAGEMENT (3 credits)**

The overall process of hazards risk management (risk identification, risk analysis, risk assessment, risk communication), risk based decision making and risk mitigation. Classification of building stock, defining vulnerability, risk assessment methods, assessing economic losses and cost benefit analysis. Case studies will be used to demonstrate the application of risk management principles/techniques in practice.

**Prerequisite(s)/Corequisite(s):** STAT 3800. Not open to non-degree graduate students.

**CONE 8506 SUSTAINABLE CONSTRUCTION (3 credits)**

Sustainable construction and its application to the green building industry. Topics include: the LEED certification process, sustainable building site management, efficient wastewater applications, optimizing energy performance, indoor environmental issues, performance measurement/verification, recycled content and certified renewable materials. (Cross-listed with CONE 4500)

**CONE 8596 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

This course instructs CAD users on the effective use of Building Information Model (BIM) for integration of design, document and construction estimate. Topics include: model-based 3D design, file formats, interoperability, and MEP modeling. (Cross-listed with CONE 4590)

**Prerequisite(s)/Corequisite(s):** CNST 1120, or Graduate standing in AE, CIVE, CNST or CONE.

**CONE 8666 HEAVY AND/OR CIVIL ESTIMATING (3 credits)**

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil construction takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts. (Cross-listed with CONE 4660).

**Prerequisite(s)/Corequisite(s):** CONE 3190 and CONE 3780 and CONE 4850

**CONE 8816 HIGHWAY & BRIDGE CONSTRUCTION (3 credits)**

The methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment. (Cross-listed with CONE 4810)

**Prerequisite(s)/Corequisite(s):** CONE 3190 or CNST 2410

**CONE 8826 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 4820, CNST 8826, CONE 4820).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CONE 8836 SUPPORT OF EXCAVATION (3 credits)**

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams. Soil mechanics, lateral loads, hydrology, and pumping methods. (Cross-listed with CONE 4830)

**CONE 8856 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 4850, CNST 8856, CONE 4850)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CONE 8950 GRADUATE INTERNSHIP (3 credits)**

Open only to Construction Management graduate students. Participation in a full-time summer internship with an approved Construction Engineering or Construction Management related entity. Includes weekly assignments and a final presentation that are designed to create interaction between the Construction entity and the intern, and associated with the business aspects of the entity. General topics include Business Plans, Marketing, Finance and Budgets, Contracts, Legal Issues and Professionalism. (Cross-listed with CNST 8950)

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CONE 8980 SPECIAL TOPICS IN CONSTRUCTION ENGINEERING (1-6 credits)**

Individual and small group investigation of special topics in construction engineering. A signed student-instructor learning contact is required. Topics vary.

**Prerequisite(s)/Corequisite(s):** Master of engineering in construction or related discipline and permission. Not open to non-degree graduate Students.

**CONE 9990 DOCTORAL DISSERTATION (1-24 credits)**

None provided

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair. Not open to nondegree students.

## Construction Management (CNST)

**CONE 960 PROFESSIONAL PRACTICE (0 credits)**

CONE 0960 is required of CONE majors prior to graduation. The work experience must be pre-approved by the faculty adviser in the CONE department. Work experience in a construction related work area.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 8166 WOOD/CONTEMPORARY MATERIALS DESIGN (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4160)

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CONE 8176 FORMWORK SYSTEMS (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design, masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4170)

**Prerequisite(s)/Corequisite(s):** CONE 4160; Pre/Co-req.: CIVE 441

**CONE 8210 CONSTRUCTION RISK ASSESSMENT AND MANAGEMENT (3 credits)**

The overall process of hazards risk management (risk identification, risk analysis, risk assessment, risk communication), risk based decision making and risk mitigation. Classification of building stock, defining vulnerability, risk assessment methods, assessing economic losses and cost benefit analysis. Case studies will be used to demonstrate the application of risk management principles/techniques in practice.

**Prerequisite(s)/Corequisite(s):** STAT 3800. Not open to non-degree graduate students.

**CONE 8506 SUSTAINABLE CONSTRUCTION (3 credits)**

Sustainable construction and its application to the green building industry. Topics include: the LEED certification process, sustainable building site management, efficient wastewater applications, optimizing energy performance, indoor environmental issues, performance measurement/verification, recycled content and certified renewable materials. (Cross-listed with CONE 4500)

**CONE 8596 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

This course instructs CAD users on the effective use of Building Information Model (BIM) for integration of design, document and construction estimate. Topics include: model-based 3D design, file formats, interoperability, and MEP modeling. (Cross-listed with CONE 4590)

**Prerequisite(s)/Corequisite(s):** CNST 1120, or Graduate standing in AE, CIVE, CNST or CONE.

**CONE 8666 HEAVY AND/OR CIVIL ESTIMATING (3 credits)**

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil construction takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts. (Cross-listed with CONE 4660).

**Prerequisite(s)/Corequisite(s):** CONE 3190 and CONE 3780 and CONE 4850

**CONE 8816 HIGHWAY & BRIDGE CONSTRUCTION (3 credits)**

The methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment. (Cross-listed with CONE 4810)

**Prerequisite(s)/Corequisite(s):** CONE 3190 or CNST 2410

**CONE 8826 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 4820, CNST 8826, CONE 4820).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CONE 8836 SUPPORT OF EXCAVATION (3 credits)**

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams. Soil mechanics, lateral loads, hydrology, and pumping methods. (Cross-listed with CONE 4830)

**CONE 8856 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 4850, CNST 8856, CONE 4850)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CONE 8950 GRADUATE INTERNSHIP (3 credits)**

Open only to Construction Management graduate students. Participation in a full-time summer internship with an approved Construction Engineering or Construction Management related entity. Includes weekly assignments and a final presentation that are designed to create interaction between the Construction entity and the intern, and associated with the business aspects of the entity. General topics include Business Plans, Marketing, Finance and Budgets, Contracts, Legal Issues and Professionalism. (Cross-listed with CNST 8950)

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CONE 8980 SPECIAL TOPICS IN CONSTRUCTION ENGINEERING (1-6 credits)**

Individual and small group investigation of special topics in construction engineering. A signed student-instructor learning contact is required. Topics vary.

**Prerequisite(s)/Corequisite(s):** Master of engineering in construction or related discipline and permission. Not open to non-degree graduate Students.

**CONE 9990 DOCTORAL DISSERTATION (1-24 credits)**

None provided

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair. Not open to nondegree students.

**CONE 960 PROFESSIONAL PRACTICE (0 credits)**

CONE 0960 is required of CONE majors prior to graduation. The work experience must be pre-approved by the faculty adviser in the CONE department. Work experience in a construction related work area.

**Prerequisite(s)/Corequisite(s):** Senior standing

**CONE 8166 WOOD/CONTEMPORARY MATERIALS DESIGN (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4160)

**Prerequisite(s)/Corequisite(s):** CIVE 341

**CONE 8176 FORMWORK SYSTEMS (3 credits)**

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design, masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis. (Cross-listed with CONE 4170)

**Prerequisite(s)/Corequisite(s):** CONE 4160; Pre/Co-req.: CIVE 441

**CONE 8210 CONSTRUCTION RISK ASSESSMENT AND MANAGEMENT (3 credits)**

The overall process of hazards risk management (risk identification, risk analysis, risk assessment, risk communication), risk based decision making and risk mitigation. Classification of building stock, defining vulnerability, risk assessment methods, assessing economic losses and cost benefit analysis. Case studies will be used to demonstrate the application of risk management principles/techniques in practice.

**Prerequisite(s)/Corequisite(s):** STAT 3800. Not open to non-degree graduate students.

**CONE 8506 SUSTAINABLE CONSTRUCTION (3 credits)**

Sustainable construction and its application to the green building industry. Topics include: the LEED certification process, sustainable building site management, efficient wastewater applications, optimizing energy performance, indoor environmental issues, performance measurement/verification, recycled content and certified renewable materials. (Cross-listed with CONE 4500)

**CONE 8596 INTRODUCTION TO BUILDING INFORMATION MODELING (3 credits)**

This course instructs CAD users on the effective use of Building Information Model (BIM) for integration of design, document and construction estimate. Topics include: model-based 3D design, file formats, interoperability, and MEP modeling. (Cross-listed with CONE 4590)

**Prerequisite(s)/Corequisite(s):** CNST 1120, or Graduate standing in AE, CIVE, CNST or CONE.

**CONE 8666 HEAVY AND/OR CIVIL ESTIMATING (3 credits)**

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil construction takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts. (Cross-listed with CONE 4660).

**Prerequisite(s)/Corequisite(s):** CONE 3190 and CONE 3780 and CONE 4850

**CONE 8816 HIGHWAY & BRIDGE CONSTRUCTION (3 credits)**

The methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment. (Cross-listed with CONE 4810)

**Prerequisite(s)/Corequisite(s):** CONE 3190 or CNST 2410

**CONE 8826 HEAVY AND/OR CIVIL CONSTRUCTION (3 credits)**

History, theory, methods, and management principles of planning and executing heavy and/or civil projects. Emerging and new equipment capabilities. Economical use of equipment and management of costs associated with production. (Cross-listed with CNST 4820, CNST 8826, CONE 4820).

**Prerequisite(s)/Corequisite(s):** CNST 3790. Not open to non-degree graduate students.

**CONE 8836 SUPPORT OF EXCAVATION (3 credits)**

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams. Soil mechanics, lateral loads, hydrology, and pumping methods. (Cross-listed with CONE 4830)

**CONE 8856 CONSTRUCTION PLANNING, SCHEDULING, AND CONTROLS (3 credits)**

Planning and scheduling a project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, precedence diagrams, time estimates, critical path, float time, crash programs, scheduling, short interval schedules, pull planning, and monitoring project activities. (Cross-listed with CNST 4850, CNST 8856, CONE 4850)

**Prerequisite(s)/Corequisite(s):** CNST 3780. Not open to non-degree graduate students.

**CONE 8950 GRADUATE INTERNSHIP (3 credits)**

Open only to Construction Management graduate students. Participation in a full-time summer internship with an approved Construction Engineering or Construction Management related entity. Includes weekly assignments and a final presentation that are designed to create interaction between the Construction entity and the intern, and associated with the business aspects of the entity. General topics include Business Plans, Marketing, Finance and Budgets, Contracts, Legal Issues and Professionalism. (Cross-listed with CNST 8950)

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**CONE 8980 SPECIAL TOPICS IN CONSTRUCTION ENGINEERING (1-6 credits)**

Individual and small group investigation of special topics in construction engineering. A signed student-instructor learning contact is required. Topics vary.

**Prerequisite(s)/Corequisite(s):** Master of engineering in construction or related discipline and permission. Not open to non-degree graduate Students.

**CONE 9990 DOCTORAL DISSERTATION (1-24 credits)**

None provided

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair. Not open to nondegree students.

## Counseling (COUN)

**COUN 8006 SPECIAL STUDIES IN COUNSELING (1-6 credits)**

This course is designed to allow candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities are mutually agreed upon by the candidate and instructor. This course will prepare graduate (or undergraduate) candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with COUN 4000).

**Prerequisite(s)/Corequisite(s):** Permission by the Department. Must be admitted to the Counseling Program. Not open to non-degree graduate students.

**COUN 8010 INTRODUCTION TO COUNSELING (3 credits)**

This is an exploratory course for students entering, or considering entering, the field of professional counseling. The focus is on: 1) the development of the profession of counseling, 2) your own professional and personal development as well as your understanding of what contributes to your development as an effective counselor, and 3) a general overview of specific requirements for successful completion of a master's degree in Counseling at UNO.

**Prerequisite(s)/Corequisite(s):** Undergraduate Degree. Department permit required for non-degree seeking students (based on availability)

**COUN 8016 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health.

The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, SPED 4010, SPED 8016).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8030 COUNSELING PRACTICES (3 credits)**

The major purpose of Counseling 8030 is to assist students in skill development as noted in Ivey's Intentional Interviewing and Counseling Model. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism. Candidates will continue to develop counseling skills through additional coursework leading to practicum and internship experiences.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8040 ETHICAL ISSUES FOR PROFESSIONAL COUNSELORS (3 credits)**

This course examines the ethical, professional, and legal aspects of individual, couple and family counseling including liabilities incurred by the professional. The course addresses the appropriate ethical guidelines as stated by the American Counseling Association (ACA) code of ethics in a participatory format.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8050 INTRODUCTION TO PROFESSIONAL SCHOOL COUNSELING (1 credit)**

This is an exploratory course for candidates considering entering the field of professional school counseling. This introductory course is required for candidates majoring in counseling, with a concentration in school counseling. Selected issues underlying the school counseling profession are studied.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College and/or the Counseling Department.

**COUN 8100 RESEARCH PROJECT IN COUNSELING (1-3 credits)**

Individual or group study and analysis of specific problems/issues in the field.

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program and permission of instructor. Not open to non-degree students.

**COUN 8110 HUMAN DEVELOPMENT AND PSYCHO-SOCIAL INTERVENTION STRATEGIES (3 credits)**

This course is designed to examine theories of human development covering the lifespan of the individual and the psychosocial interventions appropriate to various phases of the lifespan. The course will emphasize human development as an interactive process involving individuals in a number of contexts; hence human diversity factors (racial ethnic groups, gender, sexual orientation) also will be considered.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program; Department permission is required for students with non-degree status; and is based on availability.

**COUN 8150 STUDENT AND STUDENT PERSONNEL WORK IN HIGHER EDUCATION (3 credits)**

An overview of the characteristics of college students and their interaction with campus environmental influences. The impact of student personnel work is considered as it affects personality growth, social development and career planning by college students.

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree graduate students.

**COUN 8200 COUNSELING THEORIES (3 credits)**

This course is designed to examine counseling theories and the historical and geographic influence on counseling theory development.

**Prerequisite(s)/Corequisite(s):** Open only to students admitted to the UNO Counseling Program. Not open to non-degree graduate students.

**COUN 8210 ORGANIZATION & ADMINISTRATION OF SCHOOL COUNSELING PROGRAMS (3 credits)**

The course introduces graduate candidates to an administrative systems approach to organizing comprehensive and developmental school counseling programs for all K-12 students. The American School Counselor Association's (ASCA) National Model for School Counseling Programs provides the foundation for content. Topics include, but are not limited to, school counseling programs: Foundation, Delivery System, Management System, and Accountability domains. Special focus is also placed on developing educational leadership skills, advocacy for K-12 students, and bringing about positive systemic change. Teaching counselor candidates to effectively manage school counseling programs is an important part of our effort to prepare educational leaders.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8220 COUNSELING PRACTICUM (3 credits)**

This course is the first of the clinical application courses of counseling knowledge, techniques, and specialty areas in clinical mental health settings. Candidates practice, develop and improve counseling skills in an environment of professional constructive criticism.

**Prerequisite(s)/Corequisite(s):** Pre-Reqs: COUN 8010, COUN 8030, COUN 8040, COUN 8200, COUN 8280, COUN 8400, COUN 8516, COUN 8520, COUN 8920 Co-Reqs: COUN 8360, COUN 8610, COUN 8800 Registration Reqs: Attend Practicum Orientation; Dept Consent. Not open to non-degree graduate students.

**COUN 8226 CAREER DEVELOPMENT AND LIFESTYLE (3 credits)**

This course will serve as an introduction to the topics of career counseling and career development.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling as degree seeking student; Department permit for non-degree seeking student (based on availability)

**COUN 8230 APPRAISAL TECHNIQUES IN COUNSELING (3 credits)**

Appraisal Techniques in Counseling includes the history of individual appraisal, the major technical considerations governing assessments, and a survey of measurement devices in the cognitive and affective domains. The course will include uses and implications of standardized and non-standardized assessment devices. Additionally, this course will cover the responsible use and interpretation of ability, aptitude, interest, personality, and career development assessment tools. Whenever it is applicable, a strengths-based, positive psychology approach will be integrated and utilized throughout this course.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Department as degree seeking student; Department permission for non-counseling/degree seeking student in UNO allied mental health discipline only (based on availability)

**COUN 8250 INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

This course is the first of the clinical applications of knowledge, techniques, and specialty areas in community settings. Students practice, develop and improve counseling skills in an environment of professional constructive criticism. This course is required for all graduate students in counseling who meet the prerequisites.

**Prerequisite(s)/Corequisite(s):** COUN 8220 with grade of B or better; Department Permission. Not open to non-degree graduate students.

**COUN 8260 ADVANCED INTERNSHIP: CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

Field experience in an approved agency program under the supervision of a licensed counselor and university instructor.

**Prerequisite(s)/Corequisite(s):** Completion of COUN 8250 with grade of B or higher. Not open to non-degree graduate students.

**COUN 8270 GROUP TECHNIQUES (1 credit)**

This course is intended to prepare students to effectively incorporate group principles appropriate to various counseling settings including schools, treatment centers, and agencies. This class includes a group experience.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Counseling or permission of instructor. Not open to non-degree graduate students.

**COUN 8280 CRISIS INTERVENTION STRATEGIES AND TECHNIQUES (3 credits)**

This course will present approaches to crisis intervention which include definitions and characteristics of a crisis, a brief history of crisis intervention and associated theories/models and a practice of skills for intervention and crisis case management. Topics will include applied therapeutic counseling strategies in general casework and in crisis intervention cases, in particular, which describe actual techniques to alleviate the crisis.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling as degree seeking student; COUN 8030, COUN 8200, COUN 8040; Dept permission/graduate status as degree seeking student in allied mental/behavioral health (based on availability). Not open to non-degree graduate students.

**COUN 8306 COUNSELING TECHNIQUES I (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Adlerian counseling (specified in this syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 4300).

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree students; must take prior to practicum.

**COUN 8316 COUNSELING TECHNIQUES II (1 credit)**

This course will present the counseling process, knowledge of beginning skills development and application of techniques related to a specific approach. Topics may include Rational Emotive Behavior Therapy (REBT) (specified in the syllabus), anger management, play therapy, solution focused, cognition, and other topics as needed.. (Cross-listed with COUN 4310)

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program; must take prior to practicum. Not open to non-degree students.

**COUN 8330 PRACTICUM FOR SCHOOL COUNSELORS (3 credits)**

This course is the first of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting. Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** Instructor Consent; COUN 8030; COUN 8040; COUN 8200; COUN 8210; COUN 8280; COUN 8630; COUN 8650; COUN 8670; COUN 8700; COUN 8740; Grade of B or better in COUN 8030 and COUN 8040. Not open to non-degree graduate students.

**COUN 8360 GROUP THEORY & TECHNIQUES (3 credits)**

This course is intended to prepare students to effectively incorporate group principles appropriate to various counseling settings including schools, clinical mental health treatment facilities, and agencies. This class includes a group experience.

**Prerequisite(s)/Corequisite(s):** Admission as degree seeking student in UNO Counseling Dept; Pre-Reqs: COUN 8030, COUN 8040; Completion of Group Experience and Department permission. Not open to non-degree graduate students.

**COUN 8400 ADVANCED THEORY AND TECHNIQUES IN COUNSELING (3 credits)**

This course introduces students to the basic knowledge and skills necessary to understand and apply counseling techniques related to differential approaches to treatment. Topics may include Solution-Focused, Adlerian, Cognitive-Behavioral (CBT), Dialectical Behavioral (DBT), Motivational Interviewing, and other techniques as deemed to be relevant/appropriate.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling program; Pre-Reqs: COUN 8030; COUN 8200

**COUN 8406 COUNSELING TECHNIQUES III (1 credit)**

This course will assist candidates in developing more systematic integration of previously learned information and skills and the application to specific counseling situations related to various approaches. Topics may include Solution Focused Counseling - SFC (specified in the syllabus), Dialectical Behavioral Therapy, anger management, art therapy, play therapy, solution focused, cognition, and other topics as needed. (Cross-listed with COUN 4400)

**Prerequisite(s)/Corequisite(s):** Admission to Counseling program. Not open to non-degree students.

**COUN 8430 INTERNSHIP IN SCHOOL COUNSELING (3 credits)**

This course is the second of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting. Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** Pre-req: COUN 8330. Not open to non-degree graduate students.

**COUN 8450 COLLEGE STUDENT PERSONNEL INTERNSHIP (1-6 credits)**

This course is designed to provide practical work experience under supervision in various areas within student personnel services.

**Prerequisite(s)/Corequisite(s):** COUN 8030, COUN 8040, COUN 8006, COUN 8150, COUN 8360, COUN 8520

**COUN 8460 ADVANCED INTERNSHIP IN SCHOOL COUNSELING (3-6 credits)**

This course is the third of the clinical applications to provide the prospective school counselor with supervision in a school counseling setting.

Candidates will continue to develop counseling skills and will become immersed in the work of a professional school counselor. Candidates practice, develop and improve counseling skills in an environment of professional and constructive criticism.

**Prerequisite(s)/Corequisite(s):** COUN 8330. Not open to non-degree graduate students.

**COUN 8500 CONSULTATION IN PROFESSIONAL COUNSELING (2 credits)**

Instruction in this course is founded upon commitment to the beliefs that individuals are valuable, responsible and capable, and that all human service professionals should work to create the conditions in which people value themselves as human beings and behave accordingly. As reflective decision-makers, such professionals value human potential and purposefully design policies, processes and programs that facilitate the realization of that potential. The counselor learns that consultation and collaboration are first and foremost helping relationships that have as their foundation the dignity and respect of individuals/groups involved. Consultation and collaboration are characterized as problem-solving processes that involve a variety of key decision points. A generic model is provided for students as a "cognitive map" upon which they can reflect when attempting to determine effective practice.

**Prerequisite(s)/Corequisite(s):** Admission to the Counseling Program. Not open to non-degree graduate students

**COUN 8516 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, SOWK 4510, SOWK 8516).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. Not open to non-degree graduate students.

**COUN 8520 COUNSELING MULTICULTURAL AND DIVERSE POPULATIONS (3 credits)**

This course will make candidates more aware of the societal context in which counseling takes place and to help prepare candidates for work with persons who are members of populations which require special knowledge and skills of the counselor. Certain special populations will be considered in comparative detail as well as a general information which will emphasize acquiring broader understandings transferable to counseling with any special population.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8610 INTRODUCTION TO MARITAL AND FAMILY THERAPY (3 credits)**

This course is the first of the clinical mental health applications to provide the prospective mental health counselor with instruction in marital and family therapy. Students will continue to develop counseling skills and will become immersed in the work of a professional counselor. Students practice, develop and improve marital and family counseling skills in an environment of professional and constructive peer feedback.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling program; COUN 8030, COUN 8200, COUN 8040. Not open to non-degree graduate students.

**COUN 8620 SURVEY OF ISSUES IN SCHOOL COUNSELING (2 credits)**

This course is designed to provide school counselors with information on topics that are current and relevant to secondary school settings. It will allow candidates and practicing counselors the opportunity to study and evaluate what activities school counselors are currently engaged in and consideration of strategies to deal with students and families.

**Prerequisite(s)/Corequisite(s):** Admission to counseling program. Not open to non-degree graduate students.

**COUN 8630 FOUNDATIONS AND ISSUES IN SECONDARY COUNSELING (3 credits)**

This course is designed to introduce the history, current ASCA (American School Counselor Association) model, and the role of a professional school counselor; and to provide information on and practice with topics that are current and relevant to secondary school settings.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8650 ISSUES IN ELEMENTARY AND MIDDLE SCHOOL COUNSELING (3 credits)**

This course is intended to prepare students to effectively implement an elementary and/or middle school counseling program. Candidates will develop awareness and skill sets through an overview of the unique issues, approaches, systems and practice of elementary and middle school counseling..

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept. Not open to non-degree graduate students.

**COUN 8656 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living.

**Prerequisite(s)/Corequisite(s):** EDUC 2510 or SPED 1500. Not open to non-degree graduate students.

**COUN 8670 CAREER DEVELOPMENT POST-SECONDARY TRANSITIONS (3 credits)**

This course is an introduction to career counseling and career development and post-secondary planning in P-12 schools. This course is required for all graduate students seeking a masters degree in counseling with a concentration in school counseling.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Dept

**COUN 8686 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/ DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 4680, SOWK 8686, COUN 4680).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**COUN 8696 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, SOWK 4690, SOWK 8696).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**COUN 8700 CHILD AND ADOLESCENT COUNSELING (3 credits)**

This course is an introduction to counseling children and adolescents and will examine the theories, techniques, professional settings, cultural, and ethical/legal issues associated with counseling children and adolescents in a diverse society. Although diagnosis of mental disorders will be discussed, the course is designed to build competencies in counseling children and adolescents, with specific attention to social, developmental, and behavioral issues across professional settings.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Counseling Department; COUN 8030 or Department Permission. Not open to non-degree graduate students.

**COUN 8740 SCHOOL COUNSELING GROUPS (3 credits)**

This course is designed to provide the school counselor candidate with a focused study of small group counseling and enrichment programs in schools.

**Prerequisite(s)/Corequisite(s):** Instructor Consent; Documented completion of group experience. Not open to non-degree graduate students.

**COUN 8750 SCHOOL COUNSELING GROUPS & ENRICHMENT PROGRAMS (2 credits)**

This course is intended to prepare students to effectively incorporate small group design, implementation, and assessment as part of a school counseling program. Candidates will develop small group counseling skills and strategies for enrichment program development and delivery.

**Prerequisite(s)/Corequisite(s):** Counseling Major. COUN 8030 and COUN 8270 and COUN 8406 or permission. Not open to non-degree graduate students.

**COUN 8756 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with GERO 4750 and GERO 8756)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8800 CLINICAL MENTAL HEALTH COUNSELING (3 credits)**

This course is an introduction to the specialization of clinical mental health counseling. The course content examines the historical, philosophical, educational, ethical, and psychological concepts and foundations of clinical mental health counseling. Additionally, the course will explore key public and private professional settings and programs within the clinical mental health paradigm, professional advocacy and leadership, and the personal and professional skills and traits expected of professional counselors.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8810 LAW AND ETHICS IN HIGHER EDUCATION AND STUDENT AFFAIRS (3 credits)**

This introductory course is designed to ground future student affairs practitioners in the guiding ethical and legal standards and principles of higher education administrators and student affairs professionals. The course will examine ethical and legal principles through evidence-based readings, discussion/lecture, case studies, exams, and projects. The course will also challenge students to examine their personal values and beliefs and their potential influence on future decision making responses as a student affairs professional.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Counseling Department or department permission.

**COUN 8820 CRISIS AND EMERGENCY MANAGEMENT IN HIGHER EDUCATION (3 credits)**

This course is designed to provide future student affairs professionals with an understanding of the role of higher education institutions respond and adapt to crises that affect institutional well-being and the well-being of faculty, staff, and students. The course will feature content on crisis and emergency management theory and policy-as well as their implications on the well-being of the institution and key stakeholders (i.e., administrators, faculty, staff, students, community, alumni). Specific focus will be given to examining the specific role of the student affairs professional in the design, implementation, and assessment of crisis and emergency management policy and procedures.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Department of Counseling and/or department permission

**COUN 8830 CURRENT ISSUES IN HIGHER EDUCATION AND STUDENT AFFAIRS (1 credit)**

This course involves a detailed exploration of current events and issues related to Student Affairs and Higher Education. The higher education ecological environment will be explored and issues pertaining to students will be investigated within the context of the current higher educational landscape. Finally, the college campus's social, political, and physical landscapes will be discussed and current events facing student affairs and higher education professionals will be examined in order to provide students with information on conflicting perspectives related to relevant issues across academia and higher education as a whole.

**Prerequisite(s)/Corequisite(s):** Admission to the UNO Counseling Department and/or department permission

**COUN 8850 THE COLLEGE STUDENT EXPERIENCE (3 credits)**

This course will examine the personal, academic, and psychosocial, and institutional variables common to the experience of students in public and private institutions of higher education in the United States.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair.

**COUN 8920 TREATMENT PLANNING AND THE DSM (3 credits)**

This course is designed to orient students to the stages of treatment planning and use of the DSM-5 as a part of the treatment process in mental health settings. The course will examine the stages of treatment planning and offer opportunities to integrate counseling theories into practice. Factors such as psychopathology/pharmacology, ethics, and human diversity will be considered.

**Prerequisite(s)/Corequisite(s):** Department Consent. Not open to non-degree graduate students.

**COUN 8930 HISTORY OF HIGHER EDUCATION AND STUDENT AFFAIRS (3 credits)**

This course will examine a range of topics relevant to understanding and working in higher education institutions. Specific topics will include the purpose of higher education, accessibility and student diversity issues, financial and legal factors, extracurricular activities, and issues related to faculty and staff experiences.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO graduate program in Student Affairs in Higher Education or permission from Counseling Department Chair

**COUN 8940 DIVERSITY AND WELLNESS ISSUES IN HIGHER EDUCATION (3 credits)**

This course is an exploration of holistic wellness and of power, privilege, social identities, social justice theories and multicultural issues and practices within the context of higher education. We begin by offering foundational definitions of terminology used throughout the course and delve into understanding systems of oppression, privilege, power, and activism through a holistic wellness lens. We then explore and discuss specific social identities, returning again to think about identity through a social justice lens.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair. Not open to non-degree graduate students.

**COUN 8950 ORGANIZATION, ADMINISTRATION, AND LEADERSHIP IN HIGHER EDUCATION (3 credits)**

This course will provide an analysis of leadership, management, and organizational theory and practice in US higher education with particular emphasis on student affairs/student development. An examination of current practices of management will include human, fiscal, and physical resource management. This course is required for all students who are seeking a master's degree (M.S.) in Student Affairs in Higher Education.

**Prerequisite(s)/Corequisite(s):** Full admission to the UNO Counseling Department and/or permission from the Counseling Department Chair.

**COUN 8980 DIGITAL LEARNING: POLICY, PROGRAMMING, & SYSTEMS (3 credits)**

This course is an exploration of digital learning organizational structures within the context of higher education. We begin by offering foundational definitions of terminology used throughout the course and delve into understanding how digital learning fits within the broader context of college and university operations. We then explore and discuss strategies for understanding relevant policies, technology systems and wrap-around support services to ultimately engage and retain digital learners in pursuit of post-secondary education.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Department of Counseling and/or department permission.

**COUN 8986 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with GERO 4980, GERO 8986).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**COUN 8990 THESIS (1-6 credits)**

To develop the candidate's ability to carry out accepted procedures associated with the research process.

**Prerequisite(s)/Corequisite(s):** Approval of the Thesis Review Committee and permission of student's thesis chairperson. Not open to non-degree graduate students.

## Criminology and Criminal Justice (CRCJ)

**CRCJ 8010 NATURE OF CRIME (3 credits)**

This course provides an overview of the major dimensions of crime in the U.S. Content areas included are the epidemiology of crime, the costs of crime and typologies of crime and criminals.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8020 SEMINAR IN ADMINISTRATION OF JUSTICE (3 credits)**

This course is designed to provide students with a critical understanding of responses to crime. Particular emphasis is placed on theory and research bearing upon the effectiveness of the policies and strategies of the principal institutions of the criminal justice system - the police, courts and corrections. Additionally, philosophical and practical matters pertaining to "justice" and "fairness" in the administration of the criminal law are explored.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8030 CRIMINAL JUSTICE RESEARCH THEORY AND METHODOLOGY (3 credits)**

Research theory and methodology in the social sciences as applicable to criminal justice; preparation of research designs, conceptual models; sampling procedures; and development of individual research papers.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate College.

**CRCJ 8040 SEMINAR IN POLICE AND SOCIETY (3 credits)**

This course is designed to explore the role of the police in American society. Attention is given to the origins of policing, the nature of police organizations and police work, and patterns of relations between the police and the public. The values of a democratic society as they affect the law enforcement role are discussed.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice; or admission to the UNO graduate program and permission of instructor.

**CRCJ 8050 SEMINAR IN CORRECTIONS (3 credits)**

This course is designed to give an analytical perspective to the history, development, implementation and future of critical issues in the field of corrections. Primary focus will be directed toward an exploration of the various theoretical approaches to corrections and the research intended to support or refute these perspectives.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8060 SEMINAR IN THE CRIMINAL COURT SYSTEM (3 credits)**

This course is designed to provide a social science perspective on the role of the courts in the criminal justice system. The ideals of the system will be compared with actual functioning, and court reform programs and proposals will be critically examined.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8070 SEMINAR IN CRIMINAL LAW AND PROCEDURE (3 credits)**

This course is designed to examine substantive criminal law as the basis of social control in our country. Contemporary issues such as the insanity defense, decriminalization of so-called victimless crimes, sexual assault and abortion, and current proposals to assist victims of crimes will be among the topics explored. In addition, current criminal procedure problems relating to right to counsel, search and seizure and interrogation will be examined.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8080 SEMINAR IN JUVENILE JUSTICE (3 credits)**

An inquiry in the social ramifications of the entire juvenile delinquency process including labeling, detention, incarceration and tolerance. Pre- and post-adjudicatory issues are dealt with as well as a realistic perspective given to delinquency prevention strategies.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 8090 SEMINAR IN THEORETICAL CRIMINOLOGY (3 credits)**

A study of the etiology of crime as a social phenomenon and an objective analysis of the historical influences and thought which molded its development into an accepted contemporary science.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice; or admission to UNO graduate program and instructor permission.

**CRCJ 8100 CRIMINAL JUSTICE ORGANIZATION, ADMINISTRATION AND MANAGEMENT (3 credits)**

This course will deal with issues in the organization and administration of modern justice agencies. The students will be exposed to theories, concepts, and issues relating to the administration and organization of justice agencies.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 8110 VICTIMOLOGY (3 credits)**

The Victimology seminar provides an overview of key research areas on prevalence, predictors, and consequences of various forms of victimization. By the end of the course, students will develop a critical understanding and appreciation of the development and current state of theories of victimology, measurement of different types of victimization, and quantitative and qualitative results that have been used to inform research in the field. Furthermore, students will learn how to critically analyze and interpret primary research regarding victimization.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 8130 SEMINAR IN WOMEN AND CRIMINAL JUSTICE (3 credits)**

This course focuses on the experiences of women in the criminal justice system. It will cover the history of criminological theory on women, application of mainstream criminological theory to women, and women as offenders, victims, and professionals in the criminal justice system.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8136 SOCIOLOGY OF DEVIANT BEHAVIOR (3 credits)**

This course is designed to investigate the etiology of many forms of norm-violating conduct. Emphasis will be placed on rule-breaking behavior as defined in the criminal statutes. (Cross-listed with CRCJ 4130).

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8180 CRIMINAL JUSTICE INTERNSHIP (3 credits)**

This course is designed to provide supervised individualized learning experiences in a selected criminal justice agency. The principal objective of the internship is to provide students with the opportunity to apply theoretical and methodological principles acquired in graduate courses to the analysis of problems in local criminal justice agencies.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice, successful completion of 15 hours of graduate work, and permission of instructor. Not open to non-degree graduate students.

**CRCJ 8190 INDEPENDENT STUDY (1-3 credits)**

Individual projects in research, literature review or creative production which may or may not be an extension of course work. The work will be supervised and evaluated by departmental graduate faculty members.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program at UNO, and permission of instructor.

**CRCJ 8210 PROGRAM EVALUATION AND POLICY ANALYSIS (3 credits)**

This course is a survey of program evaluation and policy analysis techniques. The focus is on theoretical foundations of the Criminal Justice policy process, program development and implementation, research designs specific to program evaluation and policy research, and methodological techniques commonly used to evaluate criminal justice programs and policies.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program in Criminology and Criminal Justice; or admission to graduate program at UNO and CRCJ 8030; or instructor permission.

**CRCJ 8230 TERRORISM (3 credits)**

A course devoted to an exploration and analysis of contemporary special problems in the broad spectrum of law enforcement and corrections.

**CRCJ 8356 COMMUNITY-BASED CORRECTIONS (3 credits)**

This course is intended for advanced students with a special interest in the correctional process as applied in a community setting. It is designed to focus on innovative community-based strategies for dealing with the offender as well as the traditional processes of probation and parole.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 8516 VIOLENCE (3 credits)**

This course is a survey of the nature and extent of violence. The focus is on patterns of violence across social groups, the causes and correlates of violence and violent behavior, and programs/policies geared toward violence prevention and reduction. Also of interest is the relationship between theory and violence research.

**Prerequisite(s)/Corequisite(s):** Upper-division CRCJ major; CRCJ minor; or CRCJ 1010 and jr/sr standing.

**CRCJ 8800 SPECIAL PROBLEMS IN CRIMINAL JUSTICE (3 credits)**

A course devoted to an exploration and analysis of contemporary special problems in the broad spectrum of criminal justice philosophy. This course looks at philosophical issues related to social control. The purpose of this course is to foster a deeper understanding of the reasons, justifications, and problems related to societal approaches to the control of its citizens.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or UNO graduate student and permission of instructor.

**CRCJ 8850 RISK/NEEDS ASSESSMENT INSTRUMENTS (3 credits)**

This course is designed to provide students with advanced knowledge and understanding in the area of risk/needs assessment tools used in the juvenile and adult justice system.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice; or, instructor permission.

**CRCJ 8950 STATISTICAL APPLICATIONS IN CRIMINAL JUSTICE & PUBLIC ADMIN (3 credits)**

This is a required course which provides a foundation for the use of statistical methods in criminal justice and public affairs research. It will review fundamentals of research, showing the interplay between the theory, the research, the statistical method, and the interpretation.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate college.

**CRCJ 8970 CAPSTONE PROJECT IN CRIMINOLOGY AND CRIMINAL JUSTICE (3 credits)**

The Capstone Project offers each student the opportunity to demonstrate mastery of the theory and practice of Criminology and Criminal Justice by applying the knowledge and skills gained in the Master of Science program to a project of the student's choice. This involves completing a project report reflecting the cumulative knowledge gained from these experiences. This class is intended only for students who are completing their Master of Science degree in Criminology and Criminal Justice.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice MS program, and completion of a minimum of 24 credit hours; or permission of Masters Program Coordinator. Not open to non-degree graduate students.

**CRCJ 8990 MASTERS THESIS (1-6 credits)**

The thesis is required for all students in the MA program. It provides students with an opportunity to integrate theories, concepts, and aspects of the criminology and criminal justice literature with methods and techniques for conducting research, through the completion of an original research project. The thesis project should constitute original research and is conducted under the supervision of a Masters Thesis Committee.

**Prerequisite(s)/Corequisite(s):** Admission to the MA program in Criminology and Criminal Justice; and, CRCJ 8010, CRCJ 8020, CRCJ 8030, CRCJ 8950 and 6 other 8000+ CRCJ courses. Not open to non-degree graduate students.

**CRCJ 9010 SEMINAR ON LAW & SOCIAL CONTROL (3 credits)**

This is a required course which will examine the relationships between the state, the law, and the citizen in a democratic society. It will also examine the relationship between social control, law and social change.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or UNO graduate student and permission of instructor.

**CRCJ 9020 SEMINAR ON THEORIES OF CRIME (3 credits)**

This is a required course which emphasizes conceptual and theoretical issues in contemporary criminological theory. It also provides students with a working knowledge of theory construction.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice MA or PhD graduate programs; or admission to UNO graduate program and instructor permission.

**CRCJ 9030 SEMINAR ON RACE, ETHNICITY, AND CRIMINAL JUSTICE (3 credits)**

This is a required course which introduces students to current empirical research and theory on racial minorities and the criminal justice system. It focuses on racial minorities as victims of crime, as offenders, and as criminal justice professionals.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 9040 COMPARATIVE CRIMINOLOGY AND CRIMINAL JUSTICE SYSTEMS (3 credits)**

This course provides a cross-national examination of the dynamics of criminality and the social response to crime. It also describes the extent and nature of crime in different countries.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and instructor permission.

**CRCJ 9050 ACADEMIC WRITING (3 credits)**

This course is designed to familiarize students with academic and professional writing with the goal of promoting the development of formal writing and organizational skills. Students will learn how to construct and organize scholarly papers to better prepare them for the comprehensive examination, the doctoral dissertation, the development of scholarly journal articles and monographs, and the development of funded project proposals.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and permission of instructor.

**CRCJ 9080 ADVANCED STATISTICAL APPLICATIONS (3 credits)**

This is a required course which will provide the student with fundamentals of modern statistical techniques used in criminal justice and public affairs research. (Cross-listed with PA 9080.)

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and CRCJ 8950 or PA 8950 and instructor permission.

**CRCJ 9090 SPECIAL PROBLEMS IN RESEARCH METHODS (3 credits)**

This course will explore specialized topics in research methodology. The course assumes that participants have a firm understanding of the basic principles of research methods and statistics.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9100 SPECIAL PROBLEMS IN STATISTICAL ANALYSIS (3 credits)**

This course will explore advanced techniques of statistical analysis within the field of criminal justice. It assumes that participants have taken courses in basic descriptive and inferential statistics and advanced multivariate analysis of variance and regression.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Criminology and Criminal Justice and CRCJ 9080; or admission to UNO graduate program, CRCJ 9080, and permission of the instructor.

**CRCJ 9130 ADVANCED RESEARCH ON POLICING (3 credits)**

This course will explore critical research issues in American policing. The focus of the course may vary and cover topics such as police discretion, police use of force, labor unions in law enforcement, gender differences in policing, and police organization management.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and permission of the instructor.

**CRCJ 9150 SPECIAL TOPICS IN CRIMINAL JUSTICE RESEARCH (3 credits)**

This course will focus on specialized topics in criminology & criminal justice research. The purpose of the course is to provide students with an opportunity to read and critique current research on topics such as the history of the criminal justice system, civilian review of the police, sentencing, or the application of the death penalty.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9160 SEMINAR IN COMMUNITY-BASED CORRECTIONS (3 credits)**

This course will deal with strategies of correctional reform and with models and practices of community-based corrections. Recent innovations in community-based corrections will be examined to demonstrate how they fit into an overall correctional strategy.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program.

**CRCJ 9170 SEMINAR ON INSTITUTIONAL CORRECTIONS (3 credits)**

This course will examine the role of correctional institutions in the criminal justice system. The student will be exposed to the historical, current, and projected role of these institutions.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 9180 SEMINAR ON THE CRIMINAL COURT SYSTEM (3 credits)**

This course will focus on the structure, organization, and operation of the state and federal court systems in the United States. The purpose of the course is to survey recent research on the dynamics of courthouse justice—charging, plea bargaining, bail decision making, jury decision making, and sentencing.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Criminology and Criminal Justice; or admission to UNO graduate program and permission of instructor.

**CRCJ 9200 SEMINAR ON VIOLENT CRIME AND CRIMINAL BEHAVIOR (3 credits)**

This course exposes students to the leading theories and research in the area of violent criminal behavior. It addresses major violent crimes including rape, homicide, and child sexual physical abuse.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice graduate program; or admission to UNO graduate program and instructor permission.

**CRCJ 9220 ADVANCED CRIMINOLOGICAL THEORY AND THEORY CONSTRUCTION (3 credits)**

This course is designed to extend students' knowledge of theory and theory construction beyond the basics of the elements and propositions of particular criminological theories. Students will have an opportunity to examine in depth topics such as theory construction, theory integration, theory compatibility and synthesis, and new directions in criminological theory.

**Prerequisite(s)/Corequisite(s):** CRCJ 8090 or CRCJ 9020 and admission to graduate program in Criminology and Criminal Justice; or permission of instructor.

**CRCJ 9250 SEMINAR ON VICTIMIZATION ACROSS THE LIFE-COURSE (3 credits)**

The Seminar on Victimization across the Life-course provides graduate students a survey of the primary topics regarding the predictors and consequences of victimization at various points in life. This an elective course for graduate students in Criminology and Criminal Justice. By the end of the course, students will understand major theories, research methods, and seminal research studies in the victimology field. Furthermore, students will learn how to critically analyze and interpret primary research regarding victimization.

**Prerequisite(s)/Corequisite(s):** Admission to UNO graduate program. Not open to non-degree graduate students.

**CRCJ 9700 TEACHING CRIMINAL JUSTICE AT THE COLLEGE/ UNIVERSITY LEVEL (3 credits)**

This seminar is a required course for doctoral students in criminal justice. The purpose of the course is to provide students with the knowledge and skills that will enable them to become informed, effective, and stimulating teachers. A variety of pedagogical issues will be covered during the course of the semester; theories of learning and student motivation; constructing a course syllabus; designing effective writing assignments and in-class exercises; leading class discussions; testing and grading; and managing the classroom.

**Prerequisite(s)/Corequisite(s):** Admission to Criminology and Criminal Justice PhD graduate program; or admission to Criminology and Criminal Justice MA or MS graduate program and instructor permission. Not open to nondegree students.

**CRCJ 9800 ADVANCED RESEARCH DESIGN (3 credits)**

This is a required course which will expose students to advanced topics in research methods in preparation for writing their doctoral dissertation. It will also apply advanced methodological techniques to problems in the field.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Criminology and Criminal Justice; or UNO graduate student and instructor permission.

**CRCJ 9980 DIRECTED READINGS IN CRIMINOLOGY & CRIMINAL JUSTICE (1-6 credits)**

This course is designed to provide the advanced graduate student with the opportunity to do extended readings on a specialized criminology or criminal justice topic.

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in criminology and criminal justice or UNO graduate program, and permission of instructor.

**CRCJ 9990 DISSERTATION (1-20 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge on crime and criminal justice.

**Prerequisite(s)/Corequisite(s):** Completion of all coursework, completion of the comprehensive examination, and permission of Supervisory Committee Chair. Not open to non-degree graduate students.

## Critical and Creative Thinking (CACT)

**CACT 8000 INTRODUCTION TO CRITICAL AND CREATIVE THINKING (3 credits)**

This course is the foundational introductory course for the Master of Arts in Critical and Creative Thinking program (MA CCT). It focuses on the development of students' skills as critical thinkers and creative problem solvers as well as the cultivation of students' capacity to recognize and leverage tools, resources, and ideas towards finding innovative solutions to everyday problems.

**Prerequisite(s)/Corequisite(s):** Graduate status and acceptance into MA CACT program or permission of instructor.CACT8000

**CACT 8060 TOPICS IN CRITICAL AND CREATIVE THINKING (3 credits)**

This is a course on selected topics offered on a one-time or occasional basis. The course may be repeated as long as the topic is different each time.

May be cross listed with other departments when topics are appropriate to other departments. A complete topics syllabus will be available on file in the Office of the Master of Arts in Critical and Creative Thinking program.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8080 INDEPENDENT STUDY (1-3 credits)**

This course is designed for those students who are independently pursuing an area of study that is not covered under the existing curriculum. The student will be supervised by a member of the faculty of the MA in Critical and Creative Thinking program. All course assignments, readings, requirements, and expectations will be clearly communicated to the student in advance. May be repeated for credit for a total of six credit hours.

**Prerequisite(s)/Corequisite(s):** Admission into the MA CCT program, successful completion of 6 hours of CACT coursework, including CACT 8000, and permission of faculty member. Not open to non-degree graduate students.

**CACT 8090 CRITICAL AND CREATIVE THINKING GRADUATE PROJECT (3 credits)**

The Graduate Project is an applied student project under the direction of a faculty advisor. In the project, the student will apply interdisciplinary knowledge and skills gained within the program to address a problem or to expand knowledge within or across disciplines. The product or artifact produced by the student may take a variety of forms.

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and Graduate Program Committee Leadership (or its designee). Not open to non-degree graduate students.

**CACT 8100 GLOBAL CINEMA (3 credits)**

A critical and analytic study of foreign films focusing on overlapping global issues. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking.

**CACT 8106 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4530, PSYC 8536).

**Prerequisite(s)/Corequisite(s):** Enrollment in MA in Critical & Creative Thinking program or by permission of the instructor.

**CACT 8110 GLOBAL-LOCAL: OPPORTUNITIES, BARRIERS, ENGAGEMENT (3 credits)**

This course focuses on global cultural and social forces and how they interact to form nexuses of both opportunity and obstacle to constructive human engagement on a wide array of social issues. An overview of topics covered in the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. This course will provide students with the analytical tools, collaborative engagement skills, and applied problem-solving techniques that will help students succeed in this concentration and program. (Cross-listed with BLST 8110)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8116 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 4550, GEOG 8556)

**Prerequisite(s)/Corequisite(s):** Graduate status.

**CACT 8200 SEMINAR IN POLITICAL THEORY (3 credits)**

This course introduces students to the history of political theory, from its origins in ancient Greece to its manifestations in contemporary thought. (Cross-listed with PSCI 8300)

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**CACT 8206 COMPARATIVE RELIGIOUS ETHICS (3 credits)**

An introduction to historical and contemporary approaches to comparative religious ethics, with special focus on specific case studies as encountered in societies and religious communities across the globe. In addition to reading authors from a variety of perspectives (Aristotelians, natural law theorists, philosophers of law, pragmatists, theologians, and historians of religion), students will be introduced to special topics in the field, e.g., religion and public life, religion and law, syncretism, the secular/non-secular divide, etc. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4200, RELI 8206)

**CACT 8215 VALUES AND VIRTUES (3 credits)**

This course explores advanced topics in ethics with particular emphasis on value theory and virtue ethics. Topics to be considered include the meaning and status of value claims, sources of value, intrinsic goods, agent-relative goods, practical reason, moral development, happiness, moral ambiguity, moral luck, the identification of virtues, and relationships of care, trust, and responsibility. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PHIL 3060)

**CACT 8226 VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION (3 credits)**

This course is designed to familiarize the student with the nature of violent conflict, including terrorism, and a variety of the mechanisms for peacebuilding. The course will also explore human rights and the ethics of intervention. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4220, RELI 8226)

**CACT 8306 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 4290, PSCI 8296)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**CACT 8310 ECOLOGICAL WRITING AND ANALYSIS (3 credits)**

This course provides students with the opportunity to develop expertise in a wide range of foundational works and key techniques of ecological writing and theory in English. By engaging mindfully with these works and techniques, students will develop advanced skills in ecologically oriented critical analysis and creative thinking. This course supports the Writing and Critical Reflection and the Health and the Environment concentrations in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8310)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8316 OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY (3 credits)**

In this course, students will analyze our energy options including the environmental, economic, and ethical connections with a particular emphasis on electrical energy. The course doesn't prescribe a particular energy future but rather emphasizes development of the knowledge and skills to more effectively contribute to the conversation. To understand our future, the course begins with the present energy landscape and its historical underpinnings, then focuses on developing a student's ability to critically assess energy options by examining the associated implications, consequences, intent, origins, and bias. Students' own work, life, and academic experience are used in the course to underscore the individual relevance of these energy choices. The course includes the necessary science, but the greater emphasis is on the associated critical and creative thinking so that ultimately students can make informed, creative, sustainable energy choices. (Cross-listed with ENVN 4310, ENVN 8316)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8326 ECOLOGICAL SUSTAINABILITY AND HUMAN HEALTH (3 credits)**

The course will explore and develop the complex context of the systemic links among ecosystems and human health (and more broadly human well-being) using case studies including climate change, water quality, infectious diseases and agricultural production. Students will develop skills in critical thinking and applied research by studying biological connections between humans and ecosystems and how social, economic and cultural processes and practices mediate these connections. This course supports the Health and the Environment concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENVN 4320)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8400 A HISTORY OF AMERICAN IMMIGRATION POLICIES AND LAWS (3 credits)**

This seminar will examine the evolution of American immigration policies and laws from the colonial period to the present day. Where appropriate, the course will examine American immigration laws in a comparative context. It will pay particular attention to how state policies create and/or sustain inclusionary or exclusionary practices for members of different racial, ethnic, religious, or gender groups in American society.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8410 IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE (3 credits)**

This seminar in literature and some film analyzes the depictions in non-fiction and fiction of displacement as a result of immigration, migration, refugee status, or any other considered movement, intentional or imposed. It will focus largely on the U.S. experiences of those displaced from all locales. (Cross-listed with ENGL 8410)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8416 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 4150, SPAN 8156)

**CACT 8420 MEXICO AND THE U.S. BORDERLANDS: TWO HISTORIES, ONE DESTINY (3 credits)**

Exploration of U.S.-Mexico Borderlands history and its pathways to current developments. It reviews borderland encounters, miscegenation, and wars between Indigenous groups, Europeans, North Americans, and Mexicans. It looks at the history of the drafting of the imaginary U.S.-Mexico borderline and follows its development until the construction of a wall to separate an undividable socio-cultural space. The course integrates a comparative conceptual approach to empires, nation-building, territorial expansion, identity formation, code-mixed English-Spanish uses, and state sovereignty.

**CACT 8430 INTERNATIONAL MIGRATION, DEVELOPMENT AND CITIZENSHIP (3 credits)**

The course allows students to gain an understanding of the forces driving contemporary world migration, the policies and practices of development expelling or attracting migrants from and to different parts of the world, and migrants' relative success in their quest for belonging and citizenship in their host communities. This course supports the International Migration, Development and Citizenship concentration in the Master of Arts in Critical and Creative Thinking.

**CACT 8500 COMPLEX ORGANIZATIONS (3 credits)**

This graduate seminar provides an overview focused on the understanding and analysis of intricate internal and external organizational forces such as organizational bureaucracy, organizational culture, autonomy and control systems, which affect performance of organizational members as well as influence organizational survival. (Cross-listed with SOC 8500)

**Prerequisite(s)/Corequisite(s):** Graduate enrollment or permission of class instructor.

**CACT 8506 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4650, PSYC 8656)

**CACT 8510 SEMINAR IN LEADERSHIP (3 credits)**

This course introduces students to classical and contemporary scholarship on leadership theory, research, and application. Students gain a foundation in models of leadership, assess their own leadership styles, and learn to integrate what they learn in corporate, governmental, non-profit, or community organizations. (Cross-listed with PSCI 8120)

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**CACT 8520 POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course is a graduate seminar on organizational psychology and leadership that focuses on the understanding and critical analysis of theory and practice pertaining to individual functioning at work. Positive organizational psychology theories and practices will provide the overarching framework in understanding potential solutions to challenges and problems facing leaders and their employees. (Cross-listed with PSYC 9421).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**CACT 8530 PERSONNEL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course provides an overview of personnel psychology from a leadership perspective. Topics include methodology, employee selection, performance appraisal, organizational attitudes and behavior, motivation, and leadership style.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**CACT 8610 PROFESSIONAL AND TECHNICAL WRITING (3 credits)**

This course will introduce students to the theory, research, and practices of professional and technical writing. Through readings, discussions, and assignments, students will gain an understanding of the types and circumstances of communication challenges encountered in the workplace. The course will also consider the roles of persuasion and ethics in written communication. (Cross-listed with ENGL 8610)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8630 DIGITAL RHETORIC (3 credits)**

This course provides students with the opportunity to develop expertise in the theory and practice of digital rhetoric by considering technology's deep impact on how we define and engage in writing. Students examine contemporary writing practices as part of a rich rhetorical tradition while they design and create effective multimodal compositions and analyze foundational works in digital rhetoric. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8630)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**CACT 8640 CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS (3 credits)**

Students in this course will study creative nonfiction in digital environments, analyze rhetorical situations created in digital environments, and create individual creative nonfiction blogs-which might include, in addition to other modalities, sounds, animations, and hypertext. The course will also focus on the study and analysis of craft-elements of creative nonfiction: narrative persona, tone, rhythm and style, scenic construction, among others. Students taking this course will learn to read with interpretative and analytical proficiency a broad range of creative nonfiction in digital environments. (Cross-listed with ENGL 8640).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**CACT 8650 WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY (3 credits)**

This course provides students a theoretical foundation for understanding how language is used in various types of discourses and texts as a means of convincing others of a given viewpoint or idea. Students will apply this theory to real-world writing scenarios in their scholarly areas of interest, to advocacy and social issues movements, or to address workplace needs and goals. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with ENGL 8650)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

## Cybersecurity (CYBR)

**CYBR 8000 CENTER OF ACADEMIC EXCELLENCE-CYBER OPERATIONS COMPLETION CERTIFICATE (0 credits)**

This course is utilized to provide a specific designation for students that have completed the Center of Academic Excellence - Cyber Operations coursework. It is a zero credit hour class used to designate the completion of this focus area in the cybersecurity curriculum.

**Prerequisite(s)/Corequisite(s):** Instructor Permission. The program committee will work with the UG advisors to ascertain that the student has fulfilled all requirements for this designation-if he/she has or will within the last semester, they will be allowed to register for this class.

**CYBR 8080 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-6 credits)**

The course provides a format for exploring advanced research areas for graduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research.

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 8366 FOUNDATIONS OF CYBERSECURITY (3 credits)**

Contemporary issues in computer security, including sources for computer security threats and appropriate reactions; basic encryption and decryption; secure encryption systems; program security, trusted operating systems; database security, network and distributed systems security, administering security; legal and ethical issues. (Cross-listed with CYBR 4360, CSCI 8366)

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 OR ISQA 3400 OR By instructor permission

**CYBR 8386 COMPUTER AND NETWORK FORENSICS (3 credits)**

Computer forensics involves the preservation, identification, extraction and documentation of computer evidence stored on a computer. This course takes a technical, legal, and practical approach to the study and practice of incident response, computer forensics, and network forensics. Topics include legal and ethical implications, duplication and data recovery, steganography, network forensics, and tools and techniques for investigating computer intrusions. This course is intended as a second course in information assurance for undergraduate students as well as other qualified students. It is also intended as a foundation course for graduate digital forensics studies.

**Prerequisite(s)/Corequisite(s):** CYBR 1100, CIST 3600, CSCI 3500 or ISQA 3400, CYBR 3350 or CYBR 3370; or instructor permission.

**CYBR 8396 MOBILE DEVICE FORENSICS (3 credits)**

Mobile device forensics is the science of recovering digital evidence from a mobile device under forensically sound conditions using accepted methods. The aim of this course is to introduce students to acceptable approaches for collecting, analyzing and reporting data from a mobile device forensics investigation. Topics include: an introduction to digital and mobile device forensics, mobile forensics standards, acquisition methods (manual, logical, physical and provider-side), Android and iOS filesystem analysis, decoding approaches, application data analysis, and report writing. Students will be required to perform several investigations in a controlled lab environment, including acquiring forensically sound evidence and analyzing these using industry standard tools. (Cross-listed with CYBR 4390).

**CYBR 8410 DISTRIBUTED SYSTEMS AND NETWORK SECURITY (3 credits)**

The course aims at understanding the issues surrounding data security, integrity, confidentiality and availability in distributed systems. Further, we will discuss various network security issues, threats that exist and strategies to mitigate them. This course will cover topics in cryptography, public key infrastructure, authentication, hashing, digital signatures, ARP protection, IP and IPSEC, IP Tables, SSL/TLS, firewalls, etc. (Cross-listed with CSCI 8410)

**Prerequisite(s)/Corequisite(s):** IASC 8366 or equivalent(s); or instructor permission. Not open to non-degree graduate students.

**CYBR 8420 SOFTWARE ASSURANCE (3 credits)**

Software assurance is a reasoned, auditable argument created to support the belief that the software will operate as expected. This course is an intersection of knowledge areas necessary to perform engineering activities or aspects of activities relevant for promoting software assurance. This course takes on a software development lifecycle perspective for the prevention of flaws. (Cross-listed with CSCI 8420)

**Prerequisite(s)/Corequisite(s):** CSCI 4830 or CSCI 8836 OR by permission of the Instructor. Not open to non-degree graduate students.

**CYBR 8436 QUANTUM COMPUTING AND CRYPTOGRAPHY (3 credits)**

The course builds an understanding of exciting concepts behind quantum computing and quantum cryptography. In doing so it will introduce the principles of qubits, superposition, entanglement, teleportation, measurement, quantum error correction, quantum algorithms such as quantum Fourier transformation, Shor's algorithm and Grover's algorithm, quantum key exchange, quantum encryption, and secure quantum channels that are built using these principles. It will also discuss advantages of quantum computing and cryptography over classical computing and cryptography and limitations thereof. The students will come out with a working understanding of the field of quantum computing and quantum cryptography. During the course, students will also implement several of the quantum algorithms. (Cross-listed with CYBR 4430, CSCI 4430).

**CYBR 8440 SECURE SYSTEMS ENGINEERING (3 credits)**

This course takes a global risk-based view of the process of defining, verifying, validating and continuously monitoring secure information systems. The course will investigate a number of secure system solutions, starting with the definition of the system security needs, and tracing through methods of verification and validation of security controls, as well as ways to continuously monitor the corresponding assurances. (Cross-listed with CSCI 8440)

**Prerequisite(s)/Corequisite(s):** CSCI 8366 or IASC 8366.

**CYBR 8446 INDUSTRIAL CONTROL SYSTEM SECURITY (3 credits)**

The objective of this course is to research vulnerabilities into, and provide guidance for securing, industrial control systems (ICS). ICS is a general term that encompasses several types of control systems, including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system items such as Programmable Logic Controllers (PLC). The student will learn to identify network and device vulnerabilities and potential countermeasures to these weaknesses. (Cross-listed with CYBR 4440)

**Prerequisite(s)/Corequisite(s):** CSCI 3550.

**CYBR 8450 APPLIED CRYPTOGRAPHY (3 credits)**

In this course we will implement stream and block ciphers in different modes, public key algorithms, hash functions, message authentication codes, random number generators, etc. Along the way we will also explore weaknesses of these algorithms and implement well-known attacks on them. We will also solve crypto challenges and puzzles. This is a hand-on course and will require programming proficiency. The preferred language will be Python; you can, however, use other object oriented languages.

**Prerequisite(s)/Corequisite(s):** CSCI 8410 or CYBR 8410

**CYBR 8456 HOST-BASED VULNERABILITY DISCOVERY (3 credits)**

The class will cover security issues at an implementation and hardware level. The students will learn assembly language and the use of a reverse assembler and debugger. This will allow the student to analyze various "packing" algorithms for computer viruses, the viruses themselves, operating system "hooking", "fuzzing", and other machine code, host-based exploits. The class will be using both Windows and Linux as operating systems. (Cross-listed with CYBR 4450.)

**Prerequisite(s)/Corequisite(s):** CSCI 3710 and CYBR 2250.

**CYBR 8466 NETWORK-BASED VULNERABILITY DISCOVERY (3 credits)**

The course is an advanced class in which the students learn various techniques for testing for and identifying security flaws in network software and web applications. Internet technologies such as HTTP, DNS, DHCP, and others are examined in the context of cyber security. Students are expected to participate in numerous hands-on experiments related to Information Assurance with respect to web technologies. (Cross-listed with CYBR 4460)

**Prerequisite(s)/Corequisite(s):** CSCI 3550

**CYBR 8470 SECURE WEB APPLICATION DEVELOPMENT (3 credits)**

Web applications are pervasive fixtures of 21st century culture. Web application security is an inclusive, amorphous, term that spans application level security, i.e. ensuring high level code cannot be exploited, server level security, i.e. ensuring server resources such as databases and file systems cannot be exploited, and network security, i.e. ensuring unauthorized parties cannot access a server or tamper with user sessions. This course cross-cuts the web application security concepts across the different categories above and takes a heavily hands-on approach to introduce students to the world of secure web app. design and development.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 8480 SECURE MOBILE DEVELOPMENT (3 credits)**

Mobile devices are already pervasive fixtures of 21st century culture and increasingly the internet of things (IoT) and wearables are proliferating throughout the world. As this proliferation occurs, numerous vendor-centric and third-party mobile, wearable, and internet of things apps are being created by developers and downloaded by end-users with little to no thought about the security and privacy of the information used and collected by the apps. This course examines this issue from a development point of view to a) introduce mobile/wearable/IoT architectures and technologies, b) increase student application development competencies with these technologies, and c) integrate secure design principles into the ideation, design, and testing phases during development.

**Prerequisite(s)/Corequisite(s):** CYBR 8470 or Instructor Permission

**CYBR 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST 4540, CYBR 4540, ISQA 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**CYBR 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with ISQA 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**CYBR 8900 INDEPENDENT STUDY IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for graduate students in Information Assurance and related fields. The class is designed for students that would like to explore specific Information Assurance topics at a greater depth, or topics that are not currently a part of the IA curriculum. The class is proposed and organized by the student, with participating faculty mentoring.

**Prerequisite(s)/Corequisite(s):** Instructor Permission

**CYBR 8910 INTERNSHIP (1-3 credits)**

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the MS in CyberSecurity (CYBR) program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Students must have completed a minimum of 12 credit hours towards the MS in CYBR program. Instructor permission is required to register. Not open to non-degree graduate students.

**CYBR 8950 GRADUATE CAPSTONE IN INFORMATION ASSURANCE (3 credits)**

This is the graduate capstone course where students extend and apply their knowledge in defining, implementing, and assessing secure information systems. Students will demonstrate their ability to specify, apply, and assess different types of countermeasures at different points in the enterprise with a special focus on system boundaries. Students will complete and defend a Certification and Accreditation package. This course is intended for graduate students in the MS in IA degree program, coursework option, that are close to graduation (see prerequisites). This course replaces the MS in IA comprehensive examination requirement.

**Prerequisite(s)/Corequisite(s):** CYBR 8366, CYBR 8410, and CYBR 8456 and concentration area (systems or management and policy). Students must have 6 credit hours or less left in the program.

**CYBR 8986 SPECIAL TOPICS IN INFORMATION ASSURANCE (1-3 credits)**

The course provides a format for exploring advanced research areas for undergraduate students in Information Assurance and related fields. Specific topics vary, in keeping with research interests of faculty and students. Examples include applied data mining, mobile security, web services and applications, vulnerability assessments, cloud computing security, and other issues in Information Assurance research. (Cross-listed with CYBR 4980)

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 8990 THESIS IN INFORMATION ASSURANCE (1-6 credits)**

A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.

**Prerequisite(s)/Corequisite(s):** Instructor Permission.

**CYBR 9460 SECURITY OF EMBEDDED SYSTEMS (3 credits)**

An embedded system is some combination of computer hardware and software, either fixed in capability or programmable, which is specifically designed for a particular function. Industrial machines, automobile electronic systems, medical equipment, cameras, household appliances, airplanes, and vending machines, are among the myriad possible hosts of an embedded system. This course covers forward-looking topics in the security of embedded systems, including topics such as logic circuit obfuscation, hardware security methods, network setup exploits, and other "lower level" computer architecture subjects with respect to cybersecurity.

**Prerequisite(s)/Corequisite(s):** CYBR 8366 - Foundations of Information Assurance

## Economics (ECON)

**ECON 8010 SEMINAR IN PUBLIC FINANCE (3 credits)**

This course is designed to develop the tools of applied welfare economics and to use these tools to evaluate the expenditure and tax decisions of governments. The structure, effects and reform of the U.S. individual and corporate income taxes, social security and healthcare system will be emphasized. Government debt and deficits will also be discussed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100 or permission

**ECON 8020 ENVIRONMENTAL ECONOMICS AND MANAGEMENT (3 credits)**

This course covers topics related to environmental economics and policy, with an emphasis on comparative policy analysis and business strategies towards the environment. (Cross-listed with BSAD 8020).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220 or BSAD 8180, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8050 ECONOMIC EDUCATION (3 credits)**

A study and examination of economic principles and how they can be related to the teacher's classroom presentation. This course is designed to furnish the k-12 teacher with sufficient background and understanding to aid in the recognition of economic issues and the teaching of economic concepts and principles.

**Prerequisite(s)/Corequisite(s):** No previous course work in economics. Not open to Economics majors.

**ECON 8200 SEMINAR IN MICRO ECONOMIC THEORY (3 credits)**

The course covers major topics in microeconomic theory. The major topics covered are the theory of consumer behavior, theory of production and cost, theory of the firm, pure exchange economy, general equilibrium, and welfare theory.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220 and ECON 8306 or permission.

**ECON 8210 MANAGERIAL ECONOMICS (3 credits)**

Microeconomics for graduate students of business. Economic analysis of the business firm and its environments, with emphasis on market structure, production possibilities and cost factors. Additional consideration is given to the theory of the firm under conditions of uncertainty. (Cross-listed with BSAD 8100).

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and ECON 2200 or equivalent.

**ECON 8216 INDUSTRIAL ORGANIZATION (3 credits)**

In this class we will examine why firms and industries behave the way that they do. We will explore why some industries face intense competition while others enjoy large profits, why some industries offer only bundles, and why some firms buy up their supply chain when others do not. This theoretical course will illuminate un-theoretical implications to your life and future business ventures. This course will use your economic knowledge, a bit of psychology (behavioral economics) and game theory to answer questions like "Why does everyone hate the cable company?" and "Why are CEOs given so many stock options?" (Cross-listed with ECON 4210).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8220 SEMINAR IN MACRO THEORY (3 credits)**

This course traces the development of macroeconomic theory from the classical point of view to current schools of thought. Keynesian, neo-Keynesian and neo-classical models are developed.

**Prerequisite(s)/Corequisite(s):** ECON 3200 or ECON 8210 or BSAD 8100, ECON 3220, and ECON 8306, or permission.

**ECON 8230 BUSINESS CONDITIONS ANALYSIS (3 credits)**

This course is concerned with the statistical measurement and evaluation of general business conditions, as well as the adaptation of business policies to changing business conditions. Emphasis is placed upon the practical application of statistical analysis techniques to business situations within the framework of the aggregate economy.

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220.

**ECON 8290 RESEARCH METHODS IN ECONOMICS AND BUSINESS (3 credits)**

Covers the methodology of economics: choosing a research topic, literature search tools, data source identification, data summary techniques, basic statistical data analysis using statistical packages, and clear economics writing. The student will become familiar with these techniques through text materials, journal studies, and completion of an empirical economics paper.

**Prerequisite(s)/Corequisite(s):** ECON 3200, ECON 3220, or equivalents, or permission of the instructor. Not open to non-degree graduate students.

**ECON 8300 ECONOMETRICS (3 credits)**

The study of the underlying assumptions, techniques and applications of single and multiple equation regression analysis in economics.

**Prerequisite(s)/Corequisite(s):** Basic Statistics, ECON 8306/ECON 4300, or permission. Not open to non-degree graduate students.

**ECON 8306 QUANTITATIVE APPLICATIONS IN ECONOMICS AND BUSINESS (3 credits)**

The study and application of modern quantitative techniques to problem-solving in economics and business. It is designed to help the student to translate verbal arguments in economics and business into their mathematical equivalents, to improve analytical skills, and to attain proficiency in marginal analysis, equilibrium analysis, static optimization, and comparative statics analysis. It covers topics such as exponential and logarithmic functions and their applications, linear algebra and its applications, derivatives and their applications, maximization of functions with one variable and multi variables, maximization with non negativity constraints, and integral calculus and its applications in economics and business. (Cross-listed with ECON 4300).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180.

**ECON 8310 BUSINESS FORECASTING (3 credits)**

The course will cover forecasting tools and applications applied to business settings. We will cover traditional Econometric forecasting methods in the first half of the class. In the second half of the course, we will focus on models in predictive analytics and machine learning, since these models are quickly becoming critical tools for forecasters in many settings. The course will include lecture and lab time, and labs will be focused on teaching students how to implement the models discussed in lectures. (Cross-listed with BSAD 8080).

**Prerequisite(s)/Corequisite(s):** ECON 8320 (or equivalent programming experience) AND ECON 8300 (or equivalent multivariate regression analysis coursework) or permission of instructor. Not open to non-degree graduate students.

**ECON 8316 BUSINESS INTELLIGENCE AND REPORTING (3 credits)**

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization and verbal communication as they are trained to create valuable insights from data and convey those insights to stakeholders. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software. (Cross-listed with ECON 4350).

**Prerequisite(s)/Corequisite(s):** ECON 3310 OR ECON 8320 (or concurrent enrollment) AND BSAD 2130 (or equivalent) OR Instructor Approval

**ECON 8320 TOOLS FOR DATA ANALYSIS (3 credits)**

The course will cover basic principles of programming languages, as well as libraries useful in collecting, cleaning and analyzing data to answer research questions. The course will utilize basic Economic principles and Econometric methods as inspiration for assignments and projects throughout the duration of the course, and will do so in a way that is accessible to non-Economists. This course is intended to introduce the student to the Python programming language as a tool for conducting data analysis. While the course uses Python, the student should be able to move to other languages frequently used in data analysis using the principles taught in this course.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8150 (or equivalent); BSAD 2130 or equivalent; or instructor approval.

**ECON 8326 NATURAL RESOURCE ECONOMICS (3 credits)**

This course introduces students to the economics and management of Earth's natural resources. We address questions such as: Are we running out of natural resources? Are we using resources in a sustainable fashion? What role do markets play in resource use? We will address issues related to fossil-based resources, minerals, fisheries, water, land, forests and other associated topics. The course covers the basic theoretical framework for understanding the optimal rate of resource use, identifies the factors that determine the actual rate of use, and considers and evaluates various public policy prescriptions. (Cross-listed with ECON 4320).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, BSAD 8150 or permission of instructor.

**ECON 8330 DATA ANALYSIS FROM SCRATCH (3 credits)**

Econometrics is routinely taught as an application class using a 'black box' like Stata or SAS to perform calculations. This class takes a different approach. Using the Python programming language, we build all estimators from scratch. Additionally, we introduce numerous non-parametric and simulation techniques. This approach to econometrics results in a stronger understanding of statistical assumptions and methods, a better understanding of when a method is appropriate, and stronger programming techniques. Furthermore, a deeper understanding of the underlying mechanics provides the student the ability to program custom procedures not already built into popular software packages.

**Prerequisite(s)/Corequisite(s):** A multivariate or regression analysis course such as ECON 8300, ISQA 9130 or STAT 8436, and a programming class such as ECON 8320 or equivalent programming experience; or instructor approval. Not open to non-degree graduate students.

**ECON 8346 ECONOMICS OF TECHNOLOGY (3 credits)**

The seminar discusses whether innovation is more driven by demand or supply forces, the optimal timing of adoption of new technology, whether new technology benefits workers and consumers, and whether government is successful at supporting promising new technology. (Cross-listed with ECON 4340).

**Prerequisite(s)/Corequisite(s):** ECON 2200 or BSAD 8180 or permission of the instructor.

**ECON 8456 DOMESTIC MONETARY THEORY AND POLICY (3 credits)**

The course will introduce students to topics in money and banking, financial institutions, markets, financial instruments, and monetary theory in order to enhance financial decision making and enable students to effectively analyze economic news in media such as the Wall Street Journal, The New York Times, Business Week, Barrons, The Economist, and other related business publications. This knowledge will enable students to formulate their own views about the current economic environment, government policies, and responses to economic environments. (Cross-listed with ECON 4450).

**ECON 8576 ECONOMIC CONDITIONS ANALYSIS (3 credits)**

This course teaches students how to conduct an economic analysis of, and produce an economic forecast for, a local economy such as a state, county, or metropolitan area. Students will learn where to find data, how to analyze that data, how to develop models with the data, and how to present the data in a clear, concise, and jargon-free manner. The final published report will be authored by the students registered in the course. All students will contribute equally to the final report. The instructor will ensure equal participation. (Cross-listed with ECON 4570).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or Permission from the instructor

**ECON 8600 HEALTH ECONOMICS (3 credits)**

This course is designed to help students understand how the theories and models of economics can be applied to the study of health and health care. The examination of the markets (demand and supply) for health, health care and health insurance is stressed. In addition, the economic analytic tools such as microeconomic theories and economic evaluation methods also will be reviewed and introduced. The objective of this course is to equip students with the knowledge tools to examine and analyze the problems/issues of health care from the perspective of economics.

**Prerequisite(s)/Corequisite(s):** ECON 2200 or equivalent.

**ECON 8616 INTERNATIONAL TRADE (3 credits)**

An analysis of the character of international economic relations. Subjects covered include the economic basis for international specialization and trade, the economic gains from trade, commercial policy, economic integration and economic growth. (Cross-listed with ECON 4610).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8626 INTERNATIONAL MONETARY ECONOMICS (3 credits)**

An analysis of the international monetary system. Subjects covered include the balance of payments adjustment mechanism, alternative exchange rate systems, external effects of monetary and fiscal policy, foreign investments and international monetary reform. (Cross-listed with ECON 4620).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8666 INTERNATIONAL ECONOMIC DEVELOPMENT (3 credits)**

This course introduces theories and application of economic development and growth, economic problems facing developing countries, analyzes domestic economic issues (e.g., per capita GDP, income distribution, population, unemployment, urbanization, education, fiscal policies, and financial policies), and international economic issues (e.g., trade, foreign investment, and foreign debt). Financial crises, debt crises, and economic recovery will be discussed. (Cross-listed with ECON 4660).

**Prerequisite(s)/Corequisite(s):** ECON 2200 and ECON 2220, or BSAD 8180, or permission of instructor.

**ECON 8736 ECONOMICS OF ENTREPRENEURSHIP (3 credits)**

This course will review economic theories of entrepreneurship with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. This course will address the societal benefits of entrepreneurship, factors influencing entrepreneurial success, the policies that best encourage entrepreneurship, and how firms can survive and prosper in an entrepreneurial environment. (Cross-listed with ECON 4730, BSAD 8736.)

**Prerequisite(s)/Corequisite(s):** ECON 2200 or permission of the instructor for all students.

**ECON 8856 ECONOMICS OF URBAN AND REGIONAL DEVELOPMENT (3 credits)**

This course will consider factors and trends in development at the global and national level but will focus primarily on economic development at the state, local, and regional levels in the United States. The focus of this course will be real world strategic planning for economic development. (Cross-listed with ECON 4850).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220, ECON 2200 and ECON 2220, each with a "C" (2.0) or better, or permission of instructor.

**ECON 8910 SPECIAL STUDIES IN ECONOMICS (1-3 credits)**

(May be repeated up to 6) A series of special courses, each designed to focus on current major issues and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing and as indicated for specific workshop or seminar.

**ECON 8916 SPECIAL TOPICS IN ECONOMICS (1-3 credits)**

(May be repeated up to 6 hours) A series of special courses each designed to focus on current major topics and developments in a specific area of economics or business, scheduled as a workshop or seminar according to purpose. (Cross-listed with BSAD 8916, ECON 4910).

**Prerequisite(s)/Corequisite(s):** Graduate student in good standing or advanced undergraduate student and as indicated for specific workshop or seminar.

**ECON 8920 INDEPENDENT STUDY (1-3 credits)**

Guided independent study and research.

**Prerequisite(s)/Corequisite(s):** Graduate student in economics and permission of instructor.

**ECON 8940 ECONOMIC INTERNSHIP (1-3 credits)**

Guided internship in a firm or organization that makes use of, or extends, the student's skill in economics.

**Prerequisite(s)/Corequisite(s):** Completion of at least nine hours of graduate level economics and permission of instructor.

**ECON 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of economics. Approval of the topic and the completed project by departmental committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by departmental committee is required.

## Educational Leadership (EDL)

**EDL 8000 SPECIAL STUDIES IN EDUCATIONAL LEADERSHIP (3 credits)**

This course will provide candidates in educational leadership with the opportunities and experiences of in-depth study of a specialized area of practice and research in school leadership.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or permission of instructor.

**EDL 8010 INTRODUCTORY RESEARCH METHODS (3 credits)**

The Introductory Research Methods course will introduce graduate degree candidates to foundational topics in quantitative, qualitative, and mixed methods research. Particular attention will be given to aligning evidence based literature frameworks with research methodology and data analysis techniques. The course will also prepare graduate students to generate ethically considered research topics and formally evaluate and present research findings in written form.

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**EDL 8020 EDUCATIONAL POLICY AND LEADERSHIP (1 credit)**

This course explores the expanded federal and state presence in local school districts. Historical and political factors influencing the governance of today's schools are explored, as well as current trends and policy decisions.

**Prerequisite(s)/Corequisite(s):** Acceptance to Graduate Studies or department permission.

**EDL 8030 INTRODUCTION TO EDUCATIONAL LEADERSHIP (3 credits)**

This course is designed to introduce the beginning school leadership candidate to theories and practices of organization, motivation, leadership, and change processes, in order to develop an understanding of schools as complex organizations and the nature and challenges of leadership.

**Prerequisite(s)/Corequisite(s):** Admission to UNO Graduate Studies or department permission.

**EDL 8050 SCHOOL-COMMUNITY CONNECTIONS (3 credits)**

School leaders engage the external and internal communities in their buildings and districts. This course assists candidates in developing an understanding of school-community relations, practicing the skills of positive influence with education stakeholders, and refining the dispositions of responsible citizenship by connecting to diverse community needs.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or department permission.

**EDL 8100 INDEPENDENT STUDY IN EDUCATIONAL LEADERSHIP (1-6 credits)**

This course is designed to allow graduate candidates in educational leadership to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities are mutually agreed upon by the candidate and instructor. This course will prepare school leaders as practitioners and researchers who can meet the dynamic challenges of education.

**Prerequisite(s)/Corequisite(s):** Admittance to the doctoral program in educational administration/leadership, or instructor permission.

**EDL 8310 ISSUES IN TECHNOLOGY FOR SCHOOL LEADERS (1 credit)**

This class addresses the unique needs that those in administrative positions encounter in the constantly changing world of technology. Topics include: managing sustainability and obsolescence; ethics and policies for faculty, staff and students-including prevention of cyberbullying; technology for teaching and learning; and technology for business and accountability.

**EDL 8320 ESSENTIALS OF DATA ANALYSIS AND PRESENTATION (1 credit)**

This course is designed to give graduate students a foundational understanding of how information is processed, interpreted, and presented to provide school leaders with the ability to make data informed decisions. Major topics include how usable information can be extracted from tests and surveys, how probability is used to make claims from data sets, how charts and tables can be most effectively leveraged to understand the full scope of data sets, and how to publish results.

**EDL 8340 ISSUES IN IDENTITY, CULTURE, AND POWER (1 credit)**

This class promotes personal reflection and content awareness needed for educational leaders to promote racial equity in education. Topics include structural racism, bias, historical context of educational policy, and a call to action for racial justice in education.

**EDL 8350 ISSUES IN MANAGEMENT FOR SCHOOL LEADERS (1 credit)**

This class addresses the unique needs that those in educational leadership positions encounter when determining resource management of non-instructional systems. Topics include resource acquisition and management, using resources effectively, and oversight of facilities.

**EDL 8400 ELEMENTARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP (3 credits)**

Elementary internship is designed to provide practice in elementary and general and special education administration and supervision according to the interests and needs of the candidates. Candidates will work with practicing administrators and a university supervisor.

**Prerequisite(s)/Corequisite(s):** Candidates must be enrolled in the Master's and/or the Building Administration Endorsement program in Educational Leadership and be in their last year of the program or have department permission. Permit to enroll from department is required.

**EDL 8410 SECONDARY SCHOOL INTERNSHIP IN EDUCATIONAL LEADERSHIP (3 credits)**

Secondary school internship is designed to provide practice in 7-12 and general and special education administration and supervision according to the interests and needs of the candidates. Candidates will work with practicing administrators and a university supervisor.

**Prerequisite(s)/Corequisite(s):** Candidates must be enrolled in the Master's and/or the School Administration Endorsement program in Educational Leadership and be in their last year of the program or have department permission. Permit to enroll from department is required.

**EDL 8470 ADMINISTRATION AND SUPERVISION IN SCHOOLS (3 credits)**

This course is designed to prepare educational leaders as dedicated practitioners, reflective scholars, and responsible citizens as they relate to the administration of a school site and system. This course is specifically designed to address the problems, issues, and opportunities of building level leadership.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College. Not open to non-degree graduate students.

**EDL 8490 INSTRUCTIONAL LEADERSHIP (3 credits)**

School leaders serve as instructional leaders in their buildings and districts. This course assists candidates in developing knowledge and practicing skills necessary to lead educators and schools in the areas of instruction and curriculum.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College

**EDL 8550 SCHOOL BUSINESS MANAGEMENT (3 credits)**

This course will analyze the functions of school business management: budgetary processes, financial accounting, auditing and reporting, management of funds, purchasing procedures, transportation, food services, insurance and inventory control.

**Prerequisite(s)/Corequisite(s):** EDAD8030 (previously or concurrently). Not open to non-degree graduate students.

**EDL 8560 SCHOOL FINANCE (1 credit)**

This course provides a study of the current sources of school financing: local, state, and federal. In addition to a review of the history of school finance, emphasis is placed on current problems in school finance, especially those related to overseeing the financial aspects of a school district.

**Prerequisite(s)/Corequisite(s):** EDL 8350 or permission of the instructor.

**EDL 8596 FOUNDATIONS OF LEADERSHIP DEVELOPMENT (3 credits)**

Leadership development is an educational outcome for college students, and at UNO, is strongly encouraged. This course will expose students to foundational leadership theories and challenge them to explore personal and social competencies associated with effective collaboration and leadership. (Cross-listed with EDL 4590).

**EDL 8620 SCHOOL PLANTS AND EQUIPMENT (3 credits)**

This course is designed for aspiring superintendents and central office leaders. It will prepare school leaders to be proactive in developing specifications for school buildings that will enhance educational processes. It includes planning procedures for new and remodeled buildings, soliciting support for projects, site selection, design, maintenance and operations of school buildings.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**EDL 8710 INTERPERSONAL RELATIONSHIPS IN EDUCATIONAL LEADERSHIP (3 credits)**

This course deals with the establishment of quality interpersonal and group relations among adults in school settings. Candidates will develop an increased awareness of their own and others' perspectives and will develop dispositions and skills that will allow them to work more productively. This course does not meet the requirements of Nebraska law LB 250 (Multi-Cultural and Interpersonal Relations).

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate Studies and Department of Educational Leadership or department permission.

**EDL 8720 MULTICULTURAL AND NON-SEXIST AWARENESS (1 credit)**

This course is designed for certificated educational employees, both teachers and administrators, seeking renewal of Nebraska certification under Nebraska LB 250 (Multi-Cultural and Interpersonal Relations). This course meets the requirements of Nebraska law LB 250 (Multi-Cultural and Interpersonal Relations). The purpose of the course is to develop awareness of cultural diversity in American society and to develop skills to effectively meet the needs of students, parents, and school community members.

**Prerequisite(s)/Corequisite(s):** Graduate level. Permit of department required.

**EDL 8730 COMMUNICATION AND CULTURE IN EDUCATIONAL HUMAN RESOURCES (1 credit)**

This course focuses upon the interpersonal and professional knowledge, skills, and dispositions of human resources issues and functions for effective leadership in education.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**EDL 8740 PROFESSIONAL DEVELOPMENT FOR SCHOOL LEADERSHIP (1 credit)**

This course addresses strategies and models of planning, implementing, and evaluating adult and organizational learning for effective leadership in education.

**Prerequisite(s)/Corequisite(s):** Admittance to Graduate College. Not open to non-degree graduate students.

**EDL 8750 FUNDAMENTALS OF HUMAN RESOURCES IN EDUCATION (1 credit)**

This course examines the frameworks that schools utilize to recruit, select, place, and support faculty and staff. School leaders need human resources skills and knowledge in order to effectively implement strategies and policies related to staff management, motivation, and evaluation.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College. Not open to non-degree graduate students.

**EDL 8780 EDUCATIONAL LEADERSHIP SUMMIT (2 credits)**

The leadership summit in educational leadership synthesizes the program of school administration, supervision, and management in a manner that can be professionally presented and clearly articulated.

**Prerequisite(s)/Corequisite(s):** Twenty four credit hours must be completed or taken concurrently in educational leadership. Department permit to enroll is required. Not open to non-degree graduate students.

**EDL 8800 SCHOOL LEADERSHIP ACADEMY (3 credits)**

A leadership course designed for current and aspiring school administrators and teacher-leaders. The course content will relate administrative theory to operations of schools drawing on research, models, and various organizational structures. This course is specifically designed to bridge leadership and management theory to the practical operations of schools.

**Prerequisite(s)/Corequisite(s):** Advisor's approval.

**EDL 8810 URBAN SCHOOL LEADERSHIP (3 credits)**

This course is designed to acquaint candidates with urban concerns and issues which most significantly affect the administration of schools in and around metropolitan areas.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**EDL 8900 SPECIAL EDUCATION LAW (3 credits)**

The purpose of this course is to research and explore legal and policy issues affecting special education within our schools. Case law will be examined to ensure effective special education programs for children and youth with disabilities. (Cross-listed with SPED 8900).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**EDL 9000 SEMINAR IN RESEARCH DESIGN (3 credits)**

This course will provide support and assistance concerning principles of research design as related to topics in educational leadership. Instruction as to appropriate format, style, and content of educational research as well as designing methodology for dissertation proposal will be emphasized.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

EDL 9610 or permission from instructor. Not open to non-degree students.

**EDL 9010 ADVANCED SEMINAR IN EDUCATIONAL RESEARCH (3 credits)**

This seminar will provide support for doctoral candidates in applying skills of educational research to the creation of a successful dissertation.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

EDL 9000 or permission from instructor. Not open to non-degree graduate students.

**EDL 9020 CONCEPTS AND CONTEXTS FOR LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

Concepts and Context for School Libraries will introduce candidates to the broad landscape of school librarianship and its relationship to the greater library and information profession.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Doctoral Program in Educational Administration or other University of Nebraska doctoral program in education, and instructor permission. Not open to non-degree graduate students.

**EDL 9110 FIELD PROJECT IN EDUCATIONAL ADMINISTRATION (1-3 credits)**

Administrative practitioners will study a current or anticipated educational problem using research techniques. Candidates will review a change process to their school or district that has recently been implemented or is under consideration for future implementation as the capstone work for the Educational Specialist degree.

**Prerequisite(s)/Corequisite(s):** Admittance to the Ed.S. program and completion of EDL 9200. Candidates are encouraged, but not required, to utilize the project from EDL 9200 for the focus of the field project. Not open to non-degree students.

**EDL 9200 ADVANCED PRACTICUM IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is an independent, advanced practicum course meant to help practitioners prepare to be reflective scholars. It builds upon theory and practice of educational leadership and provides a guided experience.

**Prerequisite(s)/Corequisite(s):** Admittance to the Ed.S. program and completion of EDL 9200. Candidates are encouraged, but not required, to utilize the project from EDL 9200 for the focus of the field project. Not open to non-degree students.

**EDL 9310 ISSUES IN STRATEGIC PLANNING FOR SCHOOL LEADERS (1 credit)**

Strategic planning is critical to the health, growth and sustainability of a school district. The process provides an opportunity to prioritize goals, actions, time and resources on key initiative. This course will examine the strategic planning processes used by leaders to guide educational change and improvement.

**EDL 9320 LEGAL ISSUES IN SPECIAL EDUCATION (1 credit)**

School Leaders have an obligation to know the rights of students with disabilities and the laws and policies that protect those rights. This course will focus on the mandatory requirements of Individuals with Disabilities Education Improvement Act (IDEIA) of 2004; the Americans with Disabilities Act (ADA) of 1990, amended in 2008 and the Rehabilitation Act of 1973, Section 504 along with program mandates and the case law that protects these students.

**EDL 9330 ISSUES IN SCHOOL OPERATIONS (1 credit)**

This course addresses leadership issues that current and prospective school leaders will find applicable as they earn certification as a superintendent, principal, curriculum supervisor, or special education leader. This one-hour course will provide knowledge and skills educational leaders will need to effectively and efficiently lead a public or private school building, program, or school district. Course modules will engage candidates in developing a leadership entry/transition plan, a leadership succession plan, and a leadership succession board policy and administrative procedures.

**EDL 9340 CONTEMPORARY ISSUES IN SCHOOL LAW (1 credit)**

This course is concerned with the most recent legal challenges and judicial decisions that are impacting schools. Topics include the most recent decisions from all levels of the courts up to the Supreme Court. School leaders will help prevent litigation by understanding the implications of current cases for the purpose of work with students, staff, faculty and community members without infringing upon their due process rights. School leaders may use the current decisions to update student and faculty handbooks and understand the critical need for guidance by school district legal counsel.

**Prerequisite(s)/Corequisite(s):** School Law 9540 Legal Issues in Special Education Law 8920 or Instructor permission

**EDL 9500 FRAMEWORKS OF BEST PRACTICE: LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

This class will explore best practice in school libraries using the framework of current national standards for school librarianship preparation programs. Major areas for exploration include but are not limited to teaching for learning, literacy and reading, information and access, advocacy and leadership, and program management and administration.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration pursuing studies in educational leadership with an emphasis in school librarianship or with instructor permission. Not open to non-degree graduate students.

**EDL 9510 SEMINAR IN CULTURE AND CONTEXT OF SCHOOLING (3 credits)**

An advanced seminar designed to enhance understanding of the cultural and social forces, trends, and issues that influence the delivery and effectiveness of schooling.

**Prerequisite(s)/Corequisite(s):** Admission to the Department of Educational Administration and Supervision and the Ed.D. Program. Not open to non-degree graduate students.

**EDL 9520 ACHIEVING SCHOOL EXCELLENCE (3 credits)**

An advanced seminar on the pursuit of improvement in education and the role of administration in guiding positive school change through influence, persuasion, power, ethics, and research.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Degree program or admission to another University of Nebraska doctoral program. Not open to non-degree graduate students.

**EDL 9530 PARADIGMS AND PRACTICES OF SCHOOLING (3 credits)**

This is an advanced seminar to explore leadership and supervisory practices. Particular attention will be given to organizational conceptualizations (paradigms) for addressing current educational problems and issues. Candidates will be encouraged to think outside the traditional frames of education in order to improve student achievement in PK-12 schools. When a paradigm shifts, the way we view the world and what we assume to be true dramatically changes. When faced with shifting circumstances, school leaders can turn change into opportunity and opportunity into success.

**Prerequisite(s)/Corequisite(s):** Admittance to the UNO-UNL Joint Doctorate Program. Not open to non-degree graduate students.

**EDL 9540 SCHOOL LAW (3 credits)**

This course is concerned with laws related to schools. Topics include certification, contract, negligence, student rights, due process, curriculum, and discipline. Each topic is approached through study of most recent court cases.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or instructor permission. Not open to non-degree graduate students.

**EDL 9550 SYMPOSIUM ON SCHOOL LEADERSHIP (3 credits)**

The purpose of this seminar is to relate research, theory, and practice in educational organizations. The course is designed to engage candidates with a systematic examination of school reform, best practices, and the implications for practitioners. The symposium will involve candidates with the changing roles and functions of educational leaders in rapidly changing metropolitan educational environments.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate Studies or permission of instructor.

**EDL 9610 STATISTICAL METHODS FOR THE BEHAVIORAL SCIENCES (3 credits)**

This course is designed to help graduate students develop competence in understanding and using statistical methods for the behavioral and social sciences. The course introduces broad historically based topics in statistics such as probability theory, the Law of Large Numbers, and the Central Limit Theorem to develop conceptually based models for hypothesis testing, description of data, and statistical inference. Emphasis is placed on the evaluation of statistical methods used in published research and the development of analytic models in dissertation research.

**Prerequisite(s)/Corequisite(s):** Admission to the Doctor of Education (Ed.D.) program in Educational Leadership or Department/Instructor's permission.

**EDL 9620 APPLIED ADVANCED STATISTICS IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is designed to develop competence in using advanced-level statistics. The course includes parametric and nonparametric inferential statistics and scale development. The statistical analyses include: analyses of variance, regression analyses, factor and reliability analyses, chi-square, Mann-Whitney U, Wilcoxon Signed-Ranks, and Kruskal-Wallis.

**Prerequisite(s)/Corequisite(s):** EDL 9610 and must be admitted to the EdD program, or instructor's permission.

**EDL 9630 QUALITATIVE RESEARCH (3 credits)**

Qualitative Research develops skills and competence in designing, collecting, and analyzing data for studies in educational research.

**Prerequisite(s)/Corequisite(s):** EDL 9610 or equivalent. Not open to non-degree graduate students.

**EDL 9650 PROGRAM EVALUATION FOR EDUCATIONAL ADMINISTRATORS (3 credits)**

This course provides an introduction to program evaluation theory and practice. It will address the range of approaches within education human service program evaluation, the standards established by the profession, the "how to" of program evaluation, and the skills needed to conduct program evaluation.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College or instructor's permission.

**EDL 9660 STRATEGIC LEADERSHIP FOR SCHOOL LIBRARIES (3 credits)**

This course will focus on the political, economic and social trends that have shaped school libraries and develop the skills and dispositions required for leaders of 21st Century school library programs.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration or to any other doctoral program in the University of Nebraska, or instructor permission. Not open to non-degree graduate students.

**EDL 9670 INQUIRY AND RESEARCH FOR LEADERSHIP IN SCHOOL LIBRARIES (3 credits)**

Inquiry and Research for Leadership in School Librarianship will examine current research in the school library field and focus on action research based on authentic need.

**Prerequisite(s)/Corequisite(s):** Admission to the University of Nebraska Joint Doctoral Program in Educational Administration or to any other doctoral program in the University of Nebraska, or instructor permission. Not open to non-degree students.

**EDL 9980 SUPERINTENDENT INTERNSHIP IN EDUCATIONAL ADMINISTRATION (3 credits)**

This course is a guided, field-based internship for candidates seeking the school superintendent endorsement from the Nebraska Department of Education (NDE). The internship will provide candidates with experiences in the various roles and responsibilities of a superintendent.

**Prerequisite(s)/Corequisite(s):** Admittance to the the EdD or EdS in educational administration or departmental permission. Candidates must submit an internship application by April 1 for following fall term.

**EDL 9990 DISSERTATION (1-12 credits)**

The course provides doctoral candidates in Educational Administration and Supervision with a process to complete a dissertation research plan. The course learning activities will focus on the completion of a candidate's dissertation. The course is designed to allow advanced doctoral candidates to demonstrate technical mastery of the discipline and to advance knowledge by completing an investigation.

**Prerequisite(s)/Corequisite(s):** Admittance to the EdD in Educational Administration. Department permit to enroll required. Not open to non-degree graduate students.

## Electrical and Computer Engineering (ECEN)

**ECEN 8006 ELECTRONIC INSTRUMENTATION (3 credits)**

Applications of analog and digital devices to electronic instrumentation. Includes transducers, instrumentation amplifiers, mechanical and solid state switches, data acquisition systems, phase-lock loops, and modulation techniques. Demonstrations with working circuits and systems. (Cross-listed with ECEN 4000)

**Prerequisite(s)/Corequisite(s):** Senior Standing in Engineering or Permission. Not open to non-degree graduate students.

**ECEN 8066 POWER SYSTEMS ANALYSIS (3 credits)**

Symmetrical components and fault calculations, power system stability, generator modeling (circuit view point), voltage control system, high voltage DC transmission, and system protection. (Cross-listed with ECEN 4060)

**Prerequisite(s)/Corequisite(s):** ECEN 3380. Not open to non-degree graduate students.

**ECEN 8076 POWER SYSTEMS PLANNING (3 credits)**

Economic evaluation, load forecasting, generation planning, transmission planning, production simulation, power plant reliability characteristics, and generation system reliability. (Cross-listed with ECEN 4070)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 8086 ENGINEERING ELECTROMAGNETICS (3 credits)**

Applied electromagnets: Transmission lines in digital electronics and communication. The quasistatic electric and magnetic fields; electric and magnetic circuits and electromechanical energy conversion. Guided waves; rectangular and cylindrical metallic waveguides and optical filters. Radiation and antennas; line and aperture antennas and arrays. (Cross-listed with ECEN 4080)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 8106 MULTIVARIATE RANDOM PROCESSES (3 credits)**

Probability space, random vectors, multivariate distributions, moment generating functions, conditional expectations, discrete and continuous-time random processes, random process characterization and representation, linear systems with random inputs. (Cross-listed with ECEN 4100)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 8150 DIGITAL IMAGE PROCESSING (3 credits)**

Topics covering the spatial and spectral analysis of digital image processing systems, the design of multi-dimensional digital filters and systems, and advanced theories and technologies in digital image processing systems.

**Prerequisite(s)/Corequisite(s):** ECEN 4240 or ECEN 8246 or permission.

**ECEN 8166 MATERIALS AND DEVICES FOR COMPUTER MEMORY, LOGIC, AND DISPLAY (3 credits)**

Survey of fundamentals and application of devices used for memory, logic, and display. Magnetic, superconductive, semi-conductive, and dielectric materials. (Cross-listed with ECEN 4160)

**Prerequisite(s)/Corequisite(s):** PHYS 2120, not open to non-degree graduate students.

**ECEN 8176 SEMICONDUCTOR FUNDAMENTALS II (3 credits)**

Analysis of BJT's and MOSFET's from a first principle materials viewpoint. Statics and dynamic analysis and characterization. (Cross-listed with ECEN 4170.)

**Prerequisite(s)/Corequisite(s):** ECEN 4210 or ECEN 8216. Not open to non-degree graduate students.

**ECEN 8206 PLASMA PROCESSING OF SEMICONDUCTORS (3 credits)**

Physics of plasmas and gas discharges developed. Includes basic collisional theory, the Boltzman equation and the concept of electron energy distribution. Results are related to specific gas discharge systems used in semiconductor processing, such as sputtering, etching, and deposition systems. (Cross-listed with ECEN 4200)

**Prerequisite(s)/Corequisite(s):** Senior or graduate Standing. Not open to non-degree graduate students.

**ECEN 8216 PRINCIPLES OF SEMICONDUCTOR MATERIALS AND DEVICES I (3 credits)**

Introduction to semiconductor fundamentals, charge carrier concentration and carrier transport, energy bands, and recombination. PN junction, static and dynamic, and special PN junction diode devices. (Cross-listed with ECEN 4210)

**Prerequisite(s)/Corequisite(s):** PHYS 2130. Not open to non-degree graduate students.

**ECEN 8246 DIGITAL SIGNAL PROCESSING (3 credits)**

The temporal and spectral analysis of digital signals and systems, the design of digital filters and systems, and advanced systems including multi-rate digital signal processing techniques. (Cross-listed with ECEN 4240)

**Prerequisite(s)/Corequisite(s):** ECEN 3550

**ECEN 8286 POWER ELECTRONICS (3 credits)**

Basic analysis and design of solid-state power electronic devices and converter circuitry. (Cross-listed with ECEN 4280)

**Prerequisite(s)/Corequisite(s):** ECEN 3040, ECEN 3160.

**ECEN 8306 WIND ENERGY (3 credits)**

This broad multidisciplinary course will combine engineering principles of both the mechanical/aerodynamical and electrical components and systems, along with economic and environmental considerations for siting and public policy, to appropriately cover the relevant topics associated with all scales of wind energy implementations. (Cross-listed with ECEN 4300)

**Prerequisite(s)/Corequisite(s):** Senior standing or permission.

**ECEN 8336 MICROPROCESSOR SYSTEM DESIGN (4 credits)**

Microprocessor based systems. Architecture; design and interfacing. Memory design, input/output ports, serial communications, and interrupts. Generating assembly ROM code, assembly/C firmware generation, and designing device drivers. (Cross-listed with ECEN 4330)

**Prerequisite(s)/Corequisite(s):** ECEN 3100 with grade of C or better and ECEN 3320 with grade of C or better.

**ECEN 8356 EMBEDDED MICROCONTROLLER DESIGN (4 credits)**

Microcontroller architecture: design, programming, and interfacing for embedded systems. Timing issues, memory interfaces, serial and parallel interfacing, and functions for common microcontrollers. (Cross-listed with ECEN 4350)

**Prerequisite(s)/Corequisite(s):** (ECEN 4330/ECEN 8336, STAT 3800. Pre- or co-req: CSCI 4500.

**ECEN 8366 ELECTRIC MACHINES (3 credits)**

Provides a solid background in electric machine analysis, covering fundamental concepts, techniques, and methods for analysis and design. Discussion of transformers and presentation of some new systems and applications. (Cross-listed with ECEN 4360)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and ECEN 2160

**ECEN 8376 PARALLEL AND DISTRIBUTED PROCESS (3 credits)**

Parallel and Distributed Processing concepts, principles, techniques and machines. (Cross-listed with ECEN 4370).

**Prerequisite(s)/Corequisite(s):** ECEN 4350 or ECEN 8356

**ECEN 8426 BASIC ANALYTICAL TECHNIQUES IN ELECTRICAL ENGINEERING (3 credits)**

Applications of partial differential equations, matrices, vector analysis, complex variables, and infinite series to problems in electrical engineering. (Cross-listed with ECEN 4420)

**Prerequisite(s)/Corequisite(s):** MATH 2350. Not open to non-degree graduate students.

**ECEN 8446 LINEAR CONTROL SYSTEMS (3 credits)**

Classical (transfer function) and modern (state variable) control techniques. Both time domain and frequency domain techniques are studied. Traditional, lead, lag, and PID compensators are examined, as well as state variable feedback. (Cross-listed with ECEN 4440)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 8486 DECISION ANALYSIS (3 credits)**

Principles of engineering economy including time value of money, net present value, and internal rate of return. Use of influence diagram and decision tree to structure and analyze decision situations under uncertainty including use of stochastic dominance, value of information, and utility theory. Fundamentals of two-person matrix games including Nash equilibrium. (Cross-listed with ECEN 4480)

**Prerequisite(s)/Corequisite(s):** ECEN 3050 or STAT 3800

**ECEN 8506 BIOINFORMATICS (3 credits)**

This course examines how information is organized in biological sequences such as DNA and proteins and will look at computational techniques which make use of this structure. During this class various biochemical processes that involve these sequences are studied to understand how these processes effect the structure of these sequences. In the process bioinformatics algorithms, tools, and techniques which are used to explore genomic and amino acid sequences are also introduced. (Cross-listed with ECEN 4500)

**Prerequisite(s)/Corequisite(s):** Computer programming language and ECEN 3050 or STAT 3800 or equivalent.

**ECEN 8516 INTRODUCTION TO VLSI SYSTEM DESIGN (3 credits)**

The concepts, principles, and methodology at all levels of digital VLSI system design and focused on gate-level VLSI implementation. (Cross-listed with ECEN 4510).

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 8526 INTRODUCTION TO COMPUTER-AIDED DIGITAL DESIGN (3 credits)**

The concepts, simulation techniques and methodology in computer-aided digital design at system and logic levels. (Cross-listed with ECEN 4520)

**Prerequisite(s)/Corequisite(s):** ECEN 3100

**ECEN 8536 COMPUTATIONAL AND SYSTEMS BIOLOGY (3 credits)**

Provides the required biology primer and covers functional genomics, transcriptomics, differential expression, clustering, classification, prediction, biomarker discovery, pathway analysis and network based approaches to high throughput biological data analysis. Includes the development of databases, algorithms, web-based and other tools regarding management and analysis of life science data. Areas of study include DNA, RNA, and protein sequence analysis, functional genomics and proteomics, 3D macromolecule structure prediction, and systems/network approach. (Cross-listed with ECEN 4530).

**Prerequisite(s)/Corequisite(s):** By permission.

**ECEN 8546 POWER SYSTEMS OPERATION AND CONTROL (3 credits)**

Characteristics and generating units. Control of generation, economic dispatch, transmission losses, unit commitment, generation with limited supply, hydrothermal coordination, and interchange evaluation and power pool. (Cross-listed with ECEN 4540)

**Prerequisite(s)/Corequisite(s):** ECEN 8386. Not open to non-degree graduate students.

**ECEN 8606 LABVIEW PROGRAMMING (3 credits)**

Labview as a programming language and for applications to acquire data, to access the network, control lab instruments, and for video and sound applications. (Cross-listed with ECEN 4600)

**Prerequisite(s)/Corequisite(s):** Prior programming experience.

**ECEN 8616 DIGITAL COMMUNICATIONS MEDIA (4 credits)**

Topics related to the transport of bit streams from one geographical location to another over various physical media such as wire pairs, coaxial cable, optical fiber, and radio waves. Transmission characteristics, media interfacing, delay, distortion, noise, and error detection and correction techniques. (Cross-listed with ECEN 4610)

**ECEN 8626 COMMUNICATION SYSTEMS (3 credits)**

Mathematical descriptions of signals in communication systems. Principles of analog modulation and demodulation. Performance analysis of analog communication systems in the presence of noise. (Cross-listed with ECEN 4620)

**Prerequisite(s)/Corequisite(s):** ECEN 3040 and ECEN 3050. Not open to non-degree graduate students.

**ECEN 8636 DIGITAL SIGNAL PROCESSING (3 credits)**

Discrete system analysis using Z-transforms. Analysis and design of digital filters. Discrete Fourier transforms. (Cross-listed with ECEN 4630)

**Prerequisite(s)/Corequisite(s):** ECEN 3040. Not open to non-degree graduate students.

**ECEN 8646 DIGITAL COMMUNICATION SYSTEMS (3 credits)**

Principles of digital transmission of information in the presence of noise. Design and analysis of baseband PAM transmission systems and various carrier systems including ASK, FSK, PSK. (Cross-listed with ECEN 4640)

**Prerequisite(s)/Corequisite(s):** ECEN 4620. Not open to non-degree graduate students.

**ECEN 8656 INTRODUCTION TO DATA COMPRESSION (3 credits)**

Introduction to the concepts of Information Theory and Redundancy removal. Simulation of various data compression schemes such as Delta Modulation, Differential Pulse Code Modulation, Transform Coding and Runlength Coding. (Cross-listed with ECEN 4650)

**Prerequisite(s)/Corequisite(s):** ECEN 3050. Not open to non-degree graduate students.

**ECEN 8666 TELECOMMUNICATION ENGINEERING I (4 credits)**

Standard telecommunications protocols, architecture of long distance integrated data networks, local area networks, wide area networks, radio and satellite networks. Network management, internetworking, system modeling and performance analysis. (Cross-listed with ECEN 4660).

**Prerequisite(s)/Corequisite(s):** ECEN 3620; ECEN 4610/ECEN 8616 prior to or concurrent.

**ECEN 8676 ELECTROMAGNETIC THEORY AND APPLICATIONS (3 credits)**

Engineering application of Maxwell's equations. Fundamental Parameters of Antennas, Radiation analysis, and synthesis of antenna arrays. Aperture Antennas. (Cross-listed with ECEN 4670)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 8686 MICROWAVE ENGINEERING (3 credits)**

Applications of active and passive devices to microwave systems. Includes impedance matching, resonators, and microwave antennas. (Cross-listed with ECEN 4680)

**Prerequisite(s)/Corequisite(s):** ECEN 3060. Not open to non-degree graduate students.

**ECEN 8696 ANALOG INTEGRATED CIRCUITS (3 credits)**

Analysis and design of analog integrated circuits both bipolar and MOS. Basic circuit elements such as differential pairs, current sources, active loads, output drivers used in the design of more complex analog integrated circuits. (Cross-listed with ECEN 4690)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 8706 DIGITAL AND ANALOG VLSI DESIGN (3 credits)**

Introduction to VLSI design techniques for analog and digital circuits. Fabrication technology and device modeling. Design rules for integrated circuit layout. LSI design options with emphasis on the standard cell approach of digital and analog circuits. Lab experiments, computer simulation and layout exercises. (Cross-listed with ECEN 4700)

**Prerequisite(s)/Corequisite(s):** ECEN 3610. Not open to non-degree graduate students.

**ECEN 8716 COMPUTER COMMUNICATION NETWORKS (4 credits)**

This course investigates the standard protocols and hardware solutions defined by the International Standard Organization (ISO) and Institute of Electrical and Electronics Engineers (IEEE) for the computer communications networks. Included are ISO OSI model, IEEE 802.X (Ethernet, token bus, token ring) and Asynchronous Transfer Modals (ATM) networks. (Cross-listed with ECEN 4710)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 8736 MOBILE AND PERSONAL COMMUNICATIONS (4 credits)**

This course provides basic concepts on mobile and personal communications. Concepts on mobile and personal communications. Modulation techniques for mobile radio, equalization, diversity, channel coding, and speech coding. (Cross-listed with ECEN 4730)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 8746 DIGITAL SYSTEMS (3 credits)**

Synthesis using state machines; design of digital systems; micro programming in small controller design; hardware description language for design and timing analysis. (Cross-listed with ECEN 4740)

**Prerequisite(s)/Corequisite(s):** ECEN 3700. Not open to non-degree graduate students.

**ECEN 8756 SATELLITE COMMUNICATIONS (4 credits)**

The fundamental concepts of satellite communications. Orbits, launching satellites, modulation and multiplexing, multiple access, earth stations, coding, interference and special problems in satellite communications. (Cross-listed with ECEN 4750)

**Prerequisite(s)/Corequisite(s):** ECEN 3520

**ECEN 8766 WIRELESS COMMUNICATIONS (3 credits)**

The fundamental concepts of wireless communications. Basic communications concepts such as multiple access, and spectrum. Propagation, radio, standards, and internetworking. Current issues in wireless communications. (Cross-listed with ECEN 4760)

**Prerequisite(s)/Corequisite(s):** ECEN 3250 or ECEN 4620 prior to or concurrent

**ECEN 8776 DIGITAL SYSTEMS ORGANIZATION AND DESIGN (3 credits)**

Hardware development languages, hardware organization and realization, microprogramming, interrupt, intersystem communication, and peripheral interfacing. (Cross-listed with ECEN 4770)

**Prerequisite(s)/Corequisite(s):** ECEN 4750 or ECEN 8746. Not open to non-degree graduate students.

**ECEN 8796 OPTICAL FIBER COMMUNICATIONS (4 credits)**

Fundamentals of lightwave communication in optical fiber waveguides, physical description of fiber optic systems. Properties of the optical fiber and fiber components. Electro-optic devices: light sources and modulators, detectors and amplifiers; optical transmitter and receiver systems. Fiber optic link design and specification; fiber optic networks. (Cross-listed with ECEN 4790)

**Prerequisite(s)/Corequisite(s):** ECEN 4630.

**ECEN 8806 INTRODUCTION TO LASERS AND LASER APPLICATIONS (3 credits)**

Physics of electronic transition production stimulated emission of radiation. Threshold conditions for laser oscillation. Types of lasers and their applications in engineering. (Cross-listed with ECEN 4800)

**Prerequisite(s)/Corequisite(s):** PHYS 2130.

**ECEN 8826 ANTENNAS AND RADIO PROPAGATION FOR WIRELESS COMMUNICATIONS (4 credits)**

Fundamental theory of antennas and radio propagation for wireless communications. Basic antenna characteristics and various antennas and antenna arrays. Basic propagation mechanisms and various channel models, such as Friis free space model, Hata model, lognormal distribution, and multipath model. Includes practical antenna design for high radio frequency (RF) with modeling software tools such as Numerical Electromagnetic Code (NEC) and ADvanced Design System (ADS). Design projects will be assigned as the main part of course. (Cross-listed with ECEN 4820)

**Prerequisite(s)/Corequisite(s):** ECEN 3280

**ECEN 8830 RANDOM PROCESSES IN ENGINEERING (3 credits)**

Topics related to the concept of random variables, functions of random variables and random processes.

**Prerequisite(s)/Corequisite(s):** STAT 3800

**ECEN 8846 NETWORK SECURITY (4 credits)**

Network security and cryptographic protocols. Classical encryption techniques, block ciphers and stream cyphers, public-key cryptography, authentications digital signatures, key management and distributions, network vulnerabilities, transport-level security, IP security. (Cross-listed with ECEN 4840)

**ECEN 8850 SPREAD SPECTRUM COMMUNICATIONS (3 credits)**

Introduction to the theory of spread spectrum communications: direct sequence, frequency and time hopping techniques. Topics include properties of pseudo-random binary sequences, low-probability-of-intercept (LPI) and anti-jamming (AJ) methods, performance of spread spectrum systems, applications of spread spectrum techniques in radio frequency and optical code-division multiple access (CDMA) systems.

**Prerequisite(s)/Corequisite(s):** ECEN 4630 or ECEN 8616 or permission.

**ECEN 8866 APPLIED PHOTONICS (3 credits)**

Introduction to the use of electromagnetic radiation for performing optical measurements in engineering applications. Basic electromagnetic theory and light interaction with matter are covered with corresponding laboratory experiments conducted. (Cross-listed with ECEN 4860)

**Prerequisite(s)/Corequisite(s):** ECEN 3060 or permission. Not open to non-degree graduate students.

**ECEN 8886 WIRELESS SECURITY (4 credits)**

A comprehensive overview on the recent advances in wireless network and system security. Covers security issues and solutions in emerging wireless access networks and systems as well as multihop wireless networks. (Cross-listed with ECEN 4880)

**Prerequisite(s)/Corequisite(s):** ECEN 3250

**ECEN 8916 SPECIAL TOPICS IN ELECTRIC AND COMPUTER ENGINEERING IV (1-4 credits)**

Special topics in the emerging areas of electrical, computer and electronics engineering which may not be covered in the other courses in the electrical, and computer engineering curriculum. (Cross-listed with ECEN 4910)

**ECEN 8926 INDIVIDUAL STUDY IN ELECTRICAL AND COMPUTER ENGINEERING IV (1-3 credits)**

Individual study in a selected electrical, computer or electronics engineering area under the supervision and guidance of a Electrical and Computer Engineering faculty member. (Cross-listed with ECEN 4920).

**ECEN 8930 INDEPENDENT STUDY IN COMPUTER AND ELECTRONICS ENGINEERING (1-3 credits)**

Individual study at the graduate level in a selected computer or electronics engineering area under the supervision and guidance of a Computer and Electronics Engineering faculty member.

**Prerequisite(s)/Corequisite(s):** Departmentally approved proposal.

**ECEN 8950 SPECIAL TOPICS (1-3 credits)**

Special topics in the newly emerging areas of computer and electronics engineering not covered in the other courses in the computer and electronics engineering curriculum.

**ECEN 8986 SPECIAL TOPICS IN ELECTRICAL ENGINEERING IV (1-6 credits)**

Offered as the need arises to meet electrical engineering topics for fourth-year and graduate students not covered in other courses. (Cross-listed with ECEN 4980)

**ECEN 8990 MASTERS THESIS (1-10 credits)**

Masters thesis work.

**Prerequisite(s)/Corequisite(s):** Admission to masters degree program and permission of supervisory committee chair. Not open to non-degree graduate students.

**ECEN 9110 COMMUNICATION THEORY (3 credits)**

Applications of probability and statistics to signals and noise; correlation; sampling; shot noise; spectral analysis; Gaussian processes; filtering.

**Prerequisite(s)/Corequisite(s):** ECEN 8626, and ECEN 8646 or ECEN 8106.

**ECEN 9120 ERROR CONTROL CODING (3 credits)**

Fundamentals of error correction and detection in digital communication and storage systems. Linear and algebraic block codes; Hamming, BCH and Reed Solomon codes; algebraic decoding techniques; structure and performance of convolutional codes, turbo codes, and trellis coded modulation; MAP, Viterbi, and sequential decoding techniques.

**Prerequisite(s)/Corequisite(s):** ECEN 4100 or ECEN 8106, and ECEN 4640 or ECEN 8646, or Permission.

**ECEN 9130 ADVANCED ANALOG AND MIXED-SIGNAL INTEGRATED CIRCUITS (3 credits)**

Advanced current mirrors and op-amps. Comparators and sample/hold (S/H) circuits. Band-gap reference circuits. Trans-linear circuits and analog multipliers. Voltage controlled oscillators. Operational trans-conductance amplifiers (OTA's). Switched capacitor circuits. Data converters. Non-linearity, mismatch, and short-channel effects. Continuous time domain integrated filters. Current conveyors. Phase locked loops. Analog CAD.

**Prerequisite(s)/Corequisite(s):** ECEN 8696 and permission. Not open to non-degree graduate students.

**ECEN 9150 ADAPTIVE SIGNAL PROCESSING (3 credits)**

Adaptive filtering algorithms, frequency and transform domain adaptive filters, and simulation and critical evaluation of adaptive signal processing for real world applications.

**Prerequisite(s)/Corequisite(s):** ECEN 4100 or ECEN 8106, ECEN 4630 or ECEN 8636, and permission. Not open to non-degree graduate students.

**ECEN 9260 STATISTICAL SIGNAL PROCESSING FOR WIRELESS COMMUNICATION (3 credits)**

Statistical signal processing and applications for wireless communications covering the characteristics of random signals, optimum linear filters, statistical parameter estimation using maximum likelihood (ML) and minimum mean-square error (MMSE) methods, adaptive signal processing using least-mean-square (LMS) and recursive least-square (RLS) approaches, Kalman filtering, and eigenanalysis algorithms. Applications of the statistical signal processing techniques in wireless communications will be explored.

**Prerequisite(s)/Corequisite(s):** ECEN 4240 or ECEN 8246, ECEN 4760 or ECEN 8766, and ECEN 8830. Not open to non-degree graduate students.

**ECEN 9320 ADVANCED POWER ELECTRONICS AND APPLICATIONS (3 credits)**

Analysis and design of power electronic circuits and their applications, including: snubber circuits, resonant converters and soft switching techniques, pulse-width modulation techniques, control of power electronic circuits, power electronics and control for electric machines and wind energy systems, flexible AC-transmission system (FACTS) devices, and high-voltage DC (HVDC) transmission.

**Prerequisite(s)/Corequisite(s):** ECEN 4360 or ECEN 8366, ECEN 4280 or ECEN 8286.

**ECEN 9350 COMPUTATIONAL INTELLIGENCE (3 credits)**

Computational intelligence paradigms and their applications, including: artificial neural networks, fuzzy logic systems, swarm intelligence, evolutionary computation (e.g. genetic algorithms), machine learning (e.g., supervised learning, unsupervised learning, and reinforcement learning), neurocontrol and adaptive critic designs, and applications of computational intelligence for system identification, state estimation, time series prediction, signal processing, adaptive control, optimization, diagnostics, prognostics, etc.

**Prerequisite(s)/Corequisite(s):** MATH 1970, 2350 and 2050. Good skills using MATLAB. Not open to non-degree graduate students.

**ECEN 9460 OPTIMAL FILTERING ESTIMATION AND PREDICTION (3 credits)**

Techniques for optimally extracting information about the past, present, or future status of a dynamic system from noise-corrupted measurements on that system.

**Prerequisite(s)/Corequisite(s):** ECEN 8106 or permission. Not open to non-degree graduate students.

**ECEN 9570 ADVANCED COMPUTER METHODS IN POWER SYSTEM ANALYSIS (3 credits)**

Power System matrices, sparsity techniques, network equivalents, contingency analysis, power flow optimization, state estimation, and power system restructuring examined via computer methods.

**Prerequisite(s)/Corequisite(s):** ECEN 8066. Not open to non-degree graduate students.

**ECEN 9590 WIRELESS COMMUNICATIONS (3 credits)**

Principles of wireless communications, including: description of the wireless channel characteristics; ultimate performance limits of wireless systems; performance analysis of digital modulation techniques over wireless channels; diversity techniques; adaptive modulation; multiple-antenna communications; multi-carrier modulation; and multi-user wireless communications.

**Prerequisite(s)/Corequisite(s):** ECEN 8646 and permission. Not open to non-degree graduate students.

**ECEN 9600 SOLID STATE DEVICES (3 credits)**

Gallium arsenide and silicon devices. Device properties based on structure and physical properties of the materials.

**Prerequisite(s)/Corequisite(s):** ECEN 3150, not open to non-degree graduate students.

**ECEN 9650 PASSIVE MICROWAVE COMPONENTS (3 credits)**

Application of Maxwell's Equations to the analysis of waveguides, resonant cavities, filters and other passive microwave devices.

**Prerequisite(s)/Corequisite(s):** ECEN 8676 or ECEN 8686. Not open to non-degree graduate students.

**ECEN 9670 INTRODUCTION TO QUANTUM ELECTRONICS (3 credits)**

Introduction to the quantum aspects of electron devices.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**ECEN 9710 SEMINAR (1-12 credits)**

Selected topics.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 9750 OPTICAL PROPERTIES OF MATERIALS (3 credits)**

Quantum mechanical description of the optical properties of solids (complex refractive index and its dispersion, effects of electric and magnetic fields, temperature, stress; additional special topics as desired).

**Prerequisite(s)/Corequisite(s):** ECEN 9670 or permission. Not open to non-degree graduate students.

**ECEN 9770 SPACE-TIME WIRELESS COMMUNICATIONS (3 credits)**

Theory of space-time (ST) wireless communication systems. Emphasis will be placed on spatial diversity, smart antenna systems, MIMO capacity of multi-antenna fading channels, space-time signaling, space-time receivers and interference mitigation. Includes overview of more advanced topics such as MIMO-OFDM and current trends in research and industry.

**Prerequisite(s)/Corequisite(s):** ECEN 4610, ECEN 4630, ECEN 4760.

**ECEN 9790 NON-LINEAR FIBER OPTIC SYSTEMS (3 credits)**

Linear and non-linear propagations in optical fibers. Topics include fiber non-linearity, fundamentals of optical amplifiers, semiconductor and fiber amplifiers, soliton communications. Applications include high capacity and long distance transmissions, all-optical networks.

**Prerequisite(s)/Corequisite(s):** ECEN 4790 or ECEN 8796 or permission.

**ECEN 9860 OPTOELECTRONICS (3 credits)**

Modern phenomena associated with optoelectronics Electro-optical effect such as Pockel effect, Kerr effect, and nonlinear optical phenomena. Material and devices used in modern communications, femtosecond lasers, and optical computer systems.

**Prerequisite(s)/Corequisite(s):** ECEN 8866. Not open to non-degree graduate students.

**ECEN 9910 INDEPENDENT STUDY (1-24 credits)**

Selected topic under the direction and guidance of a faculty member.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 9920 RESEARCH OTHER THAN THESIS (1-6 credits)**

Supervised non-thesis research and independent study.

**Prerequisite(s)/Corequisite(s):** Permission and graduate standing.

**ECEN 9960 TOPICS IN ELECTRICAL ENGINEERING (3 credits)**

Selected topics in electrical engineering.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ECEN 9980 ADVANCED SPECIAL TOPICS (1-3 credits)**

Advanced topics in computer and electronics engineering not covered in other 9000 level courses.

**Prerequisite(s)/Corequisite(s):** Permission.

**ECEN 9990 DOCTORAL DISSERTATION (1-24 credits)**

Dissertation research.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral degree program and permission of supervisory committee chair. Not open to non-degree graduate students.

## Emergency Management (EMGT)

**EMGT 8060 PLANNING, PREPAREDNESS, AND MITIGATION (3 credits)**

This course addresses the pre-disaster phases of Emergency Management, including planning, preparedness, and mitigation. The class covers the National Response Framework (NRF) and the National Incident Management System (NIMS) and their influence on modern community Emergency Management and Homeland Security. EMGT 8060 is intended to prepare students for the various tangible and intangible considerations EMGT professionals face when planning and preparing for disasters, either natural or man-made.

**Prerequisite(s)/Corequisite(s):** Students must have completed or be concurrently taking the beginning core of the MPA curriculum.

**EMGT 8430 RESPONSE, RECOVERY & RESILIENCE (3 credits)**

This course addresses the post-impact/disaster phases of Emergency Management, including response, recovery, and resiliency. The class focuses on disasters declarations and assistance, interagency cooperation, unified and incident command, operational application of the National Incident Management System (NIMS), and the political, legal, social, and economic considerations inherent with responding to and recovering from emergencies.

**Prerequisite(s)/Corequisite(s):** Students must have completed or be concurrently taking the beginning core of the MPA curriculum.

**EMGT 8600 CONTEMPORARY ISSUES IN EMERGENCY MANAGEMENT (3 credits)**

This course exposes the student to contemporary issues in Emergency Management including how to conduct exercise design, development, and evaluation. What different factors affect administration of emergency management services and what actions are required for planning, preparedness, mitigation, response, and recovery strategies when dealing with Natural Disasters, Medical Pandemics and Outbreaks, and Terrorism/Para Military Events that threaten the United States.

**Prerequisite(s)/Corequisite(s):** Students must have completed or be concurrently taking the beginning core of the MPA curriculum.

## Engineering (ENGR)

**ENGR 8076 PROJECT MANAGEMENT (3 credits)**

Project development, role of the project manager, project selection, project planning, budgeting and cost estimation, project scheduling, and project termination.

**ENGR 8100 ERGONOMICS (3 credits)**

Introduction to the principles of ergonomics. Information processing, human output and control, workplace design and environmental conditions. Not open to students with credit in ISMG 3150.

**ENGR 8156 COGNITIVE ERGONOMICS (3 credits)**

Human factors affecting work. Focus on humans: energy requirements, lighting, noise, monotony and fatigue, learning, simulations versus sequential tasks. Experimental evaluation of concepts.

**ENGR 8166 PHYSICAL ERGONOMICS (3 credits)**

Human performance in work. Human response to various environmental and task-related variables with emphasis on physical and physiological effects.

**Prerequisite(s)/Corequisite(s):** ENGR 4300 or permission

**ENGR 8176 OCCUPATIONAL SAFETY HYGIENE ENGINEERING (3 credits)**

Introduction to occupational hygiene engineering with emphasis on workplace environmental quality. Heat, illumination, noise, and ventilation.

**Prerequisite(s)/Corequisite(s):** Senior standing or permission.

**ENGR 8230 RELIABILITY ENGINEERING (3 credits)**

System and component reliability analyses of series, parallel and complex systems. Concepts of reliability, availability, and maintainability in design of systems. Methods of reliability testing and estimation.

**ENGR 8306 APPLIED STATISTICS AND QUALITY CONTROL (3 credits)**

Systematic analysis of processes through the use of statistical analysis, methods, and procedures; statistical process control, sampling, regression, ANOVA, quality control, and design of experiments. Use of software for performing a statistical analysis.

**Prerequisite(s)/Corequisite(s):** MENG 3210 or MECH 3210.

**ENGR 8310 STOCHASTIC PROCESSES (3 credits)**

Fundamentals of stochastic processes and their application in modeling production/inventory control, maintenance and manufacturing systems. Markov and semi-Markov chains, Poisson processes, renewal processes, regenerative processes and Markov decision processes.

**ENGR 8406 DISCRETE EVENT SIMULATION MODELING (3 credits)**

Development of simulation models of discrete systems. Model development, Monte Carlo techniques, random number generators, and output analysis.

**Prerequisite(s)/Corequisite(s):** CONE 2060; MENG 3210 or MECH 3210 and CIST 1400 or CSCI 1620 or CSCI 2240 or permission

**ENGR 8606 PACKAGING ENGINEERING (3 credits)**

Investigation of packaging processes, materials, equipment and design. Container design, material handling, storage, packing and environmental regulations, and material selection.

**Prerequisite(s)/Corequisite(s):** CONE 2060, MENG 3210, MENG 3730

**ENGR 8616 RFID SYSTEMS IN THE SUPPLY CHAIN (3 credits)**

Foundations of Radio Frequency Identification Systems (RFID). The fundamentals of how RFID components of tag, transponder, and antennae are utilized to create RFID systems. Best practices for implementation of RFID systems in common supply operations.

**ENGR 8696 TECHNOLOGY, SCIENCE AND CIVILIZATION (3 credits)**

(Lect 2 Dis. 2) This course studies the development of technology as a trigger of change upon humankind, from the earliest tools of Homo Habilis to the advent of the radio telescope in exploring the creation of the universe. The course traces the paths from early science to development of the sciences and technologies that will dominate the new millennium. (8696 is for non SET students.) (Cross-listed with ENGR 4690).

**Prerequisite(s)/Corequisite(s):** Senior or permission. (ENGR 8696 is for non-SET students.)

**ENGR 8816 SUPPLY CHAIN OPTIMIZATION (3 credits)**

Foundations of supply chain network modeling. The concepts that support the economic and service trade-offs in supply chain and logistics management. Using decision support system (DSS) to design optimal logistics network models given data requirements and operational parameters. Using leading software packages to model problems arising in strategic management of logistics networks.

**ENGR 8820 MATERIAL PLAN IN LOGISTIC SYSTEMS (3 credits)**

Theory, practice and application of inventory, demand and supply planning techniques in multistage environments. Managing economies of scale, uncertainties, capacity constraints, and product availability in a supply chain. Integrated planning, supply chain coordination and technology enablers.

**Prerequisite(s)/Corequisite(s):** MENG 3210 or MECH 3210; ISMG 3280

**ENGR 8836 LOGISTICS IN THE SUPPLY CHAIN (3 credits)**

The process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption. Domestic transportation systems, distribution centers and warehousing, international logistics, logistic system controls, and reengineering logistics systems.

**ENGR 8910 SPECIAL TOPICS IN ENGINEERING MANAGEMENT (1-6 credits)**

Subject matter in emerging areas of engineering management and closely related areas not covered in other courses within the MEM curriculum. Topics, activities, and delivery methods vary.

**ENGR 9010 TOTAL QUALITY MANAGEMENT USING SIX SIGMA TECHNIQUES (3 credits)**

Introduction to advanced topics in Engineering Management and the foundations of Total Quality Management (TQM). Costs of quality, statistical tools, initiating change, advanced topics, and TQM in practice. Using DMAIC, DFSS, and CQPQ along with the other industry accepted Six Sigma Quality Techniques.

**ENGR 9050 ANALYSIS OF ENGINEERING MANAGEMENT (3 credits)**

Continuation of concepts and principles of engineering management applied to production cases.

**ENGR 9060 FINANCIAL ENGINEERING (3 credits)**

Applications of principle and financial economics in industrial and systems engineering. Term structure of interest, capital asset pricing and other capital allocation modes. Evaluation of real-options using binomial lattice, Black Scholes and other pricing models.

**Prerequisite(s)/Corequisite(s):** ISMG 8066.

**ENGR 9190 DETERMINANTS OF OCCUPATIONAL PERFORMANCE (3 credits)**

Focus on the individual in the industrial working environment. Emphasis on evaluation of fatigue, training, shift work, perception, vigilance, and work rest scheduling as they relate to the working environment.

**Prerequisite(s)/Corequisite(s):** Permission.

## Engineering Mechanics (EMEC)

**EMEC 8616 SP TOP IN ENG MECHANICS (1-6 credits)**

Treatment of special topics in engineering mechanics by experimental, computation and/or theoretical methods. Topics will vary from semester to semester. See current schedule of classes for offerings.

**EMEC 9610 ADV INV IN ENG MECH (1-12 credits)**

## English (ENGL)

**ENGL 8010 SEMINAR: TEXT-BASED RESEARCH METHODS FOR ENGLISH STUDIES (3 credits)**

An overview of the theories, methods and practices for conducting text-based research in English and related disciplines; graduate students gain experience conducting textual analysis and interpretation using relevant theories and methods, and reporting findings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in English or permission of instructor.

**ENGL 8020 SEMINAR: COLLEGE WRITING INSTRUCTION (5 credits)**

The seminar in college writing instruction prepares Graduate Teaching Assistants to fulfill their responsibilities as teachers of first-year composition.

**Prerequisite(s)/Corequisite(s):** Graduate status and a teaching assistantship. Not open to non-degree graduate students.

**ENGL 8026 AMERICAN POETRY TO 1900 (3 credits)**

A comprehensive survey of the American poetic tradition from the 17th to the end of the 19th century. (Cross-listed with ENGL 4020).

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or ENGL 8030 recommended.

**ENGL 8030 FIELD-BASED RESEARCH METHODS IN ENGLISH STUDIES (3 credits)**

An overview of resources and methods for conducting qualitative, field-based research in English and related disciplines; students gain experience collecting data and analyzing data and reporting findings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in English or permission of instructor. Not open to non-degree graduate students.

**ENGL 8036 AMERICAN POETRY SINCE 1900 (3 credits)**

A survey of the American poetic tradition from the turn of the twentieth-century to the present, focusing on various "schools" such as Imagism, High Modernism, the Harlem Renaissance, Confessional, Beats, and New Formalism. (Cross-listed with ENGL 4030).

**Prerequisite(s)/Corequisite(s):** Graduate Standing; ENGL 8010 or ENGL 8030 recommended

**ENGL 8040 WRITING FOR PUBLICATION (3 credits)**

In this seminar, students will study and practice methods for transforming their scholarly research and/or creative nonfiction into publishable articles and essays, as well as conference papers and other modes of sharing that work publicly. Students will edit and revise previously drafted work with the guidance of instructor feedback, advice from faculty mentors in their fields, and peer review. They will also research the larger structures and expectations of professional publishing in their fields.

**Prerequisite(s)/Corequisite(s):** Graduate standing and instructor permission.

**ENGL 8066 THE AMERICAN NOVEL (3 credits)**

A comprehensive survey of the evolution of the American Novel from the 1780s to the present day. Special emphasis will be placed on how a broad range of authors have responded to changing cultural and historical circumstances, and on how they have expressed widely varying viewpoints depending on their own gender, race, geographic region, and/or ethnicity. (Cross-listed with ENGL 4060).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8070 SEMINAR: WALT WHITMAN AND EMILY DICKINSON (3 credits)**

A comprehensive examination of the poetry of Walt Whitman and Emily Dickinson.

**Prerequisite(s)/Corequisite(s):** Graduate Program admission. ENGL 8010 or ENGL 8030 recommended.

**ENGL 8100 SEMINAR: TOPICS IN AMERICAN LITERATURE (3 credits)**

This course involves the investigation of a particular topic (genre, author or group of authors, time period, subject area) in American literature. (The course may be repeated for additional credits under different topics.) Formerly ENGL 8060.

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or 8030 recommended

**ENGL 8146 AMERICAN LITERARY REALISM AND NATURALISM (3 credits)**

In the late nineteenth and early twentieth century two major literary genres - Realism and Naturalism - emerged in the United States not only to challenge the primacy of Romanticism and its generally optimistic view of life but also to actively engage with the modern America created after the Civil War. This course examines a wide range of realist and naturalist works, written between 1865 and 1914, by an extremely diverse group of male and female authors from different races, ethnicities, regions, religions, and socioeconomic classes. Emphasis will be placed on how various cultural, economic, political, and social factors influenced the construction and reception of these works. (Cross-listed with ENGL 4140).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8160 SEMINAR: POSTMODERN FICTION OF THE UNITED STATES (3 credits)**

A seminar in American Fiction from the second half of the twentieth century into the twenty-first century which presents and discusses some of the major trends and issues associated with postmodern culture in America.

**ENGL 8166 TOPICS IN AMERICAN REGIONALISM (3 credits)**

A study of major topics in American literary regionalism, with special emphasis on particular social, cultural, and geographical contexts. Focus will be determined by instructor, but may include particular historical periods, geographic regions, authors, or literary themes. (Cross-listed with ENGL 4160).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8190 BOOK-SMART: EDUCATION IN LITERATURES AND CULTURES (3 credits)**

The purpose of this course is to enable a critical consideration of how education is tied inextricably to issues of class, gender, religion, culture, and politics as well as an examination of how literature responds to and represents the theme of education, often also powerfully making the case for outsiders excluded by systems of privilege.

**ENGL 8236 LATINO LITERATURE (3 credits)**

A study of representative works of Mexican-American, Spanish-American, and American writers, along with their cultural and historical antecedents. Formerly ENGL 4180/8186 Chicano Literature and Culture. (Cross-listed with ENGL 4230).

**Prerequisite(s)/Corequisite(s):** Graduate, permission.

**ENGL 8246 TEACHING LATINO LITERATURE (3 credits)**

This course is designed specifically for current or future teachers of high school students. It introduces pedagogical approaches of contemporary literature by Latinos/as in the United States. The course provides an overview of Mexican American, Chicano/a, and other Latino/a voices in American literature from mid-19th Century to the present and complement that with social, cultural, historical and other approaches to developing teaching strategies. (Cross-listed with ENGL 4240)

**ENGL 8256 WOMEN'S STUDIES IN LITERATURE (3 credits)**

A critical study of literature by and/or about women in which students learn about contributions of women to literature, ask what literature reveals about the identity and roles of women in various contexts, and evaluates standard interpretations from the perspectives of current research and individual experience. (Cross-listed with ENGL 4250, WGST 4250).

**ENGL 8266 WOMEN OF COLOR WRITERS (3 credits)**

Women of Color Writers is designed to introduce students to the multicultural, literary experience and contributions of women of color writers. The course will elucidate the multi-ethnic and feminist/womanist perspectives reflected in literary works by examining the themes, motifs and idioms about a womanist perspective. The course examines critically the implications and conceptual grounds of literary study which have been based almost entirely on white, male literary experiences and criteria. (Cross-listed with ENGL 4260).

**Prerequisite(s)/Corequisite(s):** Graduate English major or permission of instructor for 8266

**ENGL 8276 WOMEN WRITERS OF THE NORTH AMERICAN WEST (3 credits)**

A survey of U.S. and Canadian women writers (18th century to the present) enabling students to examine issues of gender and sexuality across a wide thematic range, including settlement, land use, cultural displacement, and survival in western territories, states, and provinces of North America. (Cross-listed with ENGL 4270, WGST 4270).

**Prerequisite(s)/Corequisite(s):** Graduate standing; ENGL 8010 or ENGL 8030 recommended.

**ENGL 8286 QUEER AMERICAN WESTS (3 credits)**

A survey of queer literatures about the American West. The course will explore a variety of genres, including poetry, short stories, plays, novels, creative nonfiction, and, depending on time, film/television. "Queer" will be construed as including any "non-normative" sexualities and sexual identities (e.g., genderqueer, winkle, two-spirit, 3rd/4th gender). Non-western writers (e.g., Walt Whitman) imagining the West queerly may also be included. (Cross-listed with ENGL 4280, WGST 3160).

**Prerequisite(s)/Corequisite(s):** ENGL 8010 or ENGL 8030 recommended

**ENGL 8300 SEMINAR: SHAKESPEARE (3 credits)**

Critical analysis of ten tragedies, ten histories, or ten comedies of Shakespeare. Formerly ENGL 9120.

**ENGL 8306 ANGLO-SAXON LITERATURE (3 credits)**

From the sixth to the eleventh centuries, a people known collectively as the Anglo-Saxons ruled Britain, giving it a new name and establishing the roots of the modern English language. Anglo-Saxon culture continues to haunt the modern imagination. We study the historic, artistic and intellectual environment that produced this influential literary tradition. We also place these people, their language, and their writings within the context of the broader early medieval world. Finally, we engage with some of the foremost modern scholars of this fascinating culture. (Cross-listed with ENGL 4300).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENGL 8310 ECOLOGICAL WRITING AND ANALYSIS (3 credits)**

This course provides students with the opportunity to develop expertise in a wide range of foundational works and key techniques of ecological writing and theory in English. By engaging mindfully with these works and techniques, students will develop advanced skills in ecologically oriented critical analysis and creative thinking. This course supports the Writing and Critical Reflection and the Health and the Environment concentrations in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8310)

**ENGL 8326 CHAUCER (3 credits)**

A literary, linguistic, and historical study of the works of Geoffrey Chaucer: his dream visions, Troilus and Criseyde, and the Canterbury Tales. (Cross-listed with ENGL 4320).

**ENGL 8336 RENAISSANCE SATIRE (3 credits)**

Satirical traditions and the literature of critique and invective as inherited from medieval and classical forms. Considerations will include satire as an aesthetic, philosophical, and political mode of expression; topicality as it relates to and portrays cultural history; and self-representation through humanist learning and response. (Cross-listed with ENGL 4330).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8346 SHAKESPEARE (3 credits)**

A critical study of selected plays and poetry from Shakespeare's works, in the context of the historical and cultural moment of the English Renaissance and as a set of texts inherited and reinvented by modernity. (Cross-listed with ENGL 4340).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**ENGL 8376 RESTORATION AND EIGHTEENTH CENTURY LITERATURE (3 credits)**

Poetry, prose (exclusive of the novel), and drama of England in the Restoration and 18th century (1660-1800), with emphasis on Swift and Johnson. Formerly ENGL 4620/8626. (Cross-listed with ENGL 4370).

**ENGL 8396 MEDIEVAL CELTIC LITERATURE (3 credits)**

This course examines the literature and culture of the Celtic civilizations. The course examines the archeological record and texts about the Celts by Greek and Roman authors, as well as later medieval tales from the Irish, Welsh, and Breton traditions. All texts are in translation with guided reference to the original languages. (Cross-listed with ENGL 4390).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420 and one ENGL course above 3299, or instructor permission; ENGL 2310 recommended. Not open to non-degree graduate students.

**ENGL 8400 SEMINAR: ENGLISH RENAISSANCE (3 credits)**

A seminar in a few significant literary figures of the English Renaissance. Formerly ENGL 8080.

**ENGL 8410 IMMIGRATION, MIGRATION, AND DIASPORA: CRITICAL APPROACHES AND THEORIES OF MOVEMENT IN LITERATURE (3 credits)**

This seminar in literature and some film analyzes the depictions in non-fiction and fiction of displacement as a result of immigration, migration, refugee status, or any other considered movement, intentional or imposed. It will focus largely on the U.S. experiences of those displaced from all locales. (Cross-listed with CACT 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENGL 8416 LITERATURE OF THE ROMANTIC PERIOD (3 credits)**

Poetry and prose (excluding the novel) of England from 1798 to 1830. Formerly ENGL 4810/8816. (Cross-listed with ENGL 4410).

**ENGL 8426 NINETEENTH-CENTURY ENGLISH AND ANGLOPHONE LITERATURES (3 credits)**

English and Anglophone poetry and prose (excluding the novel) in the nineteenth century. (Cross-listed with ENGL 4420).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8436 THE BRITISH AND ANGLOPHONE NOVEL (19TH AND 20TH CENTURY) (3 credits)**

Introduction to the British and Anglophone novel in the nineteenth and twentieth century. (Cross-listed with ENGL 4430).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8496 GREAT WORKS OF BRITISH LITERATURE (3 credits)**

This course pursues a trans-historical approach to literary study while interrogating what makes a literary work "great" within the field of British Literature. It allows students to engage with great works of British literature from across the ages - starting with the foundations of British literary history in the medieval period and extending to the present. Attending to formal, thematic, and historical dimensions of a wide array of literary texts, we will increase our appreciation of the many ways texts make meaning while developing a deep understanding of the British literary tradition. Reading literature with a sense of purpose and comparatively across time will allow us not only to appreciate great works but also to enhance the impact they have on us. Furthermore, we will recognize how culture and politics inform what literary works become deemed "great," thereby developing a critical understanding of the process of canon formation. (Cross-listed with ENGL 4490).

**Prerequisite(s)/Corequisite(s):** Graduate standing in English

**ENGL 8610 PROFESSIONAL AND TECHNICAL WRITING (3 credits)**

This course will introduce students to the theory, research, and practices of professional and technical writing. Through readings, discussions, and assignments, students will gain an understanding of the types and circumstances of communication challenges encountered in the workplace. The course will also consider the roles of persuasion and ethics in written communication. (Cross-listed with CACT 8610).

**ENGL 8615 INTRODUCTION TO LINGUISTICS (3 credits)**

An introduction to the concepts and methodology of the scientific study of language; includes language description, history, theory, variation, and semantics as well as first and second language acquisition. (Cross-listed with ENGL 3610).

**ENGL 8620 SEMINAR: JANE AUSTEN (3 credits)**

This seminar examines Jane Austen's oeuvre from her juvenilia to her posthumous fragments, giving particular emphasis to her six great novels, *Northanger Abbey*, *Sense and Sensibility*, *Pride and Prejudice*, *Mansfield Park*, *Emma*, and *Persuasion*. Austen biography and scholarship provide the framework for studying her literary career.

**ENGL 8626 HISTORY OF ENGLISH (3 credits)**

A critical study of both the internal and external histories of English. Includes historical development of English phonology, morphology, graphics, syntax, diction, dialects, and semantics. (Cross-listed with ENGL 4620).

**ENGL 8630 DIGITAL RHETORIC (3 credits)**

This course provides students with the opportunity to develop expertise in the theory and practice of digital rhetoric by considering technology's deep impact on how we define and engage in writing. Students examine contemporary writing practices as part of a rich rhetorical tradition while they design and create effective multimodal compositions and analyze foundational works in digital rhetoric. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8630).

**ENGL 8640 CREATIVE NONFICTION IN DIGITAL ENVIRONMENTS (3 credits)**

Students in this course will study creative nonfiction in digital environments, analyze rhetorical situations created in digital environments, and create individual creative nonfiction blogs-which might include, in addition to other modalities, sounds, animations, and hypertext. The course will also focus on the study and analysis of craft-elements of creative nonfiction: narrative persona, tone, rhythm and style, scenic construction, among others. Students taking this course will learn to read with interpretative and analytical proficiency a broad range of creative nonfiction in digital environments. (Cross-listed with CACT 8640).

**ENGL 8646 APPLIED LINGUISTICS (3 credits)**

This course is designed to develop knowledge and skills for second language instructors and others interested in second language learning and instruction. Content covers relevant second language acquisition (SLA) theory and second language pedagogy. (Cross-listed with ENGL 4640)

**Prerequisite(s)/Corequisite(s):** ENGL 3610 and Junior standing or with permission from instructor.

**ENGL 8650 WRITING ACROSS DIFFERENCES: RHETORICAL THEORY FOR PERSUASION AND PUBLIC ADVOCACY (3 credits)**

This course provides students a theoretical foundation for understanding how language is used in various types of discourses and texts as a means of convincing others of a given viewpoint or idea. Students will apply this theory to real-world writing scenarios in their scholarly areas of interest, to advocacy and social issues movements, or to address workplace needs and goals. This course supports the Writing and Critical Reflection concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with CACT 8650).

**ENGL 8656 STRUCTURE OF ENGLISH (3 credits)**

A study of grammar as it has been conceived through history, including traditional prescriptive and descriptive approaches as well as transformational- generative grammar. (Cross-listed with ENGL 4650).

**Prerequisite(s)/Corequisite(s):** ENGL 3610 / ENGL 8615 or permission

**ENGL 8676 SOCIOLINGUISTICS (3 credits)**

An exploration of interconnections between language, culture, and communicative meaning, stressing interactional, situational, and social functions of language as they take place and are created within social contexts. (Cross-listed with ENGL 4670).

**Prerequisite(s)/Corequisite(s):** ENGL 3610/ENGL 8615, or permission.

**ENGL 8696 TOPICS IN LINGUISTICS (3 credits)**

Studies in a selected subfield or problem area of linguistics such as sociolinguistics, generative semantics, applied linguistics, descriptive linguistics, teaching English as a foreign language, etc. Formerly ENGL 4960/8966. (Cross-listed with ENGL 4690).

**Prerequisite(s)/Corequisite(s):** ENGL 4610/ENGL 8616, or permission.

**ENGL 8736 RHETORIC (3 credits)**

A study of contemporary theories of invention, form, and style and their application in written discourse. Formerly ENGL 4530/8536. (Cross-listed with ENGL 4730).

**ENGL 8740 SEMINAR: DISCOURSE, CULTURE, AND POWER (3 credits)**

A graduate-level introduction to theories and methodologies of analyzing spoken and written discourse. Students will employ various methods to collect natural language data, including field research, and analyze the data using appropriate theoretical orientations to discourse analysis.

**ENGL 8750 OXBOW WRITING PROJECT (3 credits)**

Oxbow Writing Project summer institute immerses K-16 educators in writing pedagogy via their own writing, presentations about writing and pedagogy, reading and discussing professional literature, designing and implementing an in-depth inquiry project, and developing leadership strengths. Oxbow is a National Writing Project Site.

**Prerequisite(s)/Corequisite(s):** Acceptance into Oxbow Writing Project Summer Institute

**ENGL 8756 COMPOSITION THEORY & PEDAGOGY (3 credits)**

This course is an overview of composition theories and pedagogies since 1968 and focuses on how historical movements in education and theoretical frameworks (rhetorical, expressivist, socio-cognitivist, collaborative, social constructionist, critical pedagogy, cultural studies, feminist, technological, and linguistic theories) both enrich and complicate the teaching of composition. (Cross-listed with ENGL 4750).

**ENGL 8760 SEMINAR IN POPULAR CULTURE, MASS MEDIA AND VISUAL RHETORIC (3 credits)**

This course studies how discursive meaning is made through established and emerging visual technologies and the impact visual symbol systems are having upon the field of rhetoric in general. Students will investigate how visual technologies, discourse theory, and semiotic theory has intersected with and expanded contemporary rhetorical theories, and they will apply these theories to visual texts. (Cross-listed with COMM 8200).

**ENGL 8770 L2 COMPOSITION PEDAGOGY (3 credits)**

This course helps prepare students to teach writing to Language Learners. Students will review principles of Second Language Acquisition Theory, study theories of teaching writing, and learn tenets of curriculum design. Students who complete the course will be able to design curricula, courses, syllabi, and lesson plans.

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**ENGL 8775 WRITING CENTER THEORY, PEDAGOGY, AND RESEARCH (3 credits)**

This course is an introduction to writing center theory, pedagogy, research, and history. The course is designed for undergraduate and graduate students interested in or already working in a writing center. Throughout the course we will explore a wide range of models for writing center work and the often problematic metaphors associated with those models. The overall aim in this course will be to help students develop multiple strategies for teaching writing one-to-one, for conducting research in writing centers, and for understanding writing center administration. (Cross-listed with ENGL 3770).

**ENGL 8796 ENGLISH CAREER PREPARATION (1 credit)**

This course will prepare students for an internship or a career, addressing topics such as finding and applying for internships, workplace and industry, resume and cover letters, interviewing techniques, developing a professional portfolio, and statement of goals. Taking this course prior to an internship is highly recommended. (Cross-listed with ENGL 4790).

**Prerequisite(s)/Corequisite(s):** The course is restricted to undergraduate Majors and graduate students in English.

**ENGL 8800 SEMINAR: TOPICS IN ENGLISH LANGUAGE AND LITERATURE (3 credits)**

An intensive study of one or more authors, genres in literature and language not covered by regular courses.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8806 ENGLISH INTERNSHIP (1-3 credits)**

Supervised internship in a professional setting with a local employer or nonprofit organization. Hands-on experience. Work hours, activities, and responsibilities must be specified in a written agreement between the employer and the student in consultation with the internship director. Some internships will be paid and some will not. (Cross-listed with ENGL 4800).

**Prerequisite(s)/Corequisite(s):** ENGL 2410 or ENGL 2420, an ENGL 4000-level writing course, and permission of internship director.

**ENGL 8816 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, JMC 8816, JMC 4810).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or permission of instructor

**ENGL 8826 AUTOBIOGRAPHY (3 credits)**

In this creative nonfiction writing course, students will craft, workshop, and revise original works of autobiographical nonfiction. Students will read, discuss and critically analyze writing techniques found in diverse autobiographical prose by published authors and student peers. A final project will invite students to research and summarize a book-length autobiography of their own. (Cross-listed with ENGL 4820).

**Prerequisite(s)/Corequisite(s):** graduate standing

**ENGL 8836 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, JMC 4830, JMC 8836).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8846 TRAVEL WRITING (3 credits)**

Travel Writing is a course in professional writing. Although the course includes critical examinations of texts, the primary focus is on the composition of various kinds of travel essays. (Cross-listed with ENGL 4840).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8850 SEMINAR: SPIRITUAL NONFICTION (3 credits)**

Spiritual Nonfiction is a creative nonfiction writing seminar where students study and practice various forms and styles of spiritual nonfiction. The comparative study of spirituality and religion is not the focus of this course. Writing is the focus. Discussion of the characteristics of spiritual experiences and ideas will be limited to their formalistic treatment within individual works.

**Prerequisite(s)/Corequisite(s):** Graduate Standing. At least one creative nonfiction writing course at 4000/8000 level.

**ENGL 8856 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, JMC 4850, JMC 8856).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8866 THE MODERN FAMILIAR ESSAY (3 credits)**

Students in this course will read as well as write the Modern Familiar Essay, a sub-genre of Creative Nonfiction, with an emphasis on writing the informal essay. Essays will represent a wide scope of perspectives and issues, including gender, social class, education, politics, culture, sexuality, health, race, and ethnicity, and will range from the the sixteenth century "inventor" of the modern essay to twenty-first century practitioners of the form. This course will also cover a wide range of sub-genres and stylistic forms, such as memoir, autobiography, flash, experimental, and more. (Cross-listed with ENGL 4860).

**Prerequisite(s)/Corequisite(s):** Graduate standing and/or admittance to the Advanced Writing program

**ENGL 8870 SEMINAR: PUBLISHING NON-FICTION (3 credits)**

A seminar in the process leading to publication of essays in one or more of the following genres: scholarly essay, personal essay, travel essay, pedagogical essay, autobiographical essay.

**Prerequisite(s)/Corequisite(s):** Graduate standing and 6 hours of graduate credit.

**ENGL 8876 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, JMC 4870, JMC 8876).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**ENGL 8880 ADVANCED PLACEMENT INSTITUTE: LANGUAGE & COMPOSITION (3 credits)**

An intensive Advanced Placement Summer Institute focusing on curricular and pedagogical questions, paired with independent specialized research into various topics related to the planning, organization, implementation, and improvement of Advanced Placement English Language and Composition instruction and learning at the secondary educational level. Course may be repeated if the APSI topic is different.

**Prerequisite(s)/Corequisite(s):** Must register for and successfully complete the UNO Advanced Placement Summer Institute for English Language and Composition.

**ENGL 8890 SEMINAR: EXPERIMENTS IN CREATIVE NONFICTION (3 credits)**

This is a graduate seminar in creative nonfiction. This course explores, through an intensive engagement with long and short forms of creative nonfiction, the ways in which contemporary practitioners of the genre have experimented with form and meaning. Students will attempt their own experiments in writing.

**Prerequisite(s)/Corequisite(s):** Graduate Standing, Two graduate-level creative nonfiction courses from ENGL 8846, ENGL 8866, ENGL 8870, or ENGL 8800, when topic is appropriate.

**ENGL 8896 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, JMC 8896, JMC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**ENGL 8900 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature or language, carried out under the supervision of a member of the graduate faculty. Designed primarily for the student who has need of work not currently available in the departmental offering and who has demonstrated capability of working independently.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of instructor, and no "incompletes" outstanding.

**ENGL 8910 SEMINAR: CRITICAL THEORY (3 credits)**

Seminar in critical theory with readings in New Criticism, semiotics, structuralism, deconstruction, New Historicism, feminist and gender theory, cultural materialism, psychoanalytic theory, queer theory, postcolonial theory, New Formalism, and other more recent theoretical developments in literary study.

**Prerequisite(s)/Corequisite(s):** ENGL 8010 recommended.

**ENGL 8936 NARRATIVE NONFICTION (3 credits)**

Students will read, discuss, and write critical analyses of narrative nonfiction by published and student writers. They will craft, workshop, and revise original works of narrative nonfiction. (Cross-listed with ENGL 4930).

**Prerequisite(s)/Corequisite(s):** One creative nonfiction course or permission from the instructor

**ENGL 8956 BRINGING THE WAR HOME: DEPICTIONS OF WAR VETERANS IN LITERATURE AND FILM (3 credits)**

Course explores the impact of war on combatants, their families and communities as represented in literary fiction, film, historical documentation, first-person accounts, and other texts written in or translated to English. (Cross-listed with ENGL 4950, MEDH 4950).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENGL 8966 TOPICS IN LANGUAGE AND LITERATURE (3 credits)**

This course introduces students to a specialized subject matter in the discipline of English Studies not covered in existing courses. This course may be repeated for different topics. (Cross-listed with ENGL 4960).

**Prerequisite(s)/Corequisite(s):** Graduate Standing

**ENGL 8976 WRITING ABOUT SICKNESS AND HEALTH (3 credits)**

Students will explore many themes of the human experience in healthcare through reading and discussion of selected poems, short stories, excerpts from fiction, and essays and creative nonfiction. To help students generate their own poems, stories, and essays, the class will incorporate the work of community writing programs and projects. (Cross-listed with ENGL 4970).

**ENGL 8990 THESIS (3-6 credits)**

Independent research or creative project written under the supervision of a director.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of thesis director. Not open to non-degree graduate students.

## Entrepreneurship (ENTR)

**ENTR 8156 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with ENTR 4150, GEOG 4150, GEOG 8156, WGST 4150, WGST 8156)

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**ENTR 8716 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with ENTR 4710, PSCI 4710, PSCI 8716).

## Environmental Engineering (ENVE)

**ENVE 8980 SPECIAL PROBLEMS IN ENVIRONMENTAL ENGINEERING (1-6 credits)**

Special research-oriented problems in current topics in environmental engineering.

**Prerequisite(s)/Corequisite(s):** Permission.

**ENVE 8990 MASTER'S THESIS (6-10 credits)**

Master's thesis work

**ENVE 9900 SEMINAR IN ENVIRONMENTAL ENGINEERING (1 credit)**

Presentation and discussion of current research topics and projects in environmental engineering and closely allied areas.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

**ENVE 9980 SPECIAL TOPICS IN ENVIRONMENTAL ENGINEERING (1-6 credits)**

Independent library and/or experimental research, analysis, evaluation and presentation of current and advanced topics in environmental engineering and closely related areas.

**Prerequisite(s)/Corequisite(s):** Permission.

## Environmental Studies (ENVN)

**ENVN 8316 OUR ENERGY FUTURE: SOCIETY, THE ENVIRONMENT AND SUSTAINABILITY (3 credits)**

In this course, students will analyze our energy options including the environmental, economic, and ethical connections with a particular emphasis on electrical energy. The course doesn't prescribe a particular energy future but rather emphasizes development of the knowledge and skills to more effectively contribute to the conversation. To understand our future, the course begins with the present energy landscape and its historical underpinnings, then focuses on developing a student's ability to critically assess energy options by examining the associated implications, consequences, intent, origins, and bias. Students' own work, life, and academic experience are used in the course to underscore the individual relevance of these energy choices. The course includes the necessary science, but the greater emphasis is on the associated critical and creative thinking so that ultimately students can make informed, creative, sustainable energy choices. (Cross-listed with ENVN 4310, CACT 8316)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENVN 8336 INTRODUCTION TO GREEN INFRASTRUCTURE (3 credits)**

This course provides an overview of green infrastructure including issues managed with green infrastructure (storm water quality and quantity, urban habitat value, urban sustainability, etc.); basic design and management parameters for best management practices (BMPs); case study applications of BMPs; treatment train assessment and evaluation; and regulatory and cost considerations. (Cross-listed with ENVN 4330).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**ENVN 8356 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 8356, GEOG 4350, ENVN 4350).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**ENVN 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 4820, BIOL 4820, GEOG 8826, GEOG 4820, PA 8826).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

# Executive Master of Science/ Information Technology (EMIT)

## **EMIT 8000 MANAGING & LEADING IN A DIGITAL WORLD (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to the challenges and opportunities of managing and leading in a digital world within the context of a dynamic environment of technology workforce diversity, a global and emerging collaborative economy, and concern for ethics and social responsibility in the development of systems/technologies.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8050 IT LEADERSHIP (2 credits)**

This course equips students with the knowledge, skills and tools to be an effective information technology (IT) leader. The primary focus of the course is on developing leadership capability and ability to contribute, both strategically and operationally, to the performance of an organization through IT.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8100 IT STRATEGY AND CHANGE MANAGEMENT (2 credits)**

This course introduces students to a critical view of both strategic and tactical levels of IT management. The course also addresses the challenges of managing IT-enabled change and the complexities associated with managing people, processes, and technology.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program is required. Not open to non-degree graduate students.

## **EMIT 8150 BIG DATA ANALYTICS AND VIZUALIZATION (2 credits)**

This course introduces students to data analytics including big data analytics, data quality, and visualization. Topics will include concepts, exercises, tools and techniques surrounding data analytics, quality, visualization, IoT and cloud computing within the context of addressing business challenges and/or to create competitive advantage.

**Prerequisite(s)/Corequisite(s):** This course is intended exclusively for IT professionals in the EMIT program. Not open to non-degree graduate students.

## **EMIT 8200 MANAGING INFORMATION TECHNOLOGY INNOVATION (2 credits)**

This course introduces students to the concepts, applications and tools for facilitating IT Innovation, Creativity, Entrepreneurship and Risk Taking.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8250 MANAGING INFORMATION ASSURANCE (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to information assurance topics including areas such as managing cloud and mobile security, IT governance and policy, and information assurance planning and deployment.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8300 SYSTEMS DEVELOPMENT AND MAINTENANCE (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to the development and maintenance of software-intensive systems.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8350 ENTERPRISE COMPUTING IN THE ERA OF BIG DATA (2 credits)**

This course explores design, managerial and technical issues relevant to creating big data based solutions from a holistic viewpoint. Students will develop an understanding of both the technical and business aspects by exploring a balanced view of the theoretical foundation and practical implications of Enterprise Computing in the context of Big Data and other related (emerging) technologies.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8400 LEADING TEAMS AND MANAGING VIRTUAL WORK (2 credits)**

This course introduces students in the Executive Master of Science in Information Technology (EMIT) program to fundamental concepts, principles, theories, and practices related to organizational teamwork. Students will learn and practice skills to run productive & effective collaborative problem solving efforts, using modern collaboration technology.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8450 EVALUATION OF ENTERPRISE I.T. (2 credits)**

This course introduces students to concepts associated with evaluation of enterprise IT investments. Topics addressed will include understanding financial statements, IT investment value vs risk tradeoffs, understanding cost of adopting IT innovations and/or emerging technologies, designing reports, designing of IT-KPIs, performance measurement systems such as balanced scorecard and more.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8500 MANAGING AND LEVERAGING EMERGING TECHNOLOGIES (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to industry models and processes to identify, track, pilot and eventually adopt business innovations and/or emerging technologies that could provide an advantage for a business. Students will also learn how IT can facilitate business process change. Concepts and exercises surrounding Lean IT will be covered to optimize the processes in the IT organization.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8700 EMERGING CHALLENGES FOR IT EXECUTIVES (2 credits)**

This course introduces Executive Master of Science in Information Technology (EMIT) students to emerging challenges that will be faced by IT executives.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program. Not open to non-degree graduate students.

## **EMIT 8990 INTEGRATED EMIT CAPSTONE PROJECT (2-6 credits)**

This course serves as the integrated capstone project for the Executive Master of Science in Information Technology (EMIT) program.

**Prerequisite(s)/Corequisite(s):** Admission to the executive Master of Science in IT (EMIT) program and completion of all cohort modules prior to submission of integrated project. Concurrent enrollment with other EMIT modules will be required. Not open to non-degree graduate students.

# Foreign Language & Literature (FLNG)

## **FLNG 8020 SEMINAR:FL/TESOL RESEARCH (3 credits)**

A survey of Second Language Acquisition theory and methodology culminating in a student-designed, classroom-based research project.

**FLNG 8030 SEMINAR: SECOND LANGUAGE ACQUISITION THEORY (3 credits)**

An advanced introduction to second language acquisition theories based in neurolinguistics, psycholinguistics, and sociolinguistics. Students will explore various schools of thought about how people learn languages other than their language(s) of nurture; this includes languages that are acquired by adolescents and adults, both inside and outside the classroom.

**FLNG 8040 SEMINAR: ASSESSMENT & CURRICULUM DESIGN (3 credits)**

This course will familiarize (future) language educators with current trends in the assessment of language skills as well as expose them to the design, implementation, and evaluation of second language curricula.

**FLNG 8050 THEORY AND METHODS IN THE TEACHING OF HERITAGE LANGUAGES (3 credits)**

This course is designed to introduce graduate candidates to current theoretical and pedagogical approaches to teaching heritage languages in the United States. As dedicated practitioners, reflective scholars, and responsible citizens, students will be able to explore evidence-based pedagogical and assessment strategies to use in educational contexts serving bilingual/heritage speakers.

**Prerequisite(s)/Corequisite(s):** SPAN 8086 or instructor permission

**FLNG 8060 APPROACHES AND METHODS IN LANGUAGE TEACHING (3 credits)**

This course offers a foundation in the approaches and methods for the teaching of second language, third languages, and foreign languages from the perspectives of language acquisition research and language teaching pedagogy. The main goals are to teach teachers and applied linguistics researchers about current research-based approaches to teaching languages including content-based instruction, task-based instruction, and critical approaches. The course also dives into best practices for syllabus design, lesson planning, and creation of course and lesson objectives.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**FLNG 8900 DIRECTED READINGS (3 credits)**

Special directed readings arranged individually with students on topics not explored in other graduate offerings.

**Prerequisite(s)/Corequisite(s):** Permission of instructor and/or at least twelve graduate hours completed. Graduate non-degree students not allowed.

**FLNG 8960 SEMINAR:SPECIAL TOPICS (3 credits)**

This course provides a format for the exploration of topics of interest to advanced foreign language/TESOL students.

## French (FREN)

**FREN 8036 ADVANCED FRENCH CONVERSATION (3 credits)**

This course focuses on the development of oral skills in French through the use of complex and sophisticated conversational structures and nuanced lexicon. Students will be involved in expressing or presenting their ideas and opinions, interpersonal speaking activities, and a variety of activities including reading short literary and cultural texts and screening films. (Cross-listed with FREN 4030).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**FREN 8056 SEMINAR IN THE CULTURE AND CIVILIZATION OF QUEBEC (3 credits)**

An introduction to the many facets of Quebec Culture & Civilization, through readings on Quebec's history and contemporary culture and also through films and other media related to Quebec. (Cross-listed with FREN 4050).

**Prerequisite(s)/Corequisite(s):** FREN 2120 or departmental permission.

**FREN 8156 CONTEMPORARY FRENCH NOVEL (3 credits)**

Selected contemporary French novels are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. In addition, students will examine the sociopolitical and cultural contexts of these literary works. (Cross-listed with FREN 4150).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or departmental permission. Not open to non-degree graduate students.

**FREN 8176 CONTEMPORARY FRENCH THEATER (3 credits)**

Selected contemporary French plays are analyzed and discussed. The main objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the texts under consideration. (Cross-listed with FREN 4170).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission of instructor. Not open to non-degree graduate students.

**FREN 8226 THE STRUCTURE OF FRENCH (3 credits)**

A survey of the linguistic structure of modern French, including phonology, morphology, and syntax. (Cross-listed with FREN 4220).

**Prerequisite(s)/Corequisite(s):** FREN 3040 or departmental permission. Not open to non-degree graduate students.

**FREN 8440 SEMINAR: FRENCH COMPOSITION (3 credits)**

This course provides opportunities for students to refine their composition skills in French through extensive writing workshops and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College.

**FREN 8866 MODERN FRENCH WOMEN AUTHORS (3 credits)**

Selected contemporary French literary texts written by women are analyzed and discussed. This may include novels, short stories, poetry, and graphic novels. The primary objective of this course is the development of critical reading and analytical skills that will allow students to reflect more productively upon the major social and aesthetic themes manifest in the works under consideration. In addition, students will examine the sociopolitical and cultural contexts of these works. (Cross-listed with FREN 4860).

**Prerequisite(s)/Corequisite(s):** FREN 3060 or permission. Not open to non-degree graduate students.

**FREN 8900 FRENCH INDEPENDENT STUDY (1-3 credits)**

Specifically planned projects and readings in a well-defined field of French literature or linguistics carried out under the supervision of a member of the foreign languages faculty holding graduate faculty status.

**FREN 8906 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once. (Cross-listed with FREN 4900).

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior standing, and no incompletes outstanding. Not open to non-degree graduate students.

**FREN 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrow field of the literature and/or cinema of the Francophone world. (Cross-listed with FREN 4950).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

**FREN 8966 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address narrow field of study of the civilization, history, film, contemporary culture, art, politics, and or cultural studies of the Francophone world. (Cross-listed with FREN 4960).

**Prerequisite(s)/Corequisite(s):** FREN 3030, FREN 3040, and FREN 3060

**FREN 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Francophone world. (Cross-listed with FREN 4970).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

## Geography (GEOG)

**GEOG 8000 HISTORY AND PHILOSOPHY OF GEOGRAPHY (3 credits)**

Introduction to history of geography. Emphasis on significant concepts, methodologies, and philosophies in geography from classical Greeks to the present.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8016 CONSERVATION OF NATURAL RESOURCES (3 credits)**

This course provides a diverse overview of the principles and contemporary issues related to ecology and management of wildlife, fisheries, forests, soil, rangeland, minerals, and water. It includes the philosophical, economic and social aspects of resource management. Current local, regional, and global issues are examined. (Cross-listed with GEOG 4010).

**Prerequisite(s)/Corequisite(s):** Three hours of geography

**GEOG 8026 SPATIAL ANALYSIS IN GEOGRAPHY (3 credits)**

An introduction to spatial analysis with a focus on spatial statistics. Emphasis will be placed on the nature of geographic data, spatial data handling, modeling logic, sampling theory, and design. Both descriptive and spatial statistics methods are covered. Students will receive hands-on experience working with statistical data sets, software, and scientific visualization of research results. (Cross-listed with GEOG 4020).

**Prerequisite(s)/Corequisite(s):** STAT 1530 or STAT 3000 and GEOG 4050 or permission

**GEOG 8036 COMPUTER MAPPING AND VISUALIZATION (3 credits)**

Computer techniques in the mapping and visualization of spatial data. Various forms of spatial data manipulation and computer graphic output techniques are examined. Particular attention is given to the creation of maps for the internet and the incorporation of interaction and animation in their display. (Cross-listed with GEOG 4030).

**Prerequisite(s)/Corequisite(s):** GEOG 1090 or permission of instructor. Background in programming, particularly JavaScript, highly recommended.

**GEOG 8040 SEMINAR IN EDUCATION GEOGRAPHY (3 credits)**

This seminar surveys the goals, methods, and content associated with teaching geography in elementary, secondary, and in higher education. It is designed to aid current and future teachers in teaching geography.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8046 GEOARCHAEOLOGY (3 credits)**

An introduction to geoarchaeology: the application of methods and techniques of geography, geology and other earth sciences to solve archaeological problems and reconstruct past environments. (Cross-listed with GEOL 4040, GEOG 4040).

**GEOG 8056 GEOGRAPHIC INFORMATION SYSTEMS I (4 credits)**

An introduction to the concepts and principles of geographic information systems (GIS). Emphasis will be placed on geographic data inputs, manipulation, analysis, and output functions. Exercises introduce students to GIS software and applications. Usually offered Fall, Spring, Summer. (Cross-listed with GEOG 4050).

**Prerequisite(s)/Corequisite(s):** 3 hours in Geography or by permission

**GEOG 8106 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with BIOL 4100, GEOL 4100, BIOL 8106, GEOL 8106, GEOG 4100).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior

**GEOG 8126 URBAN GEOGRAPHY (3 credits)**

This course is designed to serve as an introduction to the complex and dynamic urban system, including the physical, economic, political, cultural, social, and environmental forces that shape the form and function of cities, as well as how individuals and groups experience urban life. We make ample use of geographic information systems (GIS) to analyze cities and better understand crucial urban concepts such as urban growth and development, patterns of urban form, segregation and neighborhood change, economic specialization and agglomeration, urban sprawl, and environmental justice. (Cross-listed with GEOG 4120).

**GEOG 8130 SEMINAR IN ECONOMIC GEOGRAPHY (3 credits)**

This seminar course investigates the development of current world economic systems through the elements of primary, secondary, tertiary, quarternary and quinary production on a micro and macro scale. Exchange and transactional systems, consumption linkages, resource management, economic health on global and local scales, and location decision-making are major topics.

**Prerequisite(s)/Corequisite(s):** Graduate in geography and permission of instructor

**GEOG 8156 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with WGST 4150, GEOG 4150, ENTR 4150, ENTR 8156, WGST 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**GEOG 8166 URBAN SUSTAINABILITY (3 credits)**

Using sustainability as a conceptual framework, students in this course will investigate a variety of social, economic, and environmental challenges facing cities of the 21st century. Topics and issues explored include urban growth and expansion, livability, equity & gentrification, energy use & production, urban farming, poverty, automobility & transportation, water security, urban pollution, and the role of cities in climate change. (Cross-listed with GEOG 4160)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**GEOG 8176 ADVANCED CULTURAL GEOGRAPHY (3 credits)**

This course examines current theoretical debate and research practice in a select topic in Cultural Geography. Emphasis will be on readings and discussion with students engaging in original research. Specific thematic focus will vary from year to year. This course may be taken multiple times as long as topics differ. (Cross-listed with GEOG 4170).

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of the instructor.

**GEOG 8210 SEMINAR IN CULTURAL GEOGRAPHY (3 credits)**

This course explores the different theoretical, methodological and empirical approaches in cultural geography, while also addressing its development, its evolution, its competing schools of thought, and new frontiers.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8236 GREAT PLAINS & NEBRASKA (3 credits)**

This course is a comprehensive examination of the Great Plains region from a geographical perspective. It considers both the physical and human geography of the Plains, with particular attention to our home, Nebraska. Topics to be covered include: the Plains' unique ecosystems, its early human inhabitants, its later settlers, its evolving land-use patterns, and current issues. (Cross-listed with GEOG 4230).

**GEOG 8266 PROCESS GEOMORPHOLOGY (4 credits)**

A lecture and laboratory course focused on understanding Earth surface processes and the evolution of landforms across spatial and temporal scales. The course emphasizes applying unifying concepts in geomorphology, quantitative methodology and modern process-oriented geomorphology to interpret landscape evolution. (Cross-listed with GEOG 4260, GEOL 4260).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1010, GEOL 1170, GEOG 1030, GEOG 1050 or instructor permission.

**GEOG 8310 GEOGRAPHY OF AGRICULTURE (3 credits)**

A systematic study of the characteristics and patterns of world agriculture. Usually offered on demand.

**Prerequisite(s)/Corequisite(s):** Permission

**GEOG 8326 CLIMATOLOGY (3 credits)**

A study of climatic processes and their effect on shaping the physical landscape. Emphasis on physical and applied aspects of the field. (Cross-listed with GEOG 4320).

**Prerequisite(s)/Corequisite(s):** GEOG 1030, GEOG 1050, GEOG 3510, or permission of instructor.

**GEOG 8336 SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 credits)**

This course is designed to familiarize students with basic soil chemical, physical and biological properties, soil morphological characteristics, soil classification and soil forming processes. The course focuses on relationships between soils and environmental factors and how such factors alter soil forming processes. The lab will focus on developing basic field skills, including soil morphological descriptions and soil mapping, as well as common laboratory methods used to analyze soils. (Cross-listed with GEOG 4330, GEOL 4330).

**Prerequisite(s)/Corequisite(s):** One of the following: GEOG 1030, GEOG 1050, GEOL 1010, GEOL 1170 or instructor permission.

**GEOG 8346 WATER RESOURCES (3 credits)**

This course explores the applied principles of hydrology, water systems modeling, river basin development, and water management issues and practices in the United States and other parts of the world. Two local Saturday field trips will be required. (Cross-listed with GEOG 4340).

**Prerequisite(s)/Corequisite(s):** Six hours of Physical Geography or equivalent and graduate standing.

**GEOG 8356 GLOBAL CLIMATE CHANGE (3 credits)**

The primary objective of this course is for students to form a scientific, evidence-based, stance on current and future changes to the Earth's climate. To this end, this course will be based on scientific inquiry into the current state of knowledge. Particular emphases are placed on evidence and causes of change, and the associated environmental and social impacts, including: water resources, extreme weather, human health, and others of interest to the class. (Cross-listed with GEOG 4350, ENVN 8356, ENVN 4350).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**GEOG 8500 SPECIAL TOPICS IN GEOGRAPHY (1-3 credits)**

This course will provide for an in-depth study of a geographical or geological subject (as specified in the course subtitle). Subjects will be offered as sections of GEOG 8500, but will be separate from one another. Students may repeat GEOG 8500 as often as they like as long as no specific subject is duplicated. Course to be offered with approval of Graduate Program Committee and Dean for Graduate Studies.

**Prerequisite(s)/Corequisite(s):** Variable

**GEOG 8535 CARTOGRAPHY AND DATA VISUALIZATION (4 credits)**

An introduction to the concepts and techniques of map construction and visual data communication. Topics include map scale, map projections, thematic cartography, history of cartography, computer mapping, and global positioning systems. Particular attention is given to designing both paper and Internet distributed maps. This course is offered in both the Fall and Spring semesters. (Cross-listed with GEOG 3530).

**Prerequisite(s)/Corequisite(s):** GEOG 1000 or GEOG 1020 and GEOG 1030 or GEOG 1050

**GEOG 8536 HISTORICAL GEOGRAPHY OF THE UNITED STATES (3 credits)**

This course examines the geography, physical and human, real, perceived, or theoretical, of the United States' historical development. It considers the ways history has and has not been affected by geography. It will also cover the field of historical geography, its theories and practices. (Cross-listed with GEOG 4530).

**GEOG 8545 CARTOGRAPHY & GIS LAB (2 credits)**

An introduction to the methods and techniques of map construction using both graphic design and geographic information system software. Topics include map design for both general reference and thematic maps. Particular attention is given to the processing, compilation, data classification, and symbolization of various types of spatial data. This course is the lab component of GEOG 8535.

**Prerequisite(s)/Corequisite(s):** Concurrent or previous registration in GEOG 8535.

**GEOG 8556 GEOGRAPHY OF ECONOMIC GLOBALIZATION (3 credits)**

A study of the geography of economic globalization and the geography of the world economy. The major topics include the historical development of the world economy and globalization from the geographical perspective, trends in geography of global production, trade and investment, the most important factors and actors in the globalization processes and its geographic effects, geography of transnational corporations, case studies of economic geography of selected industries and service activities, effects of globalization on the developed and developing countries. This course also supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with GEOG 4550, CACT 8116).

**Prerequisite(s)/Corequisite(s):** Graduate status.

**GEOG 8600 INDEPENDENT RESEARCH (1-3 credits)**

This is an independent research course, where students undertake and complete a focused independent project under faculty supervision, exploring an aspect of geography in greater depth.

**Prerequisite(s)/Corequisite(s):** Completed independent research contract between faculty and student and permission of adviser or the Graduate Studies Coordinator.

**GEOG 8616 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOG 4610, GEOL 4610, GEOL 8616)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**GEOG 8626 GEOGRAPHICAL FIELD STUDIES (3 credits)**

Field experience course based on variable topics and themes. Students must attend the multiple day field trip that will require overnight stays. (Cross-listed with GEOG 4620).

**Prerequisite(s)/Corequisite(s):** Instructor Permission. Not open to non-degree graduate students.

**GEOG 8636 ENVIRONMENTAL REMOTE SENSING (4 credits)**

An introduction to remote sensing science and technology. Emphasis will be placed on multispectral data, matter/energy interactions, sensor system characteristics, photogrammetry, image interpretation, digital image processing, and environmental applications. Formal laboratory instruction will provide students with problem-solving skills and hands-on experience with remote sensing and GIS software. (Cross-listed with GEOG 4630).

**Prerequisite(s)/Corequisite(s):** GEOG 1060 or GEOG 1070 or GEOL 1170. Introductory statistics highly recommended.

**GEOG 8640 REMOTE SENSING ADVANCED CONCEPTS AND APPLICATIONS (3 credits)**

Designed for the graduate student desiring to do advanced work in remote sensing. The emphasis of the course is on non-photographic sensors and especially digital processing of multispectral satellite data. The applications are multidisciplinary in nature. Usually offered on demand.

**Prerequisite(s)/Corequisite(s):** GEOG 4630 / GEOG 8636

**GEOG 8646 CRITICAL ZONE SCIENCE (4 credits)**

This course examines the Critical Zone (CZ), Earth's permeable layer that extends from the top of vegetation to the bottom of groundwater. The CZ is a constantly evolving layer where rock, soil, water, air, and living organisms interact to regulate the landscape and natural habitats; it also determines the availability of life-sustaining resources, including our food production and water quality. CZ science is an interdisciplinary and international endeavor focused on cross-disciplinary science. In this course, we will focus on using data available from the existing National Science Foundation (NSF)-funded CZ Observatories (CZOs) along with readings, discussions and activities to explore interactions within the CZ. (Cross-listed with GEOG 4640, GEOL 4640)

**Prerequisite(s)/Corequisite(s):** One of the following: GEOL 1170, GEOL 1010, GEOG 1030 or GEOG 1050; one chemistry or physics course recommended; or instructor permission.

**GEOG 8650 LAND USE (3 credits)**

A field course designed to understand, by actual field investigation, land use patterns in urban areas through the comprehension of social, physical and economic factors which tend to shape the land use of a given place. The major emphasis will be placed upon field investigations in the urban area, with the functional region receiving the major consideration.

**Prerequisite(s)/Corequisite(s):** GEOG 4120/ GEOG 8126

**GEOG 8666 GEOGRAPHIC INFORMATION SYSTEMS II (4 credits)**

An introduction to advanced geographic information systems (GIS) topics. Emphasis will be placed on algorithms and analysis for information extraction. Topics include spatial interpolation, remote sensing GIS integration, software development, spatial analysis, GIS modeling, and future advances in GIS. Formal laboratory instruction will provide students with GIS experience to solve application problems. Usually offered in Fall. (Cross-listed with GEOG 4660).

**Prerequisite(s)/Corequisite(s):** GEOG 4050/ GEOG 8056

**GEOG 8670 CARTOGRAPHIC METHODS (3 credits)**

An applied graduate seminar in cartography and geospatial science. The course examines advanced methods for the representation of spatial data. Emphasis is placed on the design of interactive Internet-based maps. Projects will be directed toward the creation of map-based web pages.

**Prerequisite(s)/Corequisite(s):** A junior/senior course in cartography, GIS, computer mapping, or visualization.

**GEOG 8680 SEMINAR IN GEOSPATIAL SCIENCE (3 credits)**

Seminar in Geospatial Science examines the origins, development and prospects of spatial information technology to understand people, places, and processes of the earth. The overall approach is to examine the three main components of geospatial science: 1) Geographic Information Systems (GIS), the software, hardware, outputs, personnel, and practices that together facilitate the analysis and mapping of geographic entities and phenomena; 2) Remote Sensing, the use and processing of aerial photographs and satellite imagery; and 3) Cartography, the general processing and display of geographic information for both analysis and communication.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Prior coursework in geographic information systems, remote sensing or cartography.

**GEOG 8700 RESEARCH METHODS (3 credits)**

The course provides students with an overview of research approaches and methods used by geographers. Students are expected to put these methods into practice by drafting a full thesis proposal by semester's end.

**GEOG 8800 INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING (1-6 credits)**

(repeatable up to six hours) Internship with local planning agencies enabling students to gain knowledge and experience in comprehensive regional or environmental planning. Usually offered Fall, Spring, and Summer.

**Prerequisite(s)/Corequisite(s):** Permission and 12 graduate hours in geography.

**GEOG 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 4820, PA 8826).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**GEOG 8830 SEMINAR IN URBAN STUDIES (3 credits)**

This course provides an interdisciplinary overview of the forces influencing and influenced by urbanization and urbanism. (Cross-listed with UBNS 8000)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GEOG 8840 DIRECTED RESEARCH IN URBAN STUDIES (3 credits)**

The course is intended for advanced graduate students in urban studies or geography. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of urban studies rather than additional classroom courses. (Cross-listed with UBNS 8940).

**Prerequisite(s)/Corequisite(s):** Completed 9 graduate hours in Urban Studies. Permission from the School. For Geography students, GEOG 8126 (Urban Geography) or permission from the School.

**GEOG 8990 THESIS (1-6 credits)**

Independent research project conducted under the supervision of an adviser and thesis committee.

**Prerequisite(s)/Corequisite(s):** Graduate student in geography who has successfully presented and defended their thesis proposal.

## Geology (GEOL)

**GEOL 8106 BIOGEOGRAPHY (3 credits)**

This course is intended as an introduction to biogeography, the study of the distribution and evolution of organisms across space and through time. Usually offered every year. (Cross-listed with GEOL 4100, BIOL 4100, BIOL 8106, GEOG 4100, GEOG 8106).

**Prerequisite(s)/Corequisite(s):** BIOL 1450 and BIOL 1750 or GEOL 3100 or BIOL 3100, junior-senior.

**GEOL 8616 ENVIRONMENTAL MONITORING AND ASSESSMENT (3 credits)**

An interdisciplinary approach to techniques for the design and implementation of environmental inventory and monitoring schemes used to evaluate natural resources. Students work as teams to synthesize information from their backgrounds in geography, geology and ecology to evaluate the impacts of human actions on environmental quality following the framework for environmental assessments provided by the National Environmental Policy Act. Course is organized to accommodate variable needs of students with different backgrounds and career choices. Usually offered every year. (Cross-listed with BIOL 4610, ENVN 4610, GEOG 4610, GEOG 8616, GEOL 4610).

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

## German (GERM)

### GERM 8046 ADVANCED GERMAN COMPOSITION AND STYLISTICS (3 credits)

Advanced grammatical principles, composition and stylistics.

### GERM 8226 THE STRUCTURE OF GERMAN (3 credits)

A survey of the linguistic structure of modern German, including phonology, morphology, and syntax. (Cross-listed with GERM 4220).

**Prerequisite(s)/Corequisite(s):** GERM 3040 and GERM 4610, or permission.

### GERM 8440 SEMINAR:GERMAN COMPOSITION (3 credits)

This course will provide opportunities for students to refine their composition skills in German through extensive writing practice, writing workshops, and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

### GERM 8906 INDEPENDENT STUDY (1-3 credits)

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor, junior or senior standing, and no incompletes outstanding.

### GERM 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)

This course is dedicated to the study of a narrow field of the literature and/or cinema of the German-speaking world. (Cross-listed with GERM 4950).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

### GERM 8966 PRO-SEMINAR: SOCIETY AND CULTURE (3 credits)

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the German-speaking world. (Cross-listed with GERM 4960).

**Prerequisite(s)/Corequisite(s):** GERM 3030, GERM 3040, and GERM 3060

### GERM 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the German-speaking world. (Cross-listed with GERM 4970).

**Prerequisite(s)/Corequisite(s):** Graduate student status.

## Gerontology (GERO)

### GERO 8020 INTRODUCTION TO RESEARCH METHODS (3 credits)

An introduction to research methods and statistical procedures in the social and behavioral sciences.

### GERO 8056 ADVANCED BIOLOGY OF AGING (3 credits)

This course covers biological aging topics at an advanced level, and is designed for undergraduate and graduate students who have some prior knowledge about biology or aging. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, and exercise science. Students will learn how to think critically about primary research in the biology of aging. Furthermore, they will apply their knowledge of the biology of aging field by creating a handbook of healthy aging for older adults. (Cross-listed with GERO 4050, NEUR 4050).

**Prerequisite(s)/Corequisite(s):** Junior or senior standing for undergraduate students or graduate level standing

### GERO 8106 EDUCATIONAL GERONTOLOGY (3 credits)

An introduction to the field of education for and about the aging. The institutions and processes of education will be analyzed to determine their relationships and value to persons who are now old and those who are aging. (Cross-listed with GERO 4100).

**Prerequisite(s)/Corequisite(s):** Students must have a junior, senior or graduate student status.

### GERO 8206 VOLUNTEER MANAGEMENT (3 credits)

The purpose of this course is to equip managers of volunteers in aging services to develop, maintain, assess impact and evaluate a sustainable volunteer program that will provide reliable and necessary services to older adults and further to be embraced as a valuable asset by professionals working in the field of aging. (Cross-listed with GERO 4200).

**Prerequisite(s)/Corequisite(s):** Graduate Student

### GERO 8356 ISSUES IN AGING (3 credits)

This course is intended for students in gerontology and in other fields who are interested in a humanistic approach to understanding significant issues which affect the lives of older people. (Cross-listed with GERO 4350).

### GERO 8426 RECREATION FOR THE AGING (3 credits)

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with GERO 4420, RLS 4420, RLS 8426).

### GERO 8466 PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING (3 credits)

The focus of this course is on the major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change are examined, along with their implications for behavior. (Cross-listed with GERO 4460, PSYC 4460)

**Prerequisite(s)/Corequisite(s):** Junior or Senior.

### GERO 8476 MENTAL HEALTH AND AGING (3 credits)

The goal of this courses is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families are also discussed. (Cross-listed with GERO 4470, PSYC 4470, PSYC 8476).

**Prerequisite(s)/Corequisite(s):** Junior or senior.

### GERO 8486 GLOBAL AGING (3 credits)

The study of aging around the world by a comparative method in a cross-cultural and cross-national framework. An explanation of some practical experiences and developments in Europe, Asia and Africa will be examined. (Cross-listed with GERO 4480).

### GERO 8500 POLITICS IN AGING (3 credits)

The purpose of this course is to provide an understanding of the role of the political process in the emergence of public policy towards older adults in the United States, particularly during the past century.

### GERO 8506 LEGAL ASPECTS OF AGING (3 credits)

This course centers on the legal concerns likely to arise as people age. We will discuss the American legal system with an emphasis on underlying legal concepts and issues of special importance to older persons. Some of the topics include guardianship, finances in retirement, abuse and neglect, Social Security, and Medicare and Medicaid. Consideration of the legal concerns which are likely to arise as people age. Includes introduction to American legal system, and emphasis on underlying legal concepts and issues of special importance to older persons. (Cross-listed with GERO 4500).

### GERO 8516 LONG-TERM CARE ADMINISTRATION (3 credits)

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 4510, PA 4510, PA 8516).

### GERO 8526 SENIOR HOUSING (3 credits)

The senior housing course is designed to provide students with an in-depth understanding of the various housing options available to older adults including aging in place to hospice. At the end of the course students will have a working knowledge of the needs of older adults and how this is used in making decisions about housing. (Cross-listed with GERO 4520.)

**Prerequisite(s)/Corequisite(s):** Graduate student

**GERO 8556 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with GERO 4550, PHHB 4550, PHHB 8556, WGST 4550).

**GERO 8566 NUTRITION AND AGING (3 credits)**

The goal of this course is to provide an understanding of the relationship between nutrition and successful or usual aging. This course will review the basics of good nutrition and relate them to the usual food intake of older adults. It will identify the impact of poor nutrition. This course will also look at the role nutrition plays in various disease processes that are associated with aging. It will provide information about support services that are available to assure good nutrition into old age for those living independently. (Cross-listed with GERO 4560).

**GERO 8676 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student a historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 4670, PA 8676).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 8696 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, SOWK 4040, SOWK 8046).

**GERO 8726 BABY BOOMERS AND THE 21ST CENTURY (3 credits)**

Marketing decisions and strategies apply to all businesses and are influenced by the target market. The economic realities and the character of America will change due to shifting demographics of baby boomers. Businesses that understand the power of the baby boomers will succeed; failure to understand that power may lead to economic consequences. Students from many disciplines will benefit from this cross-referenced course blending the realities of gerontology with the predictions of baby boomer behavior and the resulting impact to all businesses. (Cross-listed with GERO 4720).

**Prerequisite(s)/Corequisite(s):** Junior, Senior and Graduate Level Standing.

**GERO 8730 DYING, DEATH & GRIEVING (3 credits)**

An examination of theory and research relevant to interaction with the older, terminally ill person, focusing on communication with widows and other survivors as well as the dying patient. (Cross-listed with PHHB 8730).

**Prerequisite(s)/Corequisite(s):** Graduate Students

**GERO 8756 MID-LIFE, CAREER CHANGE, PRERETIREMENT PLANNING (3 credits)**

This course is designed to involve candidates in the exploration of the developmental tasks of mid-life, myths and realities related to career change as well as the implication of preretirement planning. Factual information, as well as model examination and evaluation are presented to aid the candidate in becoming better equipped to understand some of the forces which affect the well-being of middle aged persons as they prepare for the later years. (Cross-listed with COUN 8756, GERO 4750).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 8800 GRADUATE SEMINAR IN THE AGING BRAIN (3 credits)**

The Graduate Seminar in the Aging Brain is a graduate level gerontology course focused on understanding the changes to the brain due to normal aging and aging-related diseases. This is an elective course for the Gerontology graduate program at UNO. The content matter of this course also makes it a relevant fit for graduate students from disciplines such as biology, psychology, geriatric medicine, nursing, social work, and exercise science. By the end of the course, students should have a thorough understanding of the changes to the brain in healthy aging and aging-related disease that affect cognitive and emotional functioning. (Cross-listed with PSYC 8800).

**Prerequisite(s)/Corequisite(s):** Graduate level standing

**GERO 8810 GRADUATE SEMINAR IN THE BIOLOGY OF AGING (3 credits)**

This course provides an in-depth investigation of key topics in the biology of aging for graduate students. The course will be interdisciplinary in nature and focus on topics relevant to gerontology, biology, psychology, neuroscience, and exercise science. Students will learn about theory, primary research, and hypotheses within the biology of aging field. Students will be asked to think critically and apply their knowledge through assignments and class discussions.

**Prerequisite(s)/Corequisite(s):** graduate level standing

**GERO 8856 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, SOWK 4850, SOWK 8856).

**GERO 8920 SPECIAL STUDIES IN GERONTOLOGY (1-3 credits)**

Special studies designed around the interests and needs of the individual student in such areas as the psychology, sociology, economics, biology, or politics of aging, as well as operation of various service systems. This independent study may include a literature review or a field project in which experience is gained in the community, identifying and analyzing needs and services related to older people.

**Prerequisite(s)/Corequisite(s):** Instructor permission

**GERO 8940 GRADUATE PRACTICUM (3 credits)**

This course provides the opportunity to students to share field experiences; to obtain guidance concerning various relationships with agency, staff and clients; and to develop a broadly based perspective of the field of aging.

**Prerequisite(s)/Corequisite(s):** Nine hours in gerontology and permission. Students must be enrolled in the certificate or degree program (MA, PhD) as well as have a minimum GPA of 3.0. Not open to non-degree students.

**GERO 8956 PALLIATIVE CARE: MENTORING A HEALTHCARE APPROACH OF PATIENT-CENTERED CARE WITH FOCUS ON WELL-BEING (3 credits)**

This course provides a foundation for the recognition of the need to implement palliative medical care. Using current texts and literature, video and podcast lectures by colleagues, and review of cases and topics, a student will understand the definitions, purposes, and benefits of palliative medical care. The student will learn the avenues and ways to implement palliative care to provide care that promotes well-being. (Cross-listed with GERO 4950).

**GERO 8980 LITERATURE AND AGING (3 credits)**

In this course, we will examine the experience of aging and of being an older person through the world's great literature. We will study this universal experience by reading novels, short stories, poems, plays, and personal narratives from across different eras and cultures. In this way we hope to come to a better understanding of: 1) the older adults we serve as patients and clients; 2) our own aging process and those of our close family members and friends; 3) literary works and their relevance in our everyday lives.

**Prerequisite(s)/Corequisite(s):** Graduate students only.

**GERO 8986 COUNSELING SKILLS IN GERONTOLOGY (3 credits)**

This course is intended to help develop basic counseling skills for application in gerontology. (Cross-listed with COUN 8986, GERO 4980).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**GERO 8990 THESIS (1-6 credits)**

Independent research project required of all students working toward the Master of Arts degree. The thesis is written under the supervision of the thesis adviser and the thesis committee.

**Prerequisite(s)/Corequisite(s):** Permission from adviser.

**GERO 9020 GRADUATE SEMINAR IN STATISTICAL APPLICATIONS (3 credits)**

Provides an introduction to statistical methods and data management used in the social, behavioral and health sciences.

**GERO 9110 APPLIED SOCIAL GERONTOLOGY (3 credits)**

An overview of social gerontology with an emphasis on the interplay between social, psychological and physical elements in later life. Restricted to graduate students only; required of gerontology students. (Cross-listed with SOC 9110).

**Prerequisite(s)/Corequisite(s):** Graduate.

**GERO 9460 SEMINAR IN AGING AND HUMAN BEHAVIOR (3 credits)**

This course will examine in detail age-related changes in psychological processes and explore the implications of these changes for behavior. The course is intended primarily for graduate students in psychology and gerontology. (Cross-listed with PSYC 9460).

**Prerequisite(s)/Corequisite(s):** Graduate standing in gerontology or psychology or permission of the instructor.

**GERO 9990 DISSERTATION (1-6 credits)**

This course provides doctoral students pursuing the PhD in Human Sciences with a specialization in gerontology to complete a dissertation research plan. The course learning activities will focus on the completion of an approved dissertation.

**Prerequisite(s)/Corequisite(s):** Admittance to the PhD in Human Sciences with a specialization in gerontology. Not open to non-degree graduate students.

## Health & Kinesiology (HEKI)

**HEKI 8000 SPECIAL STUDIES (1-3 credits)**

A series of intensive courses - scheduled as regular seminars or workshops according to purpose.

**Prerequisite(s)/Corequisite(s):** Permission of department.

**HEKI 8030 RESEARCH IN HEALTH & KINESIOLOGY (3 credits)**

The course introduces students to scientific writing, quantitative research design, and statistical methods. Considerable emphasis is placed on evaluation of research in scholarly publications. A research proposal in the form of a grant proposal is written as one of the course requirements. Students will develop the skills necessary to analyze study designs in existing literature and create a research proposal. (Cross-listed with BMKI 9001).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HEKI 8100 RESEARCH PROJECT (1-3 credits)**

Individual or group study and analysis of specific problems in health, physical education or recreation.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**HEKI 8220 PROBLEMS & ISSUES IN HPER (3 credits)**

An examination of current problems and issues in HPER that relate to the general aims and purposes of HPER.

**HEKI 8300 ANALYSIS OF RESEARCH AND LITERATURE IN HUMAN MOVEMENT (3 credits)**

Survey of research and literature in Human Movement for the purpose of orienting the candidate to possible areas of research and developing an understanding of and appreciation for writings in the field. The course may be offered focusing on only one specific area in HPER.

**Prerequisite(s)/Corequisite(s):** HPER 8030 or HEKI 8030

**HEKI 8500 QUALITATIVE RESEARCH METHODS (3 credits)**

An examination of qualitative research methods. Emphasis on the broad application of qualitative research in public health, education, and social sciences. Course topics include research design, data collection, data analysis, and reporting.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**HEKI 8850 EXERCISE FOR SPECIAL POPULATIONS (3 credits)**

The course will examine the physiological and medical limitations imposed on people with various common chronic diseases/conditions including arthritis, osteoporosis, exercise-induced asthma, obesity, diabetes, hypertension and pregnancy. Special groups such as children and elders will be discussed. Content will emphasize the etiology and guidelines for exercise testing, prescription, and supervision. (Cross-listed with BMKI 9851).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or PE 8946/KINS 8946

**HEKI 8990 THESIS (1-6 credits)**

The thesis experience is designed to help develop the candidate's ability to execute accepted procedures associated with the research process appropriate to the Master's degree.

**Prerequisite(s)/Corequisite(s):** Permission. Not open to non-degree graduate students.

## History (HIST)

**HIST 8010 RESEARCH DIRECTED READINGS PROJECT (1-3 credits)**

Special research problems and or directed readings arranged individually with students on topics not explored in other graduate offerings. If students do not complete all the readings during the semester in which they enroll in the course, they must complete all the readings within one academic year of their enrollment.

**Prerequisite(s)/Corequisite(s):** Minimum of nine graduate hours in history completed. Permission of history Graduate Program Chair. Open only to students enrolled in the History MA program. Not open to non-degree graduate students.

**HIST 8016 RELIGION IN EARLY AMERICA (3 credits)**

This course examines the history and nature of religion in North America to c. 1770 with an emphasis on the British colonies. (Cross-listed with HIST 4010, RELI 4050).

**Prerequisite(s)/Corequisite(s):** Must be a graduate student enrolled in History MA program. Not open to non-degree graduate students.

**HIST 8020 GRADUATE INTERNSHIP (1-3 credits)**

The graduate student is supervised by a member of the faculty in a project involving part-time employment or service with a museum, historic site, historical society or other institution. Work hours, activities, reporting requirements, and responsibilities must be specified in written agreement between employer, student, Graduate Program Chair, and/or supervising faculty member. Normally taken for 3 hours. If a hosting institution cannot commit to a supervised workload which the departmental advisor and/or Graduate Program Chair believe to be equivalent to 3 hours, course may be taken for fewer hours. In such circumstances, student may repeat course up to a total of 3 hours.

**Prerequisite(s)/Corequisite(s):** Student must be enrolled in the History MA program and have completed at least 6 hours of graduate credit. Student must have approval of Graduate Program Chair (GPC) and/or supervising faculty before enrolling. Not open to non-degree graduate students.

**HIST 8030 GRADUATE HISTORICAL METHODOLOGY (3 credits)**

This course will examine various historical methodologies which have been employed by historians to provide structural interpretations of the past. Although exact content may vary, examples of methodologies include the Whig Interpretation, Marxism, Structuralism, Postmodernism, and the New Social History.

**Prerequisite(s)/Corequisite(s):** Students must be enrolled in the MA program in history. Not open to non-degree graduate students.

**HIST 8046 HOMESCAPES: THE MATERIAL CULTURE OF EVERYDAY LIFE IN AMERICA, 1600-1860 (3 credits)**

This course examines the culture and technologies of house forms and work landscapes in North America, 1600-1860. (Cross-listed with HIST 4040).

**Prerequisite(s)/Corequisite(s):** Graduate student in history, or permission of the graduate chair.

**HIST 8056 HISTORY OF WOMEN IN AMERICA TO 1875 (3 credits)**

This course examines the history of women in what is now the United States from the seventeenth century to 1875. Topics include law, work, sexuality and reproduction, slavery, cross-cultural encounters, religion, political activism, and the transformation of gender by the market and industrial revolutions. (Cross-listed with HIST 4050).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HIST 8066 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1992 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with HIST 4060, WGST 4060, WGST 8066).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**HIST 8076 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with HIST 4070, BLST 4650, BLST 8656, LLS 8656).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8146 COLONIAL AMERICAN HISTORY (3 credits)**

This course provides a study of the settlement and development of North America to c. 1763 with an emphasis on the British colonies. (Cross-listed with HIST 4140).

**HIST 8156 THE AMERICAN REVOLUTIONARY ERA, 1763-89 (3 credits)**

This course examines the period of the American Revolution beginning with the changed circumstances in the British North American colonies following the end of the French and Indian War and concluding with the ratification of the United States Constitution. The course analyses social, political, and military themes from this period. (Cross-listed with HIST 4150).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8166 THE EARLY AMERICAN REPUBLIC: FROM THE CONSTITUTION TO THE SECOND PARTY SYSTEM (3 credits)**

This course covers an important period of American history beginning with the first federal government and ending with an analysis of the consolidation of the Second American Party system. Topics to be covered include the earliest debates over the nature of the federal government, foreign relations, the emergence of political parties, and the rise of the Jacksonian democracy. (Cross-listed with HIST 4160).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8176 HISTORY OF THE AMERICAN WEST (3 credits)**

An examination of the unique aspects of the region of the United States known as "the west." Students will learn about the multiple peoples, cultures, and environments which combined to form this region. Content will also include an examination of how the myths of the west were created. (Cross-listed with HIST 4170).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8186 THE AMERICAN CIVIL WAR PERIOD: FROM THE TEXAS REVOLUTION THROUGH RECONSTRUCTION (3 credits)**

This course focuses on the period of the American Civil War. It will begin with the background to, and events of the Texas Revolution. It will then consider the growing national tensions over slavery, particularly as a consequence of the Mexican-American War before examining the immediate causes of the civil war. The course will then examine the war itself before concluding with analysis of Reconstruction. (Cross-listed with HIST 4180).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8246 EMERGENCE OF MODERN AMERICA (3 credits)**

This course examines American history from the end of Reconstruction to the end of World War II. Among the topics covered are western expansion, industrialization, immigration, and the expanding international footprint of the United States. (Cross-listed with HIST 4240).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8336 U.S. CONSTITUTIONAL HISTORY TO 1860 (3 credits)**

This course will examine the history of the United States constitution from its promulgation in 1787 through the end of the Civil War. This will include consideration of both English and colonial precedents. The course will analyze the process of writing and ratifying the document in the late 1780s and will then look at some of the key legal decisions between 1790 and 1860. (Cross-listed with HIST 4330).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8346 U.S. CONSTITUTIONAL HISTORY SINCE 1860 (3 credits)**

This course examine the increasingly important role played by competing interpretations of the United States constitution since the outbreak of the Civil War. This will include the emergence of the idea of a "living constitution," the extension of constitutional guarantees to the states, and examination of critical Supreme Court cases. (Cross-listed with HIST 4340).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8366 THE U.S. IN THE COLD WAR (3 credits)**

This course will examine the impact of the Cold War in modern American history on two levels. First it will seek to understand how the Cold War influenced American foreign policy decisions since the end of World War II and examine the long term consequences of those policies for both the U.S. and the world. Secondly, this course will examine how the Cold War impacted or shaped American culture, domestic politics, and social movements in the postwar period. (Cross-listed with HIST 4360).

**Prerequisite(s)/Corequisite(s):** Graduate student in history, or permission of the graduate chair.

**HIST 8406 HISTORY OF NORTH AMERICAN INDIGENOUS CULTURES (3 credits)**

A survey of traditional North American Indigenous cultures, their interaction with the environment, with one another, and with other people groups. This course covers indigenous societies to the present day. (Cross-listed with HIST 4400).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8416 HISTORY OF NEBRASKA (3 credits)**

An examination of the history of Nebraska from Native American occupation to the present, with emphasis on environmental factors that have shaped the region and its people. (Cross-listed with HIST 4410).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8426 THE SIOUX TRIBE (3 credits)**

A cultural and historical study of the Sioux tribes emphasizing the earliest historic period to the present. (Cross-listed with HIST 4420).

**HIST 8456 NATIVE AMERICAN ENVIRONMENTALISM (3 credits)**

This course studies North American tribal subsistence and natural resource use practices from the early historic period to the present, Native Americans as environmentalists, and modern tribal environmentalism. (Cross-listed with HIST 4450).

**HIST 8466 AMERICAN IMMIGRATION HISTORY (3 credits)**

A study of American immigration from the colonial era to the present. Topics covered include Old World origins of migration, the old immigrants from western Europe, the new immigrants from southern and eastern Europe, non-European immigrants, native-born American responses to immigrants, the periods of immigrant adjustment in the new physical environment, and the contemporary revival of ethnicity. (Cross-listed with HIST 4460).

**Prerequisite(s)/Corequisite(s):** Graduate student standing or permission of the graduate chair

**HIST 8486 THE UNITED STATES IN THE 1960S (3 credits)**

This course is a review of the economic, social, cultural, and political changes that marked the United States in the 1960s. (Cross-listed with HIST 4480).

**HIST 8536 EUROPE: RENAISSANCE & REFORMATION (3 credits)**

This course will examine European history from the fifteenth through the seventeenth centuries. Among the topics which will be covered are the Renaissance, the Protestant Reformation, the Catholic Reformation, Wars of Religion, the beginning of European overseas expansion, and the Scientific Revolution. In addition to examining the religious ideas and revolutions of the period, there will also be analysis of economic, social, and political change. (Cross-listed with HIST 4530).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8546 MEDIEVAL EUROPE (3 credits)**

A dive into the history of medieval Europe through the stories of men and women, their beliefs, struggles, contradictions and achievements. (Cross-listed with HIST 4540).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8616 TUDOR AND STUART ENGLAND (3 credits)**

English history from the end of the Wars of the Roses in 1485 to the death of Queen Anne in 1714. The course will examine the efforts of the Tudors and Stuarts to establish dynasties, the religious upheavals in the sixteenth and seventeenth centuries, changes in the role of Parliament, the Civil Wars, and the beginning of English overseas expansion. (Cross-listed with HIST 4610).

**Prerequisite(s)/Corequisite(s):** graduate standing

**HIST 8656 HISTORY OF MODERN IRELAND (3 credits)**

A survey of Irish history from the Act of Union of 1801 through the civil rights movement of "Troubles" of Northern Ireland in the 1970s. (Cross-listed with HIST 4650).

**HIST 8726 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with HIST 4720, RELI 4160, RELI 8166).

**HIST 8736 ISRAEL AND PALESTINE (3 credits)**

This course will outline the history of the conflict over Palestine/Israel, examine its present status, and explore its likely unfolding in the future. It seeks to provide a broad and concise understanding of the historical events which have shaped the relations between Israelis and Palestinians, as well as a keen awareness of the challenges and prospects related to their future. (Cross-listed with HIST 4730).

**HIST 8746 COMPARATIVE GENOCIDE (3 credits)**

This course explores genocide and its many forms throughout history. It begins by considering the varied elements and definitions of the term. Next it looks at what makes people kill before going on to examine many different genocides throughout history. Finally, the course addresses the prosecution and prevention of genocide. (Cross-listed with HIST 4740).

**Prerequisite(s)/Corequisite(s):** Graduate student enrolled in History MA program. Not open to non-degree graduate students.

**HIST 8806 U.S. AND THE MIDDLE EAST (3 credits)**

This course focuses on the evolution of US relations with and Foreign Policy vis-a-vis the Middle East over the last six decades. It seeks to illuminate the constant features in contrast to the changes in direction, examining the agendas of varying administrations as well as the treatment by the media of this region. It follows a chronological framework with particular emphasis on key thematic topics. While emphasizing the political dimensions of international relations, the class will also explore cultural and social aspects of the ties between the US and the peoples of the Middle East. (Cross-listed with HIST 4800).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**HIST 8826 MESOPOTAMIA AND PRE-ISLAMIC PERSIA (3 credits)**

Examination of the Ancient Near East from the emergence of its earliest civilizations—Sumer, Akkad and Babylonia—through the Bronze and Iron Ages, concluding with Persia in the Common Era (CE) just before the rise of Islam. (Cross-listed with HIST 4820).

**HIST 8836 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 4830, RELI 4830, RELI 8836).

**Prerequisite(s)/Corequisite(s):** Junior standing

**HIST 8846 ALEXANDER THE GREAT AND THE MACEDONIAN ORIGIN (3 credits)**

Examination of the conquests of Alexander the Great, as well as controversies in Alexander studies. Includes discussion of both the Macedonian culture that produced him and the career of his father, Philip II. (Cross-listed with HIST 4840).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8856 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 4850, RELI 4850, RELI 8856).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**HIST 8916 TOPICS IN HISTORY (3 credits)**

This course introduces students to specialized subject matter not available in existing History courses. Course may be repeated as long as the topic is substantially different each time. Course may be cross-listed with other programs e.g. Native American Studies (NAMS), Women's and Gender Studies (WGST) when topics are appropriate. (Cross-listed with HIST 4910).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**HIST 8990 THESIS (1-6 credits)**

Thesis research project written under supervision of an adviser.

**Prerequisite(s)/Corequisite(s):** Completion of twenty-four hours of history graduate work. Approval of Graduate Program Chair. Not open to non-degree graduate students.

**HIST 9100 SEMINAR IN HISTORY (3 credits)**

This seminar guides advanced graduate students through critical readings and practices in historical research or historiography. Topics will vary and course can be repeated under different topics.

**Prerequisite(s)/Corequisite(s):** Open only to History MA students who have completed HIST 3930 or equivalent. Non-History MA students may be admitted after consultation with History GPC and instructor. Not open to non-degree graduate students.

**HIST 9200 COLLOQUIUM (3 credits)**

The colloquium guides advanced graduate students through the historiography of a specific subject. Topics will vary and course can be repeated under different topics. Open only to students enrolled in MA program in history unless permission granted by History Department Graduate Program Chair.

**Prerequisite(s)/Corequisite(s):** Open only to History MA students who have completed HIST 2980, HIST 3930 or equivalent. Non-History MA students may be admitted after consultation with History GPC and instructor. Not open to non-degree graduate students.

## Information Systems & Quantitative Analysis (ISQA)

**ISQA 8016 BUSINESS INTELLIGENCE (3 credits)**

This course intends to provide graduate students in-depth exposure to the growing field of business intelligence. Business intelligence (BI) consists of the set of concepts and techniques used to analyze business data in support of decision-making and planning. BI spans a number areas of management information systems, including Decision Support Systems (DSS), Enterprise Resource Planning (ERP), Data Warehousing, Knowledge Management, Customer Relationship Management, Data Mining, and others.

**Prerequisite(s)/Corequisite(s):** (ISQA 4150 or ISQA 8156) and ISQA 8040 and ISQA 8050. Not open to non-degree graduate students.

**ISQA 8030 INFORMATION SYSTEMS AND ETHICS (3 credits)**

This course gives you an introduction to organizations and the role that information and information systems play in supporting an organization's operations, decision-making processes, quality management, and strategic activities. The course provides an introduction to the management of information systems function, the strategic and regulatory issues of telecommunications, and ethical and legal issues related to information systems.

**Prerequisite(s)/Corequisite(s):** Admission into the MS in MIS program.

**ISQA 8040 AN OVERVIEW OF SYSTEMS DEVELOPMENT (3 credits)**

The course presents an overview of the systems development lifecycle and database development. The course will focus on theory, current tools and techniques that the system developer can use to develop and document information systems. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8050 DATA ORGANIZATION AND STORAGE (3 credits)**

The course will provide concepts of data organization, data storage, and data transfer through computer networks. The performance implications of various design decisions will be explored. The purpose of this course is to prepare the student for further graduate-level study of information systems. This course may not be used in a plan of study for any graduate program at UNO.

**ISQA 8060 RESEARCH IN MIS (3 credits)**

This course covers research methods and their application to the development and evaluation of management information systems. Also covered is the relationship between organization theory and IS research.

**Prerequisite(s)/Corequisite(s):** CIST 2500, CIST 2100, and ISQA 8040, or permission of the instructor.

**ISQA 8080 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once.

**Prerequisite(s)/Corequisite(s):** 1) Permission of the instructor. 2) Additional prerequisite courses may be required for particular course offerings.

**ISQA 8086 SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS (1-5 credits)**

This course is designed to acquaint students with issues which are current to the field or harbingers or emerging trends in the information systems area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ISQA 4000)

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ISQA 8106 INFORMATION SYSTEMS ARCHITECTURE AND ORGANIZATION (3 credits)**

This course examines the frameworks and tools used to develop an organization's information system architecture. It provides the analytical skills and conceptual frameworks with which to make recommendations and decisions regarding the integration of information technology components into an information system architecture. (Cross-listed with ISQA 4100)

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 3310

**ISQA 8136 INFORMATION TECHNOLOGY FOR DEVELOPMENT (3 credits)**

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class. (Cross-listed with ISQA 4130)

**Prerequisite(s)/Corequisite(s):** Though not required, the following courses or their equivalent would provide the necessary background : CIST 1100, CIST 1300, ISQA 3210, ISQA 3310, ISQA 3400. Not open to non-degree graduate students.

**ISQA 8156 ADVANCED STATISTICAL METHODS FOR IS&T (3 credits)**

This course emphasizes the application and interpretation of statistical methods including design of experiments, analysis of variance, multiple regression, and nonparametric procedures and the use of statistical computer packages. The intent is to develop quantitative abilities needed for quantitatively intensive jobs and for advanced study in management information systems, computer science and information technology. (Cross-listed with ISQA 4150)

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent (at least one course in statistics)

**ISQA 8160 APPLIED DISTRIBUTION FREE STATISTICS (3 credits)**

The primary objective of this course is to expose students to methods of analyzing data from non-normal populations including binomial tests, contingency tables, use of ranks, Kolmogorov-Smirnov type statistics and other selected topics.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156

**ISQA 8166 INTRODUCTION TO ENTERPRISE RESOURCE PLANNING (3 credits)**

Introduction to Enterprise Resource Planning (ERP) is designed to expose students to the primary enterprise application that forms the information systems (IS) infrastructure for most large organizations today. The primary purpose of this course is for students to gain an understanding of the enterprise wide, cross functional nature of ERP software. In the process of learning about ERPs, the students develop "hands on" experience with the largest and most well-known ERP application, SAP. (Cross-listed with ISQA 4160, SCMT 4160)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent. Not open to non-degree graduate students.

**ISQA 8180 ELECTRONIC COMMERCE (3 credits)**

Electronic Commerce is the digital enablement of transactions between multiple parties. A multitude of technologies, tools and applications have brought about changes in business, and society that require careful consideration. Students are given an overview of electronic commerce business models and required to apply these to solve business problems or take on opportunities presented. They will cover topics such as social networking, electronic markets, and political and ethical issues associated with electronic commerce, and business plans for technology ventures. They will apply these concepts using Web 2.0 tools, mobile applications and website design assignments.

**ISQA 8196 PROCESS REENGINEERING WITH INFORMATION TECHNOLOGY (3 credits)**

Business process reengineering issues are examined. Reengineering concepts and methods are introduced. Additional special project(s) are required. SAP will be introduced. (Cross-listed with ISQA 4190)

**Prerequisite(s)/Corequisite(s):** CIST 2500; prerequisite/co-requisite ISQA 4110.

**ISQA 8206 INFORMATION AND DATA QUALITY MANAGEMENT (3 credits)**

The course primarily focuses on developing an in-depth understanding of Data and Information Quality (DQ and IQ) concepts and issues. On completing this course students will be able to understand and use DQ and IQ Concepts in Information Systems projects, be able to recognize various patterns of Data and Design Deficiencies in Systems and be able to suggest appropriate DQ and IQ improvement plans in light of known deficiencies in systems. (Cross-listed with ISQA 4200)

**Prerequisite(s)/Corequisite(s):** CIST 2500

**ISQA 8210 MANAGEMENT OF SOFTWARE DEVELOPMENT (3 credits)**

This course should encourage you to think critically about aspects of software development that make it difficult and strategies to mitigate these challenges. This course integrates concepts from software engineering, management science, psychology, and organizational behavior to identify, understand, and propose solutions to problems associated with software development. We examine and consider issues from various perspectives, such as the project manager, development team, senior management, and project sponsor. This course prepares students for various roles within a software development effort including leadership positions in software development. Students will practice software project management and agile methods of managing projects in a semester long team project using contemporary project and development methods.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or equivalent. Not open to non-degree graduate students.

**ISQA 8220 ADVANCED SYSTEMS ANALYSIS AND DESIGN (3 credits)**

This course is a systems analysis and design course for systems and business analysts. The course presents an overview of object-oriented system analysis and design. The course will then focus on theory, best practices, and modern methodologies that analysts can use to analyze and design information systems.

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or (ISQA 4110 and ISQA 4120) or equivalent and ISQA 8050 or ISQA 3310 or equivalent

**ISQA 8250 FACILITATION OF COLLABORATIVE PROBLEM SOLVING (3 credits)**

The course focuses on the facilitation of collaborative problem solving and decision making processes. Students learn how to design and facilitate collaborative workshops, with support from both paper-based and electronic meeting tools. The course is hands-on and experiential, with students working in small teams to conduct real workshops.

**ISQA 8306 DATABASE ADMINISTRATION (3 credits)**

This course is designed to give students an applied, practical introduction to database administration. Students will gain an understanding of the functioning of a database management system and its relationship to the computing environment in which it runs. They will learn the concepts, principles, and techniques necessary to carry out such functions as database object creation, storage management, capacity planning, performance tuning, backup and recovery, and security management. Each semester the course will focus on one commercial database management system (DBMS), such as Oracle. (Cross-listed with ISQA 4300)

**Prerequisite(s)/Corequisite(s):** ISQA 8040 or ISQA 3310 or CSCI 4850. Not open to non-degree graduate students.

**ISQA 8310 IT INFRASTRUCTURE & CLOUD COMPUTING (3 credits)**

This course provides a graduate-level introduction to the business and technical decisions around technical infrastructure. It covers topics related to computer and systems architecture and communications networks, with a focus on the technical and business decisions around technology. Students completing the course will be able to understand and design network infrastructure, evaluate cloud computing offerings, and communicate their decisions. The course covers hardware, software, and cloud computing technologies.

**ISQA 8340 APPLIED REGRESSION ANALYSIS (3 credits)**

The primary objective of this course is to expose students to regression models and applications with particular emphasis on applying these concepts to IT research. Topics to be discussed include: Foundations of regression analysis using least squares procedures; model formulation, stepwise regression, transformations; graphical methods, estimation; inference; influence diagnosis; matrix formulation, multicollinearity, time series, and nonlinear models.

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156, not open to non-degree graduate students.

**ISQA 8380 ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION (3 credits)**

This course is designed to give students grounding in the concepts, issues, and tools needed to manage enterprise architecture, distributed systems & Internet-based environments. The goal of the course is to equip students to make the architecture and infrastructure-related decisions needed for successful development and use of contemporary client/server and Internet-based systems. Topics include middleware, architecture, XML, JSON, web services, service-oriented architecture, enterprise application integration, distributed computing services, Model View Controller (MVC) development frameworks.

**Prerequisite(s)/Corequisite(s):** ISQA 8310 and ISQA 8050 or equivalent; permit required.

**ISQA 8410 DATA MANAGEMENT (3 credits)**

The course provides in-depth coverage of such areas as: the relational model, SQL, data modeling, data quality management, database design, data warehousing, business intelligence, document and content management, NoSQL systems, and data governance. The course offers a mix of theoretical treatment and hands-on application. Current DBMS and data modeling software will be used.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 or equivalent, permit only.

**ISQA 8420 MANAGING THE I.S. FUNCTION (3 credits)**

The course provides a focus on the business management implications of the information explosion. The course is organized around a management audit of the information services activity to help present and future managers recognize and implement effective information services management.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8450 NOSQL AND BIG DATA TECHNOLOGIES (3 credits)**

The course will cover topics in the area of NoSQL and Big Data management. The course is intended to get students familiarized with NoSQL and Big Data technologies, explore how these database technologies differ conceptually from traditional relational database technologies, understand their applications, uses, advantages, and disadvantages, and provide hands-on experience with NoSQL and Big Data databases. The course offers a mix of theoretical treatment and hands-on application of the discussed NoSQL and Big Data technologies.

**Prerequisite(s)/Corequisite(s):** Prior exposure to data management is expected. The prereq is: ISQA 3310, ISQA 8040, CSCI 4850, or work experience that has given you a comparable grounding in database concepts and technologies; in this case permission by the instructor is needed.

**ISQA 8460 INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD (3 credits)**

This course introduces the Internet of Things (IoT). It provides an overview of a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. In the future, the "Things" in question may have identities and virtual personalities, operating in smart spaces using intelligent interfaces to connect and communicate with the social, environmental, and user context.

**Prerequisite(s)/Corequisite(s):** Basic Web Development using HTML/CSS and some MVC framework. The equivalent of two semester exposure to programming.

**ISQA 8510 MANAGING USABILITY FUNCTIONS IN SYSTEMS DEVELOPMENT ORGANIZATION (3 credits)**

This course deals with usability of information systems, from the perspective of organizing and managing usability functions in a systems development organization. After briefly introducing the background to system usability and usability principles, the course focuses specifically on the introduction, organization, support, management and evaluation of usability functions in systems development organizations. The role of the usability professional in the organization is emphasized.

**Prerequisite(s)/Corequisite(s):** Two semesters of programming or demonstrable experience and ISQA 8040 or equivalent, not open to non-degree graduate students.

**ISQA 8525 GRAPHICAL USER INTERFACE DESIGN (3 credits)**

This course is an introduction to interaction design with a primary emphasis on designing usable and useful computer interfaces. Students will learn the principles of interface design grounded in a fundamental understanding of human cognitive processes. They will learn how end-users develop and use mental models of interaction and will apply this knowledge to the design of interfaces for real-world applications. A design project will challenge students to plan their own designs, to develop interfaces and to integrate them into a working application prototype, to test their application with real users, and to effectively communicate the overall results. (Cross-listed with ISQA 3520)

**Prerequisite(s)/Corequisite(s):** CIST 1300

**ISQA 8530 E-COMMERCE SECURITY (3 credits)**

The course will integrate concepts, principles, and technologies from business, telecommunications, and computer science to identify, understand, and propose solutions to the security threats to e-commerce.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8310. Not open to non-degree graduate students.

**ISQA 8546 COMPUTER SECURITY MANAGEMENT (3 credits)**

The purpose of this course is to integrate concepts and techniques from security assessment, risk mitigation, disaster planning, and auditing to identify, understand, and propose solutions to problems of computer security and security administration. (Cross-listed with CIST4540, CYBR 4540, CYBR 8546)

**Prerequisite(s)/Corequisite(s):** IASC 4360 or permission of the instructor.

**ISQA 8560 INFORMATION WARFARE AND SECURITY (3 credits)**

This course will study the nature of information warfare, including computer crime and information terrorism, as it relates to international, national, economic, organizational, and personal security. Information warfare policy and ethical issues will be examined.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030 or ISQA 8030, or permission of instructor required.

**ISQA 8570 INFORMATION SECURITY POLICY AND ETHICS (3 credits)**

The course will cover the development and need for information security policies, issues regarding privacy, and the application of computer ethics. (Cross-listed with IASC 8570)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or BSAD 8030, or permission of instructor.

**ISQA 8580 SECURITY RISK MANAGEMENT AND ASSESSMENT (3 credits)**

The purpose of this course is to prepare the student for managing information security at the organizational level. This course will combine concepts from strategic management, decision science and risk analysis to prepare the student to integrate security issues into an organizational strategic planning process.

**Prerequisite(s)/Corequisite(s):** CIST 2100 or ISQA 8030. Not open to non-degree graduate students.

**ISQA 8596 IT AUDIT AND CONTROL (3 credits)**

This course explores organizational and managerial issues relevant to planning and conducting IT audit and control activities. The course covers the following conceptual areas: business risks and the management of business risk, IT risk as a component of business risk, the need to manage IT risks, and the basic type of controls required in a business system in order to control IT risks. Issues associated with new risks created by the use of the internet for business applications and electronic business are also covered. (Cross-listed with ISQA 4590)

**Prerequisite(s)/Corequisite(s):** A solid understanding of business foundations such as accounting and introductory auditing and exposure to the IS discipline is essential for success in this course. Permission of instructor is required to enroll.

**ISQA 8600 FROM DATA TO DECISIONS (3 credits)**

This course focuses on inquiry-driven data preparation and exploratory analysis skills for audience-driven, decision-oriented data analysis. Students gain experience in data evaluation, cleaning, documentation, and exploration with basic descriptive statistics and visualizations.

**ISQA 8700 DATA MINING: THEORY AND PRACTICE (3 credits)**

This course provides students theoretical issues as well as practical methods for conducting data mining process, including the implementation of a warehouse. After covering the essential concepts, issues, techniques to build an effective data warehouse, this course emphasizes the various techniques of data mining, such as association, classification, clustering and prediction for on-line analyses within the framework of data warehouse architectures. This course also promotes students to conduct a real-life data analyzing project in Big Data Era.

**Prerequisite(s)/Corequisite(s):** ISQA 8050 and ISQA 8310 and ISQA 8040, not open to non-degree graduate students.

**ISQA 8720 APPLIED STATISTICAL MACHINE LEARNING (3 credits)**

This course focuses on advanced techniques in the analysis and evaluation of data, using both supervised and unsupervised methods. It covers the main types of statistical learning models needed for complex data analytics problems, as well as aspects of model development and optimization. Topics include: Linear and Non-Linear Regression Models, Classification, Resampling Methods, Model Selection and Regularization, Decision Trees, Model Boosting and Bagging, Support Vector Machines, and Clustering methods. This is an applied, hands-on course that will use a state-of-the-art statistical tool to implement the discussed approaches in assignments and a course project and focuses on the understanding and application of the concepts.

**Prerequisite(s)/Corequisite(s):** ISQA 8156 (B- grade or better) and the following topics: The equivalent of two classes of statistics and/or advanced mathematics and a minimum of one semester of applying R in courses and/or projects

**ISQA 8736 DECISION SUPPORT SYSTEMS (3 credits)**

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. This course explores the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organizational issues impact the implementation and usage of these systems. (Cross-listed with ISQA 4730)

**Prerequisite(s)/Corequisite(s):** CIST 2100 or equivalent.

**ISQA 8750 STORYTELLING WITH DATA (3 credits)**

This course provides an in-depth study of how to build a compelling story using data for business professionals to make winning arguments, it provides an overview of a number of technologies and research disciplines that enabled the power of data visualization. Data visualization is critical to managing large volumes of data, and can be defined as the science (analytical) and art (design) of manipulating and presenting data for expression and cognitive recognition. Data visualization involves using data in a way that humans can clearly understand, supporting efforts by organization to gain competitive advantage by changing operations, decision-making, and strategic initiatives.

**Prerequisite(s)/Corequisite(s):** CSCI 1620 or equivalent. Admission into the UNO graduate program, basic web development or work experience with comparable grounding in programing, scripting concepts & technologies and permission by the instructor is needed.

**ISQA 8810 INFORMATION TECHNOLOGY PROJECT FUNDAMENTALS (3 credits)**

The course will integrate concepts and techniques from management science, psychology, organizational behavior, & administration change to identify, understand & propose solutions to the problems of project management. The purpose of the course is to prepare the graduate for project participation and leadership.

**Prerequisite(s)/Corequisite(s):** CIST 2100 and ISQA 8040. Not open to non-degree graduate students.

**ISQA 8820 PROJECT RISK MANAGEMENT (3 credits)**

This course will cover project risk management, i.e., the process of measuring or assessing risk in projects and then developing strategies to manage the risk. The topics covered will include: Risk Management Planning, Risk Identification, Quantitative Risk Analysis, Qualitative Risk Analysis, Risk Response Planning, and Risk Monitoring and Control will be covered in detail. Students will learn how to apply and use the tools and techniques needed to perform these project management tasks. A collection of readings on risk management from the empirical literature coupled with risk management standards from organizations such as IEEE and the Project Management Institute (PMI) will be used to provide the student with an excellent foundation in risk management and control.

**Prerequisite(s)/Corequisite(s):** ISQA 8810 or permission of instructor.

**ISQA 8900 INDEPENDENT RESEARCH IN MANAGEMENT INFORMATION SYSTEMS (1-3 credits)**

The content of the course will vary. However, both the student and the faculty member must sign an Independent Research Agreement and file it with the Master of Science in Management Information Systems Graduate Program Committee before registration for the course. This agreement will detail the project, the schedule for its completion, the form of the output, the method of evaluation and other relevant information pertaining to the project.

**Prerequisite(s)/Corequisite(s):** Permission of instructor, and at least 12 hours of course work toward a M.S. in MIS should be completed.

**ISQA 8910 INFORMATION SYSTEMS INTERNSHIP (1-3 credits)**

Information Systems Internship provides students with an opportunity for practical application and further development of knowledge and skills acquired in the MS MIS degree program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor required. Students must have completed a minimum of 18 credit hours towards the MS MIS program. Not open to non-degree graduate students.

**ISQA 8950 CAPSTONE MANAGEMENT INFORMATION SYSTEMS (3 credits)**

The course consists of a student executed Information Systems design project providing an in-depth practical experience. It typically covers system conceptualization, analysis, and design. It may also involve prototyping. The project will typically not include the actual implementation of the system. This course replaces the MS in MIS comprehensive exam requirement.

**Prerequisite(s)/Corequisite(s):** Students must have 6 credit hours or fewer left in the program. Students must have completed all core classes. Not open to non-degree graduate students.

**ISQA 8990 THESIS (1-6 credits)**

This course is a research project designed and executed under supervision of a thesis supervisory committee. Student will develop skills, including the ability to design, conduct, analyze, and report results in writing (i.e., thesis) of an original, independent, scientific investigation. The student's thesis supervisory committee must approve the project plan.

**Prerequisite(s)/Corequisite(s):** ISQA 8060 research methods or equivalent. Graduate major in MIS and approval of the thesis supervisory committee. Not open to non-degree graduate students.

**ISQA 9010 FOUNDATIONS OF INFORMATION SYSTEMS RESEARCH (3 credits)**

This course covers the following areas: (1) information systems as an academic discipline including classic readings in IS and its reference disciplines, (2) theory development and evaluation, (3) research methods applicability in IS.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems areas or with the permission of the instructor; ISQA 8060 or equivalent. Not open to non-degree graduate students.

**ISQA 9020 TECHNICAL AND PROCESS ISSUES IN INFORMATION SYSTEMS RESEARCH (3 credits)**

This seminar is a survey course on the technical and process issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in technical and process issues with the application of that knowledge to research on information systems. Major topics include: software engineering, programming, data base systems, decision support systems, data warehousing and mining systems, object-oriented systems, adaptive and expert systems, client-service systems, information filtering and multimedia systems, information agents, mobile computing, telecommunications, and electronic commerce.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9030 BEHAVIORAL AND ORGANIZATIONAL ISSUES IN INFORMATION SYSTEMS (3 credits)**

This seminar is a survey course on behavioral and organizational issues in information systems research. The course balances the acquisition of knowledge about the conduct of research in behavioral and organizational issues with the application of that knowledge to research on information systems. The course is intended for doctoral students in Information Technology or related areas.

**Prerequisite(s)/Corequisite(s):** Doctoral student standing in the information systems area or with the permission of the instructor; ISQA 9010 is recommended. Not open to non-degree graduate students.

**ISQA 9120 APPLIED EXPERIMENTAL DESIGN AND ANALYSIS (3 credits)**

Constructing and analyzing designs for experimental investigations; completely randomized, randomized complete block and Latin-square designs, split-plot designs, incomplete block designs, confounded factorial designs, nested designs, and treatment of missing data, comparison of designs. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (a programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9130 APPLIED MULTIVARIATE ANALYSIS (3 credits)**

The use of multivariate analysis for solving business problems. Multivariate Analysis of Variance (MANOVA), factor, cluster, and discriminant analysis techniques in IT research. The course will use computer-assisted analysis and graphic techniques included in software such as Statistical Analysis Software (SAS) or Statistical Package for Social Sciences (SPSS) or R (A programming language that provides a wide variety of statistical and graphical techniques. Similar to the S language).

**Prerequisite(s)/Corequisite(s):** ISQA 4150 or ISQA 8156 or consent of instructor. Not open to non-degree graduate students.

**ISQA 9150 RESEARCH IN INFORMATION TECHNOLOGY (3 credits)**

Research methods in Information Technology involves an overview of the research process specific to problems in IT. Students will learn about theories in IT relevant to their areas of research. They will identify key components of research problems in IT, understand different types of research processes, develop research questions, and design research projects. They will learn to construct research instruments that enable them to collect data. They will also learn about the different data collection and analysis tools and techniques. As part of this course, students will take the CITI training and achieve the research readiness they need to succeed in the PhD in IT program.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**ISQA 9900 ADVANCED RESEARCH IN INFORMATION SYSTEMS (3 credits)**

This course provides a format for exploration of advanced research areas that are of interest to doctoral students in the information systems and/or information technology area. The specific research area will vary from semester to semester, in keeping with research interests of faculty and students. Examples of areas include, but are not limited to, e-business technology, mobile commerce, intelligent agents e-enabled decision support, electronic collaboration, computer-mediated communications, human-computer interaction and information assurance.

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Information Technology or permission of instructor

**International Studies (INST)****INST 8015 ISEP EXCHANGE - SEMESTER (1-18 credits)**

This is a UNO Study Abroad course - graduate version of INST 1010.

**IT Innovation (ITIN)****ITIN 8000 TECHNOLOGY & INNOVATION-STATE OF THE ART (3 credits)**

ITIN 8000 provides a regular forum for IT Innovation graduate students, where the latest developments in the field of IT Innovation are introduced and discussed. The course also functions as a central communication and collaboration hub for graduate students in IT Innovation. Participation is required.

**Prerequisite(s)/Corequisite(s):** Students in the MS in IT Innovation program may register. Not open to non-degree graduate students.

**ITIN 8006 SPECIAL TOPICS IN IT INNOVATION (1-6 credits)**

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ITIN 4000).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Additional prerequisites may be required for particular topic offerings.

**ITIN 8100 INTERMEDIA (3 credits)**

This is an ongoing course that brings together students of the arts and students of scientific disciplines in order to facilitate and promote the creation of intermedia art, and to further explore shared resources, joint research, and exhibition/performance opportunities.

**Prerequisite(s)/Corequisite(s):** Instructor permission

**ITIN 8210 DESIGN SCIENCE AND THEORY DEVELOPMENT (3 credits)**

The purpose of this course is to help students understand theory, theoretical contributions, and design science. Students will approach such questions as: What is a theory? What makes a good theory? Why are theories just theories and not laws? What is not a theory? Following this introduction, we explore design science as a research methodology and Information Technology design theories. Ultimately, students create their own new studies around some design concept.

**Prerequisite(s)/Corequisite(s):** Graduate standing / permission of the instructor

**ITIN 8220 DESIGN PROCESS (3 credits)**

Inter-disciplinary design teams will work together to design and innovate products of the future. The design projects in the course are developed to directly address a problem brought forward by a technology company in the Omaha area in order to provide students with a design experience that directly impacts real-world product development. Students will focus on the technological (interface), physical (ergonomics) and aesthetic quality of design, and will learn how to conduct rigorous user studies in a laboratory setting. Teams will be cross disciplinary and consider all aspects of the design, creation, testing, and fabrication of the products.

**ITIN 8256 INNOVATION VENTURES (3 credits)**

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation, both as an instrument for new venture formation and as a core capability for addressing challenges in competitive landscapes. As such, the course lies at the intersection of innovation, entrepreneurship and strategy. Students will develop practical experience by experimenting with and refining business ideas. (Cross-listed with BSAD 8726, ENTR 4720, ITIN 4720, MGMT 4720, MKT 4720).

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or instructor permission.

**ITIN 8266 USER EXPERIENCE DESIGN (3 credits)**

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ITIN 4260).

**ITIN 8300 RESEARCH FOUNDATIONS (3 credits)**

This course serves as an introduction to research literature and research methodology in the innovation and creativity research domain. Students are introduced to skills, methodological issues, and bibliographic resources to enhance their ability in critically evaluating and conducting research in the IT Innovation field. Through a series of readings, in-class discussions, and lectures the student will select and define a research question, explore the various types of research designs and complete a literature review. This course is structured to make research meaningful and significant and enable students to write effectively.

**Prerequisite(s)/Corequisite(s):** CIST 2500 or equivalent

**ITIN 8900 INDEPENDENT STUDIES (1-3 credits)**

A variable credit course for the graduate student who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Graduate Program Committee Chair at least three weeks prior to registration.

**Prerequisite(s)/Corequisite(s):** Written permission required

**ITIN 8940 ITIN CAPSTONE I (3 credits)**

The purpose of the Information Technology Innovation (ITIN) capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and includes an interdisciplinary field of study. The capstone is the culmination product of the specific various disciplines a student has selected as the unique combination for his or her degree. This course serves as part one of the capstone project for the ITIN Masters degree. The two courses for the ITIN capstone project are intended to be completed in two consecutive semesters (Fall/Spring).

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: two sections of ITIN 8000, ITIN 8220, 8300, and 3 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

**ITIN 8950 ITIN CAPSTONE II (3 credits)**

The purpose of the ITIN capstone courses is for ITIN majors to explore, identify, evaluate, design, construct and implement a new innovative product that leverages information technology and an interdisciplinary field. The capstone is the culmination product for prospective graduate and utilizes the discipline(s) a student has selected as the unique combination for his or her degree. This course serves as part two of the capstone project for the Information Technology Innovation (ITIN) program. The two courses for the ITIN capstone project are taught in two consecutive semesters.

**Prerequisite(s)/Corequisite(s):** Must be pursuing ITIN MS degree and have completed: three sections of ITIN 8000, ITIN 8220, 8300, 8940 and 6 hours of upper division courses in interdisciplinary area identified in the student's course plan. Not open to non-degree graduate students.

**ITIN 8990 THESIS (1-6 credits)**

This course is required for the Master of Science degree in the MS in IT Innovation Program. The purpose of this course is to conduct original research in IT Innovation, under supervision of a faculty member, culminating in a paper document that represents the student's competency in their chosen field, as well as scholarly contributions. With consultation from their committee, MS in IT Innovation thesis students should be prepared to independently complete the writing of their thesis and successfully defend their thesis.

**Prerequisite(s)/Corequisite(s):** Graduate major in ITIN and approval of the Thesis Advisory Committee.

**ITIN 9300 SOCIAL COMPUTING AND ITS APPLICATIONS (3 credits)**

It is indisputable that social media and the Internet more broadly reshaped information disbursement and processing. Digital participation and communication has become the 'new normal' and the dividing line between off- and online communities is increasingly blurred. This leads to specific challenges in the extraction and analysis of online social media data, and the management of new communication.

**Prerequisite(s)/Corequisite(s):** Open to all currently-admitted doctoral students. Students should have a technical aptitude; experience with at least one web scripting language, (e.g. PHP, rails, python etc) is helpful. Experience with JSON is advantageous but not essential.

## Journalism and Media Communication (JMC)

**JMC 8016 HISTORY OF MASS COMMUNICATION (3 credits)**

This class covers development of the U.S. media from 1690 to present day, including newspapers, magazines, radio, television, the new media of the Internet, advertising and public relations. A special emphasis is placed on freedom of the press. (Cross-listed with JMC 4010).

**JMC 8046 SOCIAL MEDIA MEASUREMENT AND MANAGEMENT (3 credits)**

Social Media Measurement and Management explores the dynamic development of social media platforms within a journalism and media communication context. Students of journalism, broadcasting, public relations, advertising and marketing will examine theories and best practices of social media interaction and engagement. (Cross-listed with JMC 4040).

**Prerequisite(s)/Corequisite(s):** Good standing as a UNO graduate student.

**JMC 8226 LITERARY JOURNALISM (3 credits)**

Survey of the journalistic works of pertinent American writers through readings, lectures, discussions, plus creative writing assignments. (Cross-listed with JMC 4220).

**Prerequisite(s)/Corequisite(s):** JMC 2100 and Junior Standing

**JMC 8235 PRINCIPLES OF PUBLIC RELATIONS (3 credits)**

This course will focus primarily on techniques to garner and sustain public understanding, acceptance and support for an organization. This course will explain the merits of these techniques through theory and application, and will offer constant reminders of the relationship between theory and practice. Understanding theory can result in more efficient and effective use of techniques. (Cross-listed with JMC 3230).

**Prerequisite(s)/Corequisite(s):** JMC 2100, JMC 2104 and minimum GPA of 2.25

**JMC 8246 PUBLIC RELATIONS CASE STUDIES (3 credits)**

The course is designed to enable the student: 1) to integrate issue-management and decision-making theoretical models with the communication theory and research techniques presented in JMC 3230/ JMC 8236 and 2) to apply professional judgment to the public relations problem-solving process through the development of structured analysis of historical cases. (Cross-listed with JMC 4240).

**JMC 8266 MEDIA RELATIONS (3 credits)**

This course focuses on the communication tools used in media relations, the nuances of working with reporters from press and various media, news writing, news judgment, strategic planning, and the application of communication theories in understanding the relationship between news organizations and media relations representatives for organizations and corporations. (Cross-listed with JMC 4260).

**JMC 8316 MEDIA & POLITICS (3 credits)**

An in-depth study of the impact of the media on political communication. This course will explore the symbiotic relationship of media and political communication, including the influence of traditional mass media, digital media, and social media on the political communication process. Students will delve into media theories and critically examine the influence of the media on the political communication process. (Cross-listed with JMC 4310).

**JMC 8346 MEDIA REGULATION & FREEDOM (3 credits)**

Media and Internet regulation and free expression as defined and interpreted through First Amendment rights, prior restraint and obscenity case law, advertising and public relations, broadcast and cable TV regulation and deregulation policy, new telecommunication media, and privacy. (Cross-listed with JMC 4340).

**Prerequisite(s)/Corequisite(s):** ENGL 1160

**JMC 8376 COMMUNICATION WORKSHOP (3 credits)**

A workshop to explore communication theory and processes and to develop skills in their application. (Cross-listed with JMC 4370).

**Prerequisite(s)/Corequisite(s):** Junior Standing, Permission of instructor

**JMC 8386 FILM THEORY AND CRITICISM (3 credits)**

Study of major trends in film criticism and theory in (primarily) Europe and America, with concentrated analysis of selected films. (Cross-listed with JMC 4380).

**JMC 8396 MEDIA ENTREPRENEURSHIP (3 credits)**

4390 Media Entrepreneurship explores new and emerging media business models from local, national and global perspectives. Students learn about and work within the start-up economy and entrepreneurial approaches. The course offers professional and critical perspectives. (Cross-listed with JMC 4390, ENTR 4390).

**Prerequisite(s)/Corequisite(s):** Minimum cumulative GPA- 2.25; Junior standing, ENGL 1160 or equivalent, or instructor permission.

**JMC 8406 MASS MEDIA ETHICS (3 credits)**

The course examines ethical standards and practices of the media - print, electronic and online media, as well as advertising, public relations and entertainment media. It includes development of ethical decision-making skills. (Cross-listed with JMC 4400).

**JMC 8416 COMMUNICATION LAW AND POLICY (3 credits)**

Communication practitioners need to understand legal protections and constraints. This course explores legal concepts, frameworks and principles to understand constitutional, statutory, regulatory and case law and policies. The student must have a basic understanding of government, social studies and human rights principles. The First Amendment and international law provide a framework for exploring current cases and issues. (Cross-listed with JMC 4410).

**JMC 8426 SPORTS WRITING (3 credits)**

Students will learn all aspects of the specialized aspect of sports media communication. Areas covered will include writing, interviewing, storytelling, using multiple media platforms and the ethics of sports reporting. Various writing experiences across the media spectrum, from traditional media to the new forms of online journalism, will be addressed. (Cross-listed with JMC 4420)

**Prerequisite(s)/Corequisite(s):** JMC 2100 and JMC 2104; JMC 2200; JMC 2300; JMC 2370; and minimum cumulative GPA of 2.25. Not open to non-degree graduate students.

**JMC 8506 MASS COMMUNICATION AND PUBLIC OPINION (3 credits)**

This class represents a study of the philosophy, process and effects of mass communication; the relationship between the mass media and public opinion and propaganda; and the nature, function and measurement of public opinion. (Cross-listed with JMC 4500).

**JMC 8816 DIGITAL LITERACIES FOR TECHNICAL COMMUNICATORS (3 credits)**

This course addresses emerging issues in digital literacies such as the rhetoric of technology, technological competency, technology and information ecologies, critical awareness of technology and human interactions, judicious application of technological knowledge, user-centered design, networking and online communities, ethics and technology, and culture and technology. (Cross-listed with ENGL 4810, ENGL 8816, JMC 4810).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8826 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with PSCI 4820, JMC 4820, PSCI 8826).

**JMC 8836 TECHNICAL COMMUNICATION (3 credits)**

Technical Communication introduces students to the field of technical communication. Students will study the development of print and electronic genres common to industry settings, the design and production of technical documents, the writing processes and work practices of professional technical communicators, and the roles of technical communicators in organizational contexts. (Cross-listed with ENGL 4830, ENGL 8836, JMC 4830).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8856 INFORMATION DESIGN FOR TECHNICAL COMMUNICATORS (3 credits)**

This course introduces students to strategies for integrating visual and textual elements of technical documents. Instruction will focus on design theory and application through individual and collaborative projects. Students will develop the professional judgment necessary for making and implementing stylistic choices appropriate for communicating technical information to a lay audience. (Cross-listed with ENGL 4850, ENGL 8856, JMC 4850).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8876 TECHNICAL EDITING (3 credits)**

This course introduces students to the roles and responsibilities of technical editors: the editorial decision-making processes for genre, design, style, and production of technical information; the communication with technical experts, writers, and publishers; the collaborative processes of technical editing; and the techniques technical editors use during comprehensive, developmental, copyediting, and proofreading stages. (Cross-listed with ENGL 4870, ENGL 8876, JMC 4870).

**Prerequisite(s)/Corequisite(s):** ENGL 1160 or permission of the instructor

**JMC 8896 CAPSTONE COURSE IN TECHNICAL COMMUNICATION (3 credits)**

In this capstone course, students will extend foundational skills learned in previous technical communication courses. Students will demonstrate their competency in the technical documentation process in organizational environments, the issues important to the technical communication profession, and the practices of writing and creating complex technical documents for specific purpose and audience. (Cross-listed with ENGL 4890, ENGL 8896, JMC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**JMC 8906 SEMINAR MASS COMMUNICATION (3 credits)**

A senior seminar applying historical and theoretical perspective to current issues and developments in mass communications. (Cross-listed with JMC 4900)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**JMC 8926 MEDIA LITERACY (3 credits)**

An advanced seminar on the study of media and information literacy through deconstruction of mass communication content, meaning construction, framing analyses and critical/cultural approaches. (Cross-listed with JMC 4920).

## Kinesiology (KINS)

**KINS 8040 ADVANCED STATISTICS (3 credits)**

This course will be a study in the statistical methods commonly used in descriptive and experimental research in physical education and exercise science. Application, particularly regarding the purpose, selection, and interpretation of statistical procedures will be emphasized. (Cross-listed with BMKI 9041).

**Prerequisite(s)/Corequisite(s):** HPER 8030/HEKI 8030 or BMKI 9001/HPER 9031/HEKI 9031 or equivalent

**KINS 8056 EXERCISE AND SPORT NUTRITION (3 credits)**

This course presents an overview of the principles of nutrition and the relationship between nutrition and health, fitness, and sports performance. It is designed to provide students with the knowledge and skills necessary to assess nutritional status, improve overall health, and enhance sports performance. (Cross-listed with KINS 4050).

**KINS 8076 OPTIMIZING SPORTS PERFORMANCE (3 credits)**

The course is designed for coaches, athletes and physically active people, and allied health professionals. Course content emphasizes integration of several disciplines in sports medicine aimed at preparing one for optimal sports performance. Topics include peaking, detraining, overuse injury, efficiency, special foods and nutritional requirements, genetics and trainability, and designing of multi-year training schedules. (Cross-listed with KINS 4070).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 8086 CLINICAL EXERCISE PHYSIOLOGY (3 credits)**

This course will offer students the knowledge, skills, and abilities to take the American College of Sports Medicine's health fitness instructor certification exam. This course will emphasize health risk assessment, exercise testing, and exercise prescription for healthy and clinical populations. (Cross-listed with KINS 4080).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 with a grade of C- or better.

**KINS 8120 CURRENT TOPICS IN WEIGHT MANAGEMENT (3 credits)**

This course will focus on current issues related to weight management. Students will review and apply the guidelines for physical activity and nutrition, critique current perspectives about weight management in the scientific literature and popular media (e.g., books, podcasts, news articles), and develop a best practice for weight management using what they have learned.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**KINS 8130 IMPLEMENTING PHYSICAL ACTIVITY IN DIVERSE POPULATIONS (3 credits)**

This course will focus on information necessary to assess, design, implement, and evaluate the need for and effectiveness of physical activity interventions in diverse populations, races, and ethnicities. These populations will include: African American, Native American, Hispanic, Asian American, Pacific Islanders, and Caucasian. Additionally, candidates will complete a health and physical activity service learning project in which they will work with diverse populations in the community. (Cross-listed with BMKI 9131).

**KINS 8140 PHYSICAL ACTIVITY ASSESSMENT AND HEALTH RELATED RESEARCH (3 credits)**

This course will cover the broad scope of research on physical activity and public health. Emphasis will be placed on the application of physical activity assessment techniques. (Cross-listed with BMKI 9141).

**KINS 8206 PLANNING WORKSITE WELLNESS PROGRAMS (3 credits)**

This course will focus on the planning of quality worksite wellness programs utilizing standards established by the Association for Worksite Health Promotion. Steps in the planning process such as needs assessment, strategic planning, implementation, and evaluation will be taught with special application to the worksite. Critical issues involving worksite programs also will be addressed such as upper management support, program standards, corporate culture, competencies for worksite health promotion professionals, economic benefits, behavioral theories, legal issues, and the integration of worksite wellness programs and health care. (Cross-listed with KINS 4200).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**KINS 8240 SPORT IN AMERICAN CULTURE (3 credits)**

Sport in American culture is a study of sport from a theoretical perspective. The relationship between sport and sub-cultures (to include disadvantaged American cultures), economics, global influences, and technology will be analyzed.

**KINS 8280 CURRICULUM IN PHYSICAL EDUCATION (3 credits)**

A study of the foundations for curriculum development. Special consideration is given to curriculum change, curriculum patterns and programs in physical education which will meet a culturally diverse, global society.

**KINS 8316 LOWER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the low back, hip, and lower extremities. (Cross-listed with KINS 4310).

**Prerequisite(s)/Corequisite(s):** PE 8326/KINS 8326 and PE 8710/KINS 8710. Not open to non-degree graduate students.

**KINS 8320 EVIDENCE-BASED PRACTICE IN SPORTS MEDICINE (3 credits)**

This course is designed to provide the student with knowledge and skill in the area of developing clinical research questions, assessing research study designs, understanding statistical and epidemiological analyses, interpreting peer-reviewed manuscripts, the incorporation of research into clinical practice, understanding the role of an athletic trainer within the public health system, international classification of function, health literacy, and social determinants of health. Students in this course will learn to understand the role of evidence based /practice in clinical decision making.

**KINS 8326 UPPER EXTREMITY EVALUATION (3 credits)**

This course is designed to provide the candidate with knowledge and skill in the area of advanced athletic injury assessment. The candidate will be exposed to current methodology in the field of orthopedic assessment, pathophysiology of orthopedic injury, and application of current research in injury evaluation. The candidate will receive practical experience in the management of athletic injuries. This course will focus on the head, neck, thorax, and upper extremities. (Cross-listed with KINS 4320).

**Prerequisite(s)/Corequisite(s):** PE 8316/KINS 8316, PE 8336/KINS 8336 and PE 8720/KINS 8720. Not open to non-degree graduate students.

**KINS 8336 ATHLETIC THERAPEUTIC MODALITIES (3 credits)**

This course will cover the theory, physiology and application of physical agents used in the treatment of injuries and illness. Students will gain practical experience utilizing selected agents to treat injuries and illnesses. (Cross-listed with KINS 4330).

**Prerequisite(s)/Corequisite(s):** PE 8326/KINS 8326 and PE 8710/KINS 8710. Not open to non-degree graduate students.

**KINS 8356 ORGANIZATION AND ADMINISTRATION OF ATHLETIC TRAINING (3 credits)**

Administration of athletic training programs including the use of records and forms, budgets, facility design and legal concerns. (Cross-listed with KINS 4350).

**Prerequisite(s)/Corequisite(s):** PE 4340/KINS 4340, PE 4320/KINS 4320

**KINS 8370 ANALYZING PHYSICAL EDUCATION TEACHING & SPORT INSTRUCTION (3 credits)**

This course will examine the teaching and coaching in physical education and sport. It will identify assessment techniques utilized in teaching and coaching behavior research as well as typical prescriptions in an effort to improve one's performance.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**KINS 8506 BEHAVIORAL ASPECTS OF COACHING (3 credits)**

This course is designed to provide the physical education teacher and athletic coach with an overview of the behavioral aspects of coaching athletes. The course will provide information which will enable the coach to enhance as well as orchestrate performance of elementary, junior high, senior high, college, and post-college athletes. (Cross-listed with KINS 4500).

**KINS 8700 PSYCHOLOGY OF PHYSICAL ACTIVITY (3 credits)**

The central purpose of this course is to examine the psychological antecedents and consequences of exercise and physical activity behaviors. The course will focus on traditional theories/principles of psychology as they relate to various physical activity settings. (Cross-listed with BMKI 9701).

**KINS 8710 CLINICAL PRACTICUM IN ATHLETIC TRAINING I (1 credit)**

Clinical Practicum in Athletic Training I is the first course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training program, instructor permission, & compliance with published Athletic Training Program Technical Standards for Admission. Co-requisite: PE 8326/KINS 8326. Not open to non-degree graduate students.

**KINS 8720 CLINICAL PRACTICUM IN ATHLETIC TRAINING II (1 credit)**

Clinical Practicum in Athletic Training II is the second course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admitted to MA in Athletic Training, PE 8710/KINS 8710, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-reqs: PE 8316/KINS 8316 & PE 8336/KINS 8336. Not open to non-degree graduate students.

**KINS 8730 CLINICAL PRACTICUM IN ATHLETIC TRAINING III (1 credit)**

Clinical Practicum in Athletic Training III is the third course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a licensed athletic trainer in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admitted to MA in Athletic Training, PE 8720/KINS 8720, instructor permission, & compliance w/published Athletic Training Program Technical Standards for Admission. Co-reqs: PE 8346/KINS 8346 & PE 8356/KINS 8356. Not open to non-degree graduate students.

**KINS 8740 CLINICAL PRACTICUM IN ATHLETIC TRAINING IV (1 credit)**

Clinical Practicum in Athletic Training IV is the fourth course in the Clinical Practica series for students admitted to the Master of Arts in Athletic Training Program. Students will perform required clinical experiences under the supervision of a preceptor in order to improve clinical and decision-making skills.

**Prerequisite(s)/Corequisite(s):** Admission to the MA in Athletic Training, PE 8730/KINS 8730 instructor permission, and compliance with published Athletic Training Program Technical Standards for Admission. Co-req: PE 8966/KINS 8966. Not open to non-degree graduate students.

**KINS 8800 RISK MANAGEMENT FOR HEALTH FITNESS PROFESSIONALS (3 credits)**

A study of risk management for health fitness professionals with a focus on minimizing liability exposures for health fitness facilities and their personnel. Principles of risk management such as the assessment of liability exposures, the development and implementation of risk management strategies, and the evaluation of these strategies will be explored as well as the law as it pertains to health fitness liability. Candidates will develop the knowledge and skill to manage high quality health fitness programs in various settings.

**Prerequisite(s)/Corequisite(s):** PE 4010/KINS 4010 or PE 8016/KINS 8016

**KINS 8856 CARDIOVASCULAR DISEASE PREVENTION AND REHABILITATION (3 credits)**

The purpose of this course is to provide candidates with an introduction to the theories and practices involved in all phases of cardiac rehabilitation. (Cross-listed with KINS 4850).

**Prerequisite(s)/Corequisite(s):** PE 2500/BMCH 2500 with a grade of C- or better or BIOL 2840 with a grade of C- or better, PE 4940/KINS 4940 with a grade of C- or better

**KINS 8865 SCIENTIFIC ASPECTS OF STRENGTH DEVELOPMENT (3 credits)**

This course is designed to explore the nature of muscular strength development, to investigate the physiological basis of physical conditioning, and to provide teachers, coaches and trainers with practical experience in designing specialized conditioning programs for a variety of sports and cultures.

**KINS 8900 MANAGEMENT & LEADERSHIP SKILLS FOR FITNESS WELLNESS MANAGERS (3 credits)**

This course is a study of management and leadership skills necessary for the successful management of fitness and wellness facilities and programs. Candidates will develop knowledge and practical skills in the areas of personnel and financial management, marketing, and operating policies procedures as well as develop a personal leadership philosophy based on sound principles of leaders.

**Prerequisite(s)/Corequisite(s):** PE 4010/KINS 4010 or PE 8016/KINS 8016 or ACSM Health Fitness Certification.

**KINS 8910 INTERNSHIP IN EXERCISE SCIENCE (3 credits)**

This course is an off-campus, supervised, educational work experience of at least 150 clock hours at an approved worksite offering programs and experiences in fitness development or health promotion. Candidates must have current CPR certification.

**Prerequisite(s)/Corequisite(s):** The prerequisites for this course include 90 hours completed, 2.5 GPA, PE 4900/KINS 4900 and permission of instructor.

**KINS 8950 ADVANCED EXERCISE PHYSIOLOGY (3 credits)**

A detailed analysis of selected topics including acute and chronic effects of exercise on metabolic, pulmonary, and cardiovascular function; and sports nutrition. Current research findings and methodology will be emphasized. (Cross-listed with BMKI 9951).

**Prerequisite(s)/Corequisite(s):** PE 4940/KINS 4940 or equivalent

**KINS 8970 TOPICS IN SPORTS MEDICINE (3 credits)**

This course is designed to help students synthesize and apply their knowledge of athletic training and sports medicine to current topics, unique populations, and other areas of exercise, sports medicine and health care. (Cross-listed with KINS 9971).

**KINS 9300 SYSTEMATIC REVIEW AND META-ANALYSIS (3 credits)**

This course is designed to introduce students to the process of completing systematic reviews and meta-analyses. The objective of the course is to provide students with a foundation of the requisite skills necessary to perform a quantitative and qualitative synthesis of the literature within their area of interest.

**Prerequisite(s)/Corequisite(s):** HEKI 8030 or equivalent research methods course.

**KINS 9971 TOPICS IN SPORTS MEDICINE (3 credits)**

This course is designed to help students synthesize and apply their knowledge of athletic training and sports medicine to current topics, unique populations, and other areas of exercise, sports medicine and health care. (Cross-listed with KINS 8970).

## Latino/Latin American Studies (LLS)

**LLS 8145 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 8145, LLS 3140, PSCI 3140)

**LLS 8246 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 8246, SOC 4240, LLS 4240).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**LLS 8256 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 8256, SOC 4250, LLS 4250).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**LLS 8286 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with LLS 4280, PSCI 4280, PSCI 8286)

**LLS 8656 SLAVERY AND RACE RELATIONS IN THE AMERICAS (3 credits)**

Slavery and Race Relations in the Americas examines the historical relationship between the trans-Atlantic slave trade and American race relations, connecting the enslavement of Africans in the Americas to race relations in the Caribbean, Latin America, and the United States. (Cross-listed with BLST 8656, BLST 4650, HIST 8076, HIST 4070).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**LLS 8685 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with LLS 3680, PSCI 3680, PSCI 8685)

**LLS 8786 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 4780, SOC 8786, LLS 4780).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**LLS 8906 INDEPENDENT STUDY (1-3 credits)**

This course is designed for those students who are independently pursuing an area of Latino/Latin American Studies that is not covered under the existing curriculum. The student will be supervised by a member of the faculty of the LLS program. All course assignments, requirements, and expectations will be clearly indicated in advance. May be repeated for credit, up to six hours, under a different topic.

**Prerequisite(s)/Corequisite(s):** Permission of LLS faculty member required.

**LLS 8916 CONTEMPORARY TOPICS IN LLS: SOCIAL SCIENCES (3 credits)**

A discussion-led course on current and evolving issues and questions pertaining to the Latino and Latin American immigrant population in the United States and its transnational ties to Latin America and the Caribbean. Topics fall within the social sciences. The course may also include service-learning assignments when appropriate. (Cross-listed with LLS 4910.)

**Prerequisite(s)/Corequisite(s):** A graduate student in good standing and instructor permission.

**LLS 8926 CONTEMPORARY TOPICS IN LLS:HUMANITIES (3 credits)**

This course is an interdisciplinary topical approach that explores various aspects of Latino/Latin American Studies. Selected topics will be suitable for examination from the perspective of the humanities (literature, art, dance, music, theatre, and philosophy topics). Topics and disciplines will vary from term to term. Course description will be announced in advance. Repeatable up to nine credits if content differs. (Cross-listed with LLS 4920.)

**LLS 8956 LATIN AMERICAN STUDY ABROAD (1-3 credits)**

This course is designed as an international study abroad course that will introduce undergraduate and graduate students to the dynamism of socio-cultural, economic and political changes taking place across Latin America. Note: International travel and special fees required. (Cross-listed with LLS 4950)

**Prerequisite(s)/Corequisite(s):** Senior standing or Junior standing with permission of the department. LLS 1000 or LLS 1010 or equivalent and departmental permission.

## Master of Fine Arts Writing (MFAW)

### **MFAW 8700 RESIDENCY SESSION (3 credits)**

A ten-day colloquium presenting lectures, classes, workshops, readings and individual conferences with seminar faculty. Taken 4 times, the Residency Session ends one seminar session and begins the next. The session affords students intensive contact with faculty and peers before returning to their writing projects.

**Prerequisite(s)/Corequisite(s):** Admission to MFA in Writing program. Permission of the Program Director. Not open to non-degree graduate students.

### **MFAW 8710 GRADUATING RESIDENCY SESSION (0 credits)**

The Graduation Residency Session is the final residency for MFA students who have successfully completed their seminars and creative thesis. In the ten days of this residency, students will give a graduating lecture, "mentor" new students in their first residency, and give a reading from their thesis. A graduating ceremony will cap their activities during this session.

### **MFAW 8720 ENRICHMENT RESIDENCY SESSION (2 credits)**

An eight-day creative writing symposium-style course presenting lectures, workshops, readings and individual conferences with faculty. The Enrichment Residency affords advanced writing students additional intensive contact with published and apprentice writers to reinforce and enrich their life-long commitment to the art of writing and to the continuing development of their craft.

**Prerequisite(s)/Corequisite(s):** MFA Program Director's permission. Must have completed MFA/PhD with writing emphasis. Writers with MA in English and emphasis in writing, or writers with an extensive background in writing may also be considered. Not open to non-degree graduate students.

### **MFAW 8820 POETRY SEMINAR (6-12 credits)**

An individualized course in poetry writing. Taken 4 times, the required seminar offers practical instruction in writing and criticism. Using distance technology, student and instructor work through independent projects designed to sharpen the student's writing skills. Each student will compose both original poetry and critical analyses of poetry by other writers preparatory to submitting an original book-length manuscript of publishable quality by the final semester.

**Prerequisite(s)/Corequisite(s):** Acceptance into the MFA in Writing Program and permission of the MFA Program Coordinator. Not open to non-degree graduate students.

### **MFAW 8830 FICTION SEMINAR (6-12 credits)**

An individualized course in fiction writing. Taken four times, the seminar offers practical instruction in fiction writing and criticism. Using distance technology, student and instructor work through individualized writing projects designed to sharpen the student's writing skills to a professional edge. Students will compose both original fiction and critical analyses of fiction preparatory to submitting an original book-length manuscript of publishable quality by their final semester's work.

**Prerequisite(s)/Corequisite(s):** Permission of Program Director. Not open to non-degree graduate students.

### **MFAW 8840 NONFICTION SEMINAR (6-12 credits)**

An individualized course in nonfiction writing. Taken 4 times, the seminar offers practical instruction in writing and criticism. Students will compose both original nonfiction and critical analyses of nonfiction.

**Prerequisite(s)/Corequisite(s):** Permission of Program Director. Not open to non-degree graduate students.

### **MFAW 8850 PLAYWRITING AND SCREENWRITING SEMINAR (6-12 credits)**

An individualized seminar in playwriting or screenwriting. Taken 4 times, the seminar offers practical instruction in playwriting/screenwriting and criticism. Using distance technologies, student and instructor work through independent projects designed to sharpen the student's writing. Each student will compose both original scripts and critical analyses of scripts by other playwrights or screenwriters preparatory to submitting at minimum a full-length script, a one-act script, and a ten-minute script by the final semester.

**Prerequisite(s)/Corequisite(s):** Acceptance into the MFA in Writing Program and permission of the MFA Program Coordinator. Not open to non-degree graduate students.

### **MFAW 8870 ENRICHMENT SEMINAR IN WRITING (6 credits)**

An advanced writing semester for those who want assistance launching a new writing project or have a degree in one genre and want to pursue study of another, such as fiction, creative nonfiction, poetry, young adult, playwriting, or screenwriting.

**Prerequisite(s)/Corequisite(s):** Corequisite: MFAW 8720. Permission from Program Coordinator required.

## Materials Engineering (MATL)

### **MATL 8616 MATERIALS LABORATORY II (3 credits)**

Application of scientific principles in the laboratory to the analysis of materials problems and selection of engineering materials. (Cross-listed with MATL 4610)

**Prerequisite(s)/Corequisite(s):** MATL 3600. Not open to non-degree graduate students.

### **MATL 8656 APPLIED PHYSICAL METALLURGY AND DESIGN (3 credits)**

Principles of alloying; alloy selection; modification of the physical properties of structural alloys by thermal, mechanical, and chemical treatment; solidification and joining phenomena. (Cross-listed with MATL 4650)

**Prerequisite(s)/Corequisite(s):** MATL 3600. Not open to non-degree graduate students.

## Mathematics (MATH)

### **MATH 8016 INTRODUCTION TO THE THEORY OF RECURSIVE FUNCTIONS (3 credits)**

This is a proof-oriented course presenting the foundations of Recursion Theory. We present the definition and properties of the class of primitive recursive functions, study the formal models of computation, and investigate partially computable functions, universal programs. We prove Rice's Theorem, the Recursion Theorem, develop the arithmetic hierarchy, demonstrate Post's theorem. Introduction to the formal theories of computability and complexity is also given. (Cross-listed with CSCI 4010, CSCI 8016, MATH 4010).

**Prerequisite(s)/Corequisite(s):** MATH 2230 or MATH 2030 with a C- or better or CSCI 3660 with a C- or better or instructor's permission.

### **MATH 8036 MODERN ALGEBRA (3 credits)**

Algebra is the study of mathematical manipulations that preserve something (like equality - when solving equations). The areas in which Algebra finds application are quite diverse, from Ancient Greek Geometry through to Modern Information Protection and Security (error correcting codes, data compression, and cryptography). This course begins with topics that should be familiar (such as ruler-and-compass constructions, and modular arithmetic) and builds upon this foundation through polynomial rings up to finite fields and basic group theory. (Cross-listed with MATH 4030).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better

**MATH 8050 ALGORITHMIC GRAPH THEORY (3 credits)**

Review of the basic concepts of graph theory. Introduction to perfect graphs and their characterizations. Main classes of perfect graphs and their properties. Algorithms for main problems of perfect graphs. Applications of perfect graphs in several fields such as scheduling, VLSI and communication networks. (Cross-listed with CSCI 8050).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 and MATH 4150 or MATH 8156 or permission of instructor. Not open to non-degree graduate students.

**MATH 8056 LINEAR ALGEBRA (3 credits)**

Linear algebra is extensively utilized in the mathematical modeling of many natural phenomena. Many scientific and engineering disciplines, such as data science, chemical engineering and biology, make extensive use of the theory and techniques commonly present in basic to advanced linear algebra courses. The goal of this course is to help students to grasp a solid theoretical understanding of vectors, vector spaces, inner product spaces, linear transformations, eigenvalues, canonical forms, complex vectors, matrices, and orthogonality. By going through the materials in a mathematically rigorous way, students will develop deeper and more accurate intuitions of the basic concepts in linear algebra. Consequently, the applications of linear algebra will become much more transparent. (Cross-listed with MATH 4050).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a grade of C- or better; MATH 2030 or MATH 2230 or equivalent with a grade of C- or better; or permission

**MATH 8060 ALGORITHMIC COMBINATORICS (3 credits)**

This course includes classical combinatorial analysis graph theory, trees, network flow, matching theory, external problems, and block designs. (Cross-listed with CSCI 8060).

**Prerequisite(s)/Corequisite(s):** MATH 3100, CSCI 3100, MATH 8105 or CSCI 8105 or instructor's permission.

**MATH 8080 DESIGN AND ANALYSIS OF ALGORITHMS (3 credits)**

The course provides students an understanding of advanced topics in algorithms. Main topics include: growth of functions, asymptotic notation, recurrences, divide and conquer, dynamic programming, greedy algorithms, graph algorithms, and the theory of NP-Completeness. (Cross-listed with CSCI 8080).

**Prerequisite(s)/Corequisite(s):** CSCI 3320 or CSCI 8325 or equivalent. Not open to non-degree graduate students.

**MATH 8105 APPLIED COMBINATORICS (3 credits)**

Basic counting methods, generating functions, recurrence relations, principle of inclusion-exclusion. Polya's formula. Elements of graph theory, trees and searching network algorithms. (Cross-listed with CSCI 3100, CSCI 8105, MATH 3100).

**MATH 8116 ABSTRACT ALGEBRA I (3 credits)**

An introduction to group theory. Various classes of group are studied: symmetric groups, abelian, cyclic, and permutation groups. Basic tools are developed and used: subgroups, normal subgroups, cosets, the Lagrange theorem, group homomorphisms, quotient groups, direct products, and group actions on a set. The course culminates with the Sylow theorems in finite group theory. The theory is illustrated with examples from geometry, linear algebra, number theory, crystallography, and combinatorics. (Cross-listed with MATH 4110).

**Prerequisite(s)/Corequisite(s):** MATH 4050/MATH 8056 with a C- or better or MATH 4560/MATH 8566 with a C- or better or permission of instructor

**MATH 8126 ABSTRACT ALGEBRA II (3 credits)**

An introduction to ring and field theory. Various classes of commutative rings are considered including polynomial rings, and the Gaussian integers. Examples of fields include finite fields and various extensions of the rational numbers. Concepts such as that of an ideal, integral domain, characteristic and extension field are studied. The course culminates with an introduction to Galois theory. Applications include the resolution of two classical problems: the impossibility of angle-trisection and the general insolubility of polynomial equations of degree 5 or higher. (Cross-listed with MATH 4120)

**Prerequisite(s)/Corequisite(s):** MATH 4110/MATH 8116 with a C- or better or permission of instructor

**MATH 8156 GRAPH THEORY & APPLICATIONS (3 credits)**

Introduction to graph theory. Representations of graphs and graph isomorphism. Trees as a special case of graphs. Connectivity, covering, matching and coloring in graphs. Directed graphs and planar graphs. Applications of graph theory in several fields such as networks, social sciences, VLSI, chemistry and parallel processing. (Cross-listed with CSCI 4150, CSCI 8156, MATH 4150).

**Prerequisite(s)/Corequisite(s):** MATH 2030 or permission of instructor.

**MATH 8235 INTRODUCTION TO ANALYSIS (3 credits)**

This course provides a theoretical foundation for the concepts of elementary calculus. Topics include real number system, topology of the real line, limits, functions of one variable, continuity, differentiation. (Cross-listed with MATH 3230).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2230 each with a grade of C- or better.

**MATH 8236 MATHEMATICAL ANALYSIS I (3 credits)**

Provides a theoretical foundation for the concepts of elementary calculus. Topics include ordered fields and the real number system, basic properties of complex numbers, metric space topology, sequences and series in  $\mathbb{R}^k$ , limits and continuity in a metric space, monotonic functions. (Cross-listed with MATH 4230).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or equivalent

**MATH 8246 MATHEMATICAL ANALYSIS II (3 credits)**

Provides a theoretical foundation for the concepts of classical Calculus (vector calculus included). Topics include sequences and series of functions, uniform convergence, power series, Fourier series, multivariable real differential and integral calculus, the Implicit Function Theorem, integration of different forms, and the important formulas, connecting those integrals, due to: Green, Gauss, Riemann, and Ostrogradski. (Cross-listed with MATH 4240).

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236

**MATH 8250 PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

Partial differential equations (PDEs) are fundamental in the application of mathematics to science and engineering. Topics to be covered will include: Linear and nonlinear first-order equations, classification of second-order linear equations, elliptic, hyperbolic and parabolic equations and boundary value problems, and Green's functions.

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or instructor's permission. MATH 4330/MATH 8336 is recommended, but not required.

**MATH 8276 COMPLEX ANALYSIS (3 credits)**

This course is an introduction to the theory of functions of a complex variable, a fundamental area of mathematics with multiple applications to science and engineering. Topics include the field of complex numbers, complex differentiation, the complex contour integral and Cauchy's integral formula, Taylor expansions and analytic functions, conformal mapping and Riemann's conformal equivalence theorem, residue theory and Laurent series, harmonic functions, and applications. (Cross-listed with MATH 4270).

**Prerequisite(s)/Corequisite(s):** MATH 3230/MATH 8235 or permission of the instructor.

**MATH 8305 NUMERICAL METHODS (3 credits)**

This course involves solving nonlinear algebraic equations and systems of equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solutions to ordinary differential equations, analysis of algorithms and errors, and computational efficiency. (Cross-listed with CSCI 3300, CSCI 8305, MATH 3300).

**Prerequisite(s)/Corequisite(s):** MATH 1960 with a C- or better or permission of instructor.

**MATH 8306 DETERMINISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of deterministic operations research models and algorithms. Topics include linear programming, network programming, and integer programming. (Cross-listed with CSCI 4300, CSCI 8306, MATH 4300).

**Prerequisite(s)/Corequisite(s):** MATH 2050 with a C- or better or permission of instructor.

**MATH 8316 PROBABILISTIC OPERATIONS RESEARCH MODELS (3 credits)**

This is a survey course of probabilistic operations, research models and algorithms. Topics include Markov chains, queueing theory, inventory models, forecasting, and simulation. (Cross-listed with CSCI 4310, CSCI 8316, MATH 4310).

**Prerequisite(s)/Corequisite(s):** MATH 2050 and either MATH 4740 or MATH 8746 or STAT 3800 or STAT 8805 all with a C- or better or permission of instructor.

**MATH 8326 COMPUTATIONAL OPERATIONS RESEARCH (3 credits)**

Survey of computational methods used in the solution of operations research problems. Topics include scripting to guide optimization software, metaheuristics for optimization, and basic machine learning algorithms. (Cross-listed with MATH 4320).

**Prerequisite(s)/Corequisite(s):** MATH 3200 and MATH 4300 each with a grade of C- or better or permission of instructor.

**MATH 8336 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3 credits)**

This course introduces the basic methods of PDEs guided by applications in physics and engineering. The main topics to be covered include The Linear First order PDEs, Transport equations, Characteristics, Classification of PDEs, Separation of variables, Heat conduction, vibrating membranes, boundary value problems, Maximum principle, Sturm-Liouville problems, Fourier series, Fourier integrals, Harmonic functions, Legendre polynomials, Distributions, Green's functions. (Cross-listed with MATH 4330).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better and MATH 2350 with a C- or better, or permission of instructor; MATH 2050 recommended, not required.

**MATH 8356 ORDINARY DIFFERENTIAL EQUATIONS (3 credits)**

This course covers the theory of initial-, boundary-, and eigenvalue problems, existence theorems, real and complex linear systems of differential equations, and stability theory. There will be a strong emphasis on methods for finding solutions of initial and boundary value problems and analyzing properties of these solutions for various ordinary differential equations. (Cross-listed with MATH 4350).

**Prerequisite(s)/Corequisite(s):** MATH 1970 with a C- or better, MATH 2050 with a C- or better, and MATH 2350 with a C-, or better or instructor's permission.

**MATH 8400 DYNAMICAL SYSTEMS AND CHAOS (3 credits)**

Review of difference equations and differential equations, stability theory, periodic orbits, lyapunov exponents, fractals, chaos, state reconstruction from time series data.

**Prerequisite(s)/Corequisite(s):** Permission from Instructor

**MATH 8406 THE FINITE ELEMENT METHOD (3 credits)**

Introduction to finite elements methods for solving ordinary and partial differential equations. Theoretical foundations of finite element methods for boundary value problems, approximation by piecewise polynomial functions, variation formulation of partial differential equations, basic error estimates. The Rayleigh-Ritz-Galerkin method, convergence of approximations, time-dependent problems, error analysis, discretization and computer implementation, applications to problems in elasticity, heat transfer, and fluid mechanics. (Cross-listed with MATH 4400).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2050 and MATH 2350 all with a C- or better or instructor permission. MATH 3300/ MATH 8305 and MATH 4330/ MATH 8336 recommended. Students should be able to use a programming language (ie MATLAB) to complete computational assignments

**MATH 8410 BOOLEAN NETWORKS (3 credits)**

This course is focused on introduction to discrete dynamical networks, in particular logical networks, and their applications.

**Prerequisite(s)/Corequisite(s):** MATH 1960 (Calculus II), MATH 2230 (proof writing skills), MATH 4740 or equivalent (basic probability theory), basic computer skills; or permission of the instructor.

**MATH 8430 LINEAR PROGRAMMING (3 credits)**

This course includes a complete development of theoretical and computational aspects of linear programming. Basic theoretical foundations covered include polyhedra, convexity, linear inequalities and duality. Advanced topics such as decomposition and column generation are covered. Both simplex methods and interior point methods are included.

**Prerequisite(s)/Corequisite(s):** MATH 4300/ MATH 8306

**MATH 8440 NETWORK PROGRAMMING (3 credits)**

A presentation of network flow models and optimization algorithms. Topics include pure, generalized, integer, and constrained network problems, plus special cases of each, including transportation, assignment, shortest-path, transshipment, and multicommodity.

**Prerequisite(s)/Corequisite(s):** MATH 4300/ MATH 8306

**MATH 8456 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, STAT 4450, STAT 8456)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**MATH 8460 INTEGER PROGRAMMING (3 credits)**

Advanced study in mathematical programming with integer or mixed integer variables. Topics include integer programming, model creation, developing solution algorithms, and applications of integer programming.

**Prerequisite(s)/Corequisite(s):** MATH 2030 or MATH 2230 Not open to non-degree graduate students.

**MATH 8480 MULTI-AGENT SYSTEMS AND GAME THEORY (3 credits)**

This course covers advanced topics in the area of coordination of distributed agent-based systems with a focus on computational aspects of game theory. The main topics covered in this course include distributed constraint satisfaction, distributed constraint optimization, and competitive and cooperative game theory. (Cross-listed with CSCI 8480).

**Prerequisite(s)/Corequisite(s):** CSCI 4450 or CSCI 8456. Suggested background courses: CSCI 4480 or CSCI 8486; CSCI 8080. Not open to non-degree graduate students.

**MATH 8500 NUMERICAL LINEAR ALGEBRA (3 credits)**

Topics covered in this course include error propagation, solutions of nonlinear equations, solutions of linear and nonlinear systems by various schemes, matrix norms and conditioning, and computation of eigenvalues and eigenvectors. (Cross-listed with CSCI 8500).

**Prerequisite(s)/Corequisite(s):** MATH 1960 and MATH 2050, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8510 NUMERICAL DIFFERENTIAL EQUATIONS (3 credits)**

Topics covered in this course include interpolation and approximations, numerical differentiation, numerical integration, and numerical solutions of ordinary and partial differential equations. (Cross-listed with CSCI 8510).

**Prerequisite(s)/Corequisite(s):** MATH 1970, MATH 2350, or permission of instructor. Familiarity with computer programming is assumed.

**MATH 8520 ADVANCED TOPICS IN OPERATIONS RESEARCH (3 credits)**

Advanced treatment of a specific topic in the area of operations research not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ. (Cross-listed with CSCI 8520).

**Prerequisite(s)/Corequisite(s):** MATH 4300 or MATH 8306 or CSCI 4300 or CSCI 8306 or permission of the instructor.

**MATH 8566 NUMBER THEORY & CRYPTOGRAPHY (3 credits)**

An overview of one of the many beautiful areas of mathematics and its modern application to secure communication. The course is ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics to be covered include: prime numbers, congruences, perfect numbers, primitive roots, quadratic reciprocity, sums of squares, and Diophantine equations. Applications include error-correcting codes, symmetric and public key cryptography, secret sharing, and zero knowledge proofs. (Cross-listed with CSCI 4560, CSCI 8566, MATH 4560).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a C- or better or MATH 2030 with a C- or better or CSCI 2030 with a C- or better or permission of instructor

**MATH 8616 INTRODUCTION TO TOPOLOGY (3 credits)**

This is a proof-oriented course presenting the foundations of topology. Metric spaces and general topological spaces are introduced. The course explores the properties of connectedness, compactness and completeness, and operations of Tychonoff product and hyperspace. (Cross-listed with MATH 4610).

**Prerequisite(s)/Corequisite(s):** MATH 3230/8235 with a C- or better or permission of instructor.

**MATH 8620 GENERAL TOPOLOGY (3 credits)**

General topology has roots in geometry and analysis through the study of spaces, dimensions, and transformations. Its development was influenced by the parallel development of (axiomatic) set theory. This course introduces topological spaces from the point of view of separation axioms, countability axioms, compactifications, Baire property, and other completeness properties. Basic concepts of Descriptive Set Theory are also introduced.

**Prerequisite(s)/Corequisite(s):** MATH 4610/8616 or permission of instructor.

**MATH 8626 ITERATED FUNCTION SYSTEMS AND FRACTALS (3 credits)**

This is a proof-oriented course presenting the foundations of fractal geometry. It introduces students to the beauty, magic, and applications of fractals and iterated function systems, with emphasis on the mathematics behind it all. Topics range from contractions on hyperspaces and their fixed points to fractal dimensions to Julia and Mandelbrot sets. (Cross-listed with MATH 4620).

**Prerequisite(s)/Corequisite(s):** MATH 8616 with a C or better or permission of instructor.

**MATH 8645 MODERN GEOMETRY (3 credits)**

This course will study the modern foundations of Euclidean and Non-Euclidean Geometry. Included will be a study of the principles of axiomatic systems. Euclidean Geometry will be investigated using Hilbert's axioms for Euclidean geometry (or another equivalent Euclidean geometry axiom set). Hyperbolic geometry will be encountered through the models of Klein and Poincare. Neutral geometry with Lambert and Saccheri quadrilaterals will be studied. Finite geometries and projective geometries will also be explored. (Cross-listed with MATH 3640).

**Prerequisite(s)/Corequisite(s):** MATH 2230 with a grade of C- or better.

**MATH 8650 INTRODUCTION TO PROBABILITY MODELS (3 credits)**

This is an introduction to probability modeling including Poisson Processes, Markov chains, birth-death processes, queueing models and renewal theory. Applications will be an important part of the course.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746 or STAT 3800/STAT 8805 or permission of instructor.

**MATH 8666 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES (3 credits)**

This course presents a sampling of several important areas of theoretical computer science. Definition of formal models of computation and important properties of such models, including finite automata and Turing machines. Definition and important properties of formal grammars and their languages. Introduction to the formal theories of computability and complexity. (Cross-listed with CSCI 4660, CSCI 8666, MATH 4660).

**Prerequisite(s)/Corequisite(s):** MATH 2030. Recommended: CSCI 3320/CSCI 8325.

**MATH 8670 TOPICS IN PROBABILITY AND STATISTICS (3 credits)**

A variable topics course in probability and or statistics. Topics covered will include one or more of the following: reliability theory and applications in engineering and science, advanced probability and statistical models, theory of parametric estimation and applications, and advanced probability theory and application.

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8740 or STAT 3800/STAT 8800 or permission from instructor

**MATH 8720 RELIABILITY THEORY (3 credits)**

This course covers the probabilistic and statistical aspects of reliability theory. Reliability theory is concerned with the probability that a component or system is successfully working over a given time period or at a specific time instance. (Cross-listed with STAT 8720).

**MATH 8746 INTRODUCTION TO PROBABILITY AND STATISTICS I (3 credits)**

A mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments; specific discrete and continuous distributions; and transformations of random variables. (Cross-listed with MATH 4740).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and either MATH 2230 or MATH 2030 or permission of instructor.

**MATH 8756 INTRODUCTION TO PROBABILITY AND STATISTICS II (3 credits)**

Theory and methods of statistical inference including sampling distributions, estimators, estimation, and statistical hypotheses. (Cross-listed with MATH 4750).

**Prerequisite(s)/Corequisite(s):** MATH 4740/MATH 8746

**MATH 8766 TOPICS IN APPLIED MATHEMATICS (3 credits)**

Selection of such topics such as dynamical systems and chaos, Boolean networks, modeling of discrete or continuous systems, matrix theory, difference equations, information theory, discrete events simulation and other approved by Upper Curriculum Committee. (Cross-listed with MATH 4760).

**Prerequisite(s)/Corequisite(s):** MATH 3100/CSCI 3100

**MATH 8855 HISTORY OF MATHEMATICS (3 credits)**

An overview of the history of mathematics and famous mathematicians via studying and solving famous mathematical problems, exploring famous mathematical theorems, and studying the biographies of famous mathematicians. (Cross-listed with MATH 3850).

**Prerequisite(s)/Corequisite(s):** MATH 1970 and MATH 2230

**MATH 8960 MASTER'S PROJECT (1-6 credits)**

An applied project, designed and executed under the supervision of both a faculty and industry advisor. In the project the student will apply their mathematical and/or statistical skills to an applied problem. The student will present their results via a written report and oral presentation. (Cross-listed with STAT 8960).

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and graduate program chair. Not open to non-degree graduate students.

**MATH 8970 INDEPENDENT GRADUATE STUDIES (1-3 credits)**

Under this number a graduate student may pursue studies in an area that is not normally available to him/her in a formal course. The topics studied will be a graduate area in mathematics to be determined by the instructor.

**Prerequisite(s)/Corequisite(s):** Permission of instructor and graduate classification.

**MATH 8980 GRADUATE SEMINAR (1-3 credits)**

A graduate seminar in mathematics.

**MATH 8990 THESIS (1-6 credits)**

An independent research project, written under the supervision of a graduate adviser in the department of mathematics. Approval of the topic and the completed project by thesis committee is required.

**Prerequisite(s)/Corequisite(s):** Approval of the topic and the completed project by thesis committee is required.

**MATH 9110 ADVANCED TOPICS IN APPLIED MATHEMATICS (3 credits)**

Advanced treatment of a specific topic in the area of applied mathematics not available in the regular curriculum. Topics, developed by individual faculty members, will reflect their special interests and expertise. The course may be repeated for credit as topics differ.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**MATH 9230 THEORY OF FUNCTION OF REAL VARIABLES (3 credits)**

A theoretical foundation for the concepts of measure theory and integration on a measure space as developed by Henry Leon Lebesgue (followed by others) starting the first decade of the 20th century including a comparison with Riemann's classical construction of integration theory known from classical calculus. Topics include: Real number system, convergence, continuity, bounded variation, differentiation, Lebesgue-Stieltjes integration, abstract measure theory, and the  $L_p$  spaces.

**Prerequisite(s)/Corequisite(s):** MATH 4230/MATH 8236 or permission of the instructor

## Mathematics for Teachers (MTCH)

**MTCH 8010 STATISTICAL RESEARCH FOR MATHEMATICS TEACHERS (3 credits)**

This course is designed for graduate students in the MAT program who select the statistics option to complete their degree. The student will do a literature review, design a study involving mathematics education, gather and analyze the data, and prepare a manuscript for submission to a refereed journal. (The course will not count toward a major in the MA or MS program.) To prepare for the course, interested students should contact the instructor of the course several months before (8 is the norm) to have time to do the groundwork for the study.

**Prerequisite(s)/Corequisite(s):** STAT 8015 and TED 8010.

**MTCH 8020 MATHEMATICAL MODELING FOR SECONDARY TEACHERS (3 credits)**

This course will examine the mathematics underlying several problem situations found in a variety of societal settings. Mathematical models of problems in current literature will be examined and other models will be constructed based on data collected through course activities. Topics relevant to these problems will include function analysis, algebra, geometry, trigonometry and probability and statistics. The role of mathematics in society will be evidenced as problems considered will be timely and sources utilized will include original documentation whenever possible (i.e. recent research reports, government reports and publications).

**MTCH 8030 ALGEBRA FOR ALGEBRA TEACHERS (3 credits)**

This course will use study interesting mathematical systems related to key algebraic ideas and study habits of mind that are key to effective problem solving. The properties about numbers and operations discovered will connect to the same properties taught in school algebraic course. Special attention will be paid to linear, quadratic, exponential, and logarithmic, polynomial functions in connection to their importance in school algebra.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate Program

**MTCH 8040 TOPICS IN MATHEMATICAL COMPUTING (3 credits)**

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. (Cross-listed with STEM 8040)

**Prerequisite(s)/Corequisite(s):** MATH 2200 or equivalent or approval of instructor.

**MTCH 8880 ADVANCED PLACEMENT INSTITUTE: CALCULUS (3 credits)**

A workshop for teachers planning to offer an advanced placement course in calculus. Objectives include increasing teacher competencies in single-variable calculus, discussion and study of AP calculus exams, implementations of AP courses in calculus, and development and presentation of projects for graduate credit. (This course will not count toward the M.A. or M.S. degrees in Mathematics, or the Secondary Mathematics Specialist Graduate Certificate.)

**Prerequisite(s)/Corequisite(s):** Graduate in mathematics or mathematics education.

## Mechanical Engineering (MECH)

**MECH 8066 AIR CONDITIONING SYSTEM DESIGN (3 credits)**

Application of thermodynamic principles to the design of air conditioning systems. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 4060).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8076 POWER PLANT SYSTEM DESIGN (3 credits)**

Application of the thermodynamic and fluid dynamic principles to the design of power plants. A comprehensive design project will be an integral part of the course. (Cross-listed with MECH 4070).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8086 HEAT EXCHANGER DESIGN (3 credits)**

Design methodology for various heat exchangers employed in mechanical engineering. Introduction to computer-aided design as applied to heat exchangers. Hands-on exercises in actual design tasks. (Cross-listed with MECH 4080).

**Prerequisite(s)/Corequisite(s):** MECH 3000 or MENG 3000

**MECH 8206 HEAT TRANSFER (3 credits)**

Heat Transfer by conduction, convection, and radiation. Correlation of theory with experimental data and engineering design. (Cross-listed with MECH 4200).

**Prerequisite(s)/Corequisite(s):** CIVE 310, MECH 3100 or MENG 3100. Not open to non-degree graduate students.

**MECH 8226 INDUSTRIAL QUALITY CONTROL (3 credits)**

Statistical process control and quality assurance techniques in manufacturing. Control charts, acceptance sampling, and analyses and design of quality control systems. (Cross-listed with MECH 4220).

**Prerequisite(s)/Corequisite(s):** MECH 3210, MENG 3210 or STAT 3800

**MECH 8386 MECHANICS OF BIOMATERIALS (3 credits)**

Theory, application, simulation, and design of biomaterials that apply mechanical principles for solving medical problems (case studies in artery, brain, bone, etc.). Tentative topics include Mechanical characterization of biomaterials; Bio-manufacturing a tissue; Function-structure relationship; Design and analysis of medical implants; Active response of biomaterials; growth and remodeling mechanism; Cellular behavior and measurements, etc. (Cross-listed with MECH 4380).

**Prerequisite(s)/Corequisite(s):** MECH 3430 or MENG 3430. Not open to non-degree graduate students.

**MECH 8456 MECHANICAL ENGINEERING DESIGN CONCEPTS (3 credits)**

Development of design concepts. Introduction to synthesis techniques and mathematical analysis methods. Application of these techniques to mechanical engineering design projects. (Cross-listed with MECH 4450).

**Prerequisite(s)/Corequisite(s):** (MECH 2000 or MENG 2000) and (MECH 3420 or MENG 3420) and (MECH 3500 or MENG 3500) and (MECH 3100, MENG 3100 or CIVE 310). Not open to non-degree graduate students.

**MECH 8476 MECHANICAL ENGINEERING DESIGN II (2 credits)**

Definition, scope, analysis, synthesis, and the design for the solution of a comprehensive engineering problem in any major area of mechanical engineering. (Cross-listed with MECH 4470).

**Prerequisite(s)/Corequisite(s):** MECH 4460 or MENG 4460. Not open to non-degree graduate students.

**MECH 8486 ADVANCED MECHANICS OF MATERIALS (3 credits)**

Stresses and strains at a point. Theories of failure. Thick-walled pressure vessels and spinning discs. Torsion of non-circular sections. Torsion of thin-walled sections, open, closed and multicelled. Bending of unsymmetrical sections. Cross shear and shear center. Curved beams. Introduction to elastic energy methods. (Cross-listed with MECH 4480).

**Prerequisite(s)/Corequisite(s):** (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730)

**MECH 8496 ADVANCED DYNAMICS (3 credits)**

Particle dynamics using Newton's laws, energy principles, momentum principles. Rigid body dynamics using Euler's equations and Lagrange's equations. Variable mass systems. Gyroscopic motion. (Cross-listed with MECH 4490).

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730); and MATH 2350. Not open to non-degree graduate students.

**MECH 8506 MECHANICAL ENGINEERING CONTROL SYSTEMS DESIGN (3 credits)**

Applications of control systems analysis and synthesis for mechanical engineering equipment. Control systems for pneumatic, hydraulic, kinematic, electromechanical, and thermal systems. (Cross-listed with MECH 4500).

**Prerequisite(s)/Corequisite(s):** MECH 3500 or MENG 3500. Not open to non-degree graduate students.

**MECH 8510 INTRODUCTION TO FINITE ELEMENT ANALYSIS (3 credits)**

Matrix methods of analysis. The finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow.

**Prerequisite(s)/Corequisite(s):** (MECH 3250 or MENG 3250) and (MECH 8806 or MENG 8806) or permission

**MECH 8526 EXPERIMENTAL STRESS ANALYSIS I (3 credits)**

Investigation of the basic theories and techniques associated with the analysis of stress using mechanical strain gages, electric strain gages, brittle lacquer, photoelasticity and membrane analogy. (Cross-listed with MECH 4520).

**Prerequisite(s)/Corequisite(s):** MECH 3250 or MENG 3250

**MECH 8546 INTRODUCTION TO CONTINUUM MODELING (3 credits)**

Basic concepts of continuum modeling. Development of models and solutions to various mechanical, thermal and electrical systems. Thermo-mechanical and electro-mechanical coupling effects. Differential equations, dimensional methods and similarity. (Cross-listed with MECH 4540).

**Prerequisite(s)/Corequisite(s):** MATH 2350; and (MECH 3250 or MENG 3250) and (MECH 3730 or MENG 3730). Not open to non-degree graduate students.

**MECH 8556 VEHICLE DYNAMICS (3 credits)**

Introduction to basic mechanics governing automotive vehicle dynamic acceleration, braking, ride, handling and stability. Analytical methods, including computer simulation, in vehicle dynamics. The different components and subsystems of a vehicle that influence vehicle dynamic performance. (Cross-listed with MECH 4550).

**Prerequisite(s)/Corequisite(s):** (MECH 3430 or MENG 3430) and (MECH 3500 or MENG 3500). Not open to non-degree graduate students.

**MECH 8586 DIGITAL CONTROL OF MECHANICAL SYSTEMS (3 credits)**

Introduction to digital measurement and control of mechanical systems. Applications of analysis and synthesis of discrete time systems. (Cross-listed with MECH 4580).

**Prerequisite(s)/Corequisite(s):** MECH 4500 or MENG 4500. Not open to non-degree graduate students.

**MECH 8706 THEORY AND PRACTICE OF MATERIALS PROCESSING (3 credits)**

Theory, practice and application of conventional machining, forming, and non-traditional machining processes with emphasis on tool life, dynamics of machine tools and adaptive control. (Cross-listed with MECH 4700).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**MECH 8746 MANUFACTURING SYSTEMS I (3 credits)**

Principles of automated production lines; analysis of transfer lines; group technology; flexible manufacturing systems; and just-in-time; and optimization strategies for discrete parts manufacturing. (Cross-listed with MECH 4740).

**MECH 8750 VIBRATION THEORY AND APPLICATIONS (3 credits)**

Variational principles, Lagrange's Equation. Equations of motion for multi-degree of freedom systems. Free vibrations, eigenvalue problem: modal analysis. Forced vibrations: general solutions, resonance, effect of damping, and superposition. Vibrations of continuous systems: vibrations frequencies and mode shapes for bars, membranes, beams, and plates. Experimental methods and techniques.

**Prerequisite(s)/Corequisite(s):** (MECH 3730 or MENG 3730) and (MATH 2350, 4330 or MATH 8336)

**MECH 8766 MANUFACTURING INFORMATION SYSTEMS (3 credits)**

An exploration of information systems and their impact in a manufacturing environment. Software, hardware, database systems, enterprise resource planning, networking, and the internet. (Cross-listed with MECH 4760).

**Prerequisite(s)/Corequisite(s):** Senior standing, and CIST 1400 or CSCI 1620 or CSCI 2240.

**MECH 8806 NUMERICAL METHODS IN ENGINEERING (3 credits)**

Numerical algorithms and their convergence properties in: solving nonlinear equations; direct and iterative schemes for linear systems of equations; eigenvalue problems; polynomial and spline interpolation; curve fitting; numerical integration and differentiation; initial and boundary value problems for Ordinary Differential Equations (ODE's) and systems of ODE's with applications to engineering; finite difference methods for partial differential equations (potential problems, heat-equation, wave-equation). (Cross-listed with MECH 4800).

**Prerequisite(s)/Corequisite(s):** MATH 2350 or MATH 8355

**MECH 8836 ENGINEERING ANALYSIS WITH FINITE ELEMENTS (3 credits)**

Analysis of engineering systems using finite elements; a critical and challenging task performed during the design process for many engineering systems. Four very distinct domains are studied: Structural stress analysis, heat transfer, fluid flow, and modal analysis. (Cross-listed with MECH 4830).

**Prerequisite(s)/Corequisite(s):** (MECH 3100 or MENG 3100) , (MECH 3430 or MENG 3430) , (MECH 3500 or MENG 3500) and (Prereq/ Coreq: MECH 4200 or MENG 4200). Not open to non-degree graduate students.

**MECH 8916 SPECIAL TOPICS IN ENGINEERING MECHANICS (1-6 credits)**

Treatment of special topics in engineering mechanics by experimental, computational and/or theoretical methods. Topics will vary from term to term. (Cross-listed with MECH 4910).

**MECH 8986 LABORATORY AND ANALYTICAL INVESTIGATIONS (0-6 credits)**

Investigation and written report of research into specific problem in any major area of mechanical engineering. (Cross-listed with MECH 4980).

**MECH 9180 FUNDAMENTALS IN FINITE ELEMENTS (3 credits)**

Theory of finite elements. Displacement versus force method. Formulation of element stiffness matrices. Convergence criteria. Solution methods for large sets of equations. Application to trusses, frames, plates and shells.

**Prerequisite(s)/Corequisite(s):** (MECH 8486 or MENG 8486) , (MECH 8806, MENG 8806, or CIVE 851)

**MECH 9210 QUALITY ENGINEERING: USE OF EXPER DESIGN & TECHNIQUES (3 credits)**

Extension of industrial quality control methods and techniques. Off-line and on-line quality control methods. Development of quality at the design state through planned experiments and analyses. Experimental design methods will include factorial, 2k, 3k, and fractional factorials designs. The course will include an applied project in design of quality.

**MECH 9250 MANUFACTURING AND DYNAMIC SYSTEMS MODELING (3 credits)**

Difference and differential equation models directly from series of observed data. Underlying system analysis including impulse response, stability and feedback interpretation. Forecasting and accuracy of forecasts. Periodic and exponential trends in seasonal series. Modeling two series simultaneously. Minimum mean squared error control and forecasting by leading indicators. Illustrative applications to real life data in science and engineering.

**Prerequisite(s)/Corequisite(s):** MATH 8356.

**MECH 9300 MECHANICS OF COMPOSITE MATERIALS (3 credits)**

Introduction to composite materials. Properties of anisotropic lamina. Laminated composites. Failure theories. Analysis of composite structures.

**Prerequisite(s)/Corequisite(s):** MECH 4480, MENG 4480, MECH 8486 or MENG 8486

**MECH 9330 THEORY OF ELASTICITY I (3 credits)**

Plane stress and strain. Solution of two-dimensional problems by polynomials. Two-dimensional problems in polar coordinates. Triaxial stress and strain. Torsion of noncircular cross section. Bending of prismatical bars. Hydrodynamical analogies.

**Prerequisite(s)/Corequisite(s):** MECH 4480, MENG 4480, MECH 8486 or MENG 8486; MATH 2350.

**MECH 9370 THEORY OF PLATES AND SHELLS (3 credits)**

Basic equations for the bending and stretching of thin plates with small deformations. General theory of deformation of thin shells with small deflections. Large deformations theories of plates and shells. Effect of edge conditions.

**Prerequisite(s)/Corequisite(s):** (MECH 8486 or MENG 8486) and MATH 8336

**MECH 9420 THEORY OF PLASTICITY (3 credits)**

Basic concepts of plasticity. Yield conditions and yield surfaces. Torsion of cylindrical bars and Saint Venant-Mises and Prandtl-Reuss theories. General theory of plane strain and shear lines. Steady and pseudo-steady plastic flow. Extremum principles. Engineering applications.

**Prerequisite(s)/Corequisite(s):** MECH 9330 or MENG 9330

**MECH 9700 ADVANCED MANUFACTURING PROCESSING (3 credits)**

Theory, practice and technology of advanced manufacturing processes, with emphasis on process mechanism, surface integrity, tool and machine design, adaptive control and expert systems.

**Prerequisite(s)/Corequisite(s):** Permission.

## Music (MUS)

**MUS 815A APPLIED BASSOON (1-3 credits)**

This course provides individual weekly instruction on bassoon. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815B APPLIED CELLO (1-3 credits)**

This course provides individual weekly instruction on cello. Students work with the instructor to schedule lessons for 1-3 credits. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the string faculty.

**MUS 815C APPLIED CLARINET (1-3 credits)**

This course provides individual weekly instruction on clarinet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815D APPLIED DOUBLE BASS (1-3 credits)**

This course, applied bass, is intended for private study of the double bass at the university graduate level. This course provides individual weekly instruction on double bass. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring bass as their major instrument. Not open to non-degree graduate students.

**MUS 815E APPLIED EUPHONIUM (1-3 credits)**

This course provides individual weekly instruction on euphonium. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815F APPLIED FLUTE (1-3 credits)**

This course provides individual weekly instruction on flute. Students work with the instructor to schedule lessons for one credit hour (non-majors), two credit hours (music education majors), or three credit hours (music performance majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty, or successful completion of at least 1 credit of MUS 815F. Students enrolled in this course must also enroll in an instrumental ensemble.

**MUS 815G APPLIED FRENCH HORN (1-3 credits)**

This course provides individual weekly instruction on french horn. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815H APPLIED GUITAR (1-3 credits)**

This course, applied guitar, is intended for private study of the guitar at the university graduate level. This course provides individual weekly instruction on guitar. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring guitar as their major instrument. Not open to non-degree graduate students.

**MUS 815I APPLIED HARP (1-3 credits)**

This course provides individual weekly instruction on harp. Students work with the instructor to schedule lessons for 1-3 credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring harp as their major instrument. Not open to non-degree graduate students.

**MUS 815J APPLIED OBOE (1-3 credits)**

This course provides individual weekly instruction on oboe. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815K APPLIED PERCUSSION (1-3 credits)**

This course provides individual weekly instruction on percussion. Students work with the instructor to schedule lessons. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Admission into the graduate college. Enrollment in this course requires an audition performed for and approved by the percussion faculty. Must attend the weekly masterclass. Not open to non-degree graduate students.

**MUS 815L APPLIED PIANO (1-3 credits)**

This course provides individual weekly instruction on piano. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the piano faculty. Music majors must attend the weekly masterclass.

**MUS 815M APPLIED PIPE ORGAN (1-3 credits)**

This course provides individual weekly instruction on organ. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for & approved by the keyboard faculty. Music majors must attend the weekly masterclass.

**MUS 815N APPLIED SAXOPHONE (1-3 credits)**

This course provides individual weekly instruction on saxophone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the woodwind faculty. Music majors must attend the weekly masterclass.

**MUS 815O APPLIED TROMBONE (1-3 credits)**

This course provides individual weekly instruction on trombone. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815P APPLIED TRUMPET (1-3 credits)**

This course provides individual weekly instruction on trumpet. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815Q APPLIED TUBA (1-3 credits)**

This course provides individual weekly instruction on tuba. Students work with the instructor to schedule lessons for one credit hour (non-majors) or two credit hours (music majors). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** Enrollment in this course requires an audition performed for and approved by the brass faculty. Music majors must attend the weekly masterclass.

**MUS 815R APPLIED VIOLA (1-3 credits)**

This course, applied bass, is intended for private study of the viola at the university graduate level. This course provides individual weekly instruction on viola. Students work with the instructor to schedule lessons for one to three credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring viola as their major instrument. Not open to non-degree graduate students.

**MUS 815S APPLIED VIOLIN (1-3 credits)**

This course provides individual weekly instruction on violin. Students work with the instructor to schedule lessons for 1-3 credit hours. Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** An audition is required of all students registering for three hours of study and declaring violin as their major instrument. Not open to non-degree graduate students.

**MUS 815T VOICE (1-3 credits)**

This course provides graduate level individual weekly instruction for voice. Students work with their assigned instructor to schedule lessons for one or two credit hour (MM Education candidates) or three credit hours (MM Performance candidates). Students are evaluated at each lesson on their musical and technical progress. A lab fee is required.

**Prerequisite(s)/Corequisite(s):** This course requires an audition performed for and approved by the voice faculty. All students must attend the weekly masterclass.

**MUS 8006 SPECIAL STUDIES IN MUSIC (1-3 credits)**

Seminars or workshops in Theory, History, Performance, and Music Education designed to meet specific interests and needs of students. Topics and number of credits for each specific offering will be announced during the prior semester. (Cross-listed with MUS 4000).

**Prerequisite(s)/Corequisite(s):** Graduate and permission of department.

**MUS 8160 PERFORMING ENSEMBLES (0-1 credits)**

This course is designed to provide high quality performance experience for the graduate level string, voice, and instrumental students. In addition to the series concerts on campus, there are frequent appearances at professional music conferences and community/statewide events. Students will be exposed to a wide variety of music from appropriate style periods.

**Prerequisite(s)/Corequisite(s):** Graduate standing, audition. Not open to non-degree graduate students.

**MUS 8246 ADVANCED AUDIO RECORDING TECHNIQUES (3 credits)**

This course provides students with advanced instruction in sound mixing, digital audio editing, audio post-production and mastering. Topics include advanced digital audio editing, audio signal processing techniques, analog signal processing hardware, automation, and final product authoring and mastering. (Cross-listed with MUS 4240).

**Prerequisite(s)/Corequisite(s):** MUS 3170, MUS 4200 & MUS 4210. Not open to non-degree graduate students.

**MUS 8436 ARRANGING FOR JAZZ ENSEMBLE (3 credits)**

Techniques of writing for jazz ensembles of various combinations of instruments. (Cross-listed with MUS 4430).

**Prerequisite(s)/Corequisite(s):** MUS 2480 or MUS 2420

**MUS 8446 MUSIC SINCE 1945 (3 credits)**

This course covers important developments in music in the United States and Europe since 1945. (Cross-listed with MUS 4440).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of the instructor.

**MUS 8460 MUSIC ANALYSIS FOR PERFORMANCE (3 credits)**

Advanced study of performance practice and music analysis.

**Prerequisite(s)/Corequisite(s):** Graduate Student in Music

**MUS 8536 HISTORY OF WESTERN OPERA (3 credits)**

This course will consist of significant music theater works in the Western world from 1600 to the present. (Cross-listed with MUS 4530).

**Prerequisite(s)/Corequisite(s):** Music major or permission of instructor

**MUS 8546 RENAISSANCE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature c. 1350-1600. (Cross-listed with MUS 4540).

**Prerequisite(s)/Corequisite(s):** MUS 2550, 2560, 2570 and graduate. Not open to non-degree graduate students.

**MUS 8556 BAROQUE MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1600-1750. (Cross-listed with MUS 4550).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560 and graduate.

**MUS 8566 CLASSICAL MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from c. 1750-1815. (Cross-listed with MUS 4560).

**Prerequisite(s)/Corequisite(s):** MUS 2550, 2560, 2570 and graduate

**MUS 8576 ROMANTIC MUSIC LITERATURE (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of Music literature from c. 1815-1912. (Cross-listed with MUS 4570).

**Prerequisite(s)/Corequisite(s):** MUS 2550, MUS 2560 and graduate.

**MUS 8586 MUSIC FROM 1900 - 1945 (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of music literature from the post-romantic period to 1945. The objective will be to provide the student with a broad overview with special attention given to composers and individual works which typify a style or form. (Cross-listed with MUS 4580).

**Prerequisite(s)/Corequisite(s):** MUS 2560.

**MUS 8596 AFRICAN-AMERICAN POPULAR MUSIC FROM BEBOP TO HIP-HOP (3 credits)**

This course is intended for music majors who wish to undertake a comprehensive survey of African-American popular music literature from c. 1900-present. The objective will be to provide the student with a broad overview with special attention given to musicians and individual works which typify a style or form. Listening assignments will be an integral part of the course, and attendance at live performances will supplement the lectures, discussions and readings. (Cross-listed with MUS 4590, BLST 8596, BLST 4590).

**Prerequisite(s)/Corequisite(s):** Music major standing or permission of instructor.

**MUS 8600 PEDAGOGY OF WORLD MUSIC (3 credits)**

This class will cover the two primary approaches to teaching world musics; the world music curriculum and the music in America curriculum. Pedagogical approaches to the case study and the cultural survey will be included. Activities relating to performing and listening to world musics are also part of the course.

**Prerequisite(s)/Corequisite(s):** Graduate

**MUS 8606 PIANO PEDAGOGY (3 credits)**

This course is a survey of the art of teaching the piano. Course content will include a survey of beginning and intermediate piano methods, literature for the beginning/intermediate piano student, studio business practice, professional organizations, and group piano instruction pedagogy. (Cross-listed with MUS 4600).

**MUS 8610 ORGANIZATION AND ADMINISTRATION IN MUSIC (3 credits)**

Course is designed to acquaint students with the knowledge and concepts necessary for understanding and developing music education programs in the public schools and specific knowledge pertaining to policies and procedures for administering and supervising programs of music education.

**MUS 8616 VOICE PEDAGOGY (3 credits)**

This course is a study of the physiological and acoustical properties of the vocal mechanism and of the various techniques used in developing the singing voice. Also, it will apply knowledge acquired about the voice through studio teaching and observations of other voice teachers. (Cross-listed with MUS 4610).

**Prerequisite(s)/Corequisite(s):** Voice Music Major or permission of instructor.

**MUS 8630 RESEARCH AND BIBLIOGRAPHY IN MUSIC (3 credits)**

A study of research techniques and literature in music toward the objectives of reading and evaluating music research and doing independent work in the area.

**Prerequisite(s)/Corequisite(s):** Graduate standing in the UNO School of Music.

**MUS 8640 FOUNDATIONS OF MUSIC EDUCATION (3 credits)**

A study of psychological and historical backgrounds of music education through attention to relevant topics in the psychology of music and learning theory and through relevant readings in the history of music education as well as sociological trends in American schools.

**Prerequisite(s)/Corequisite(s):** Graduate.

**MUS 8660 PEDAGOGY OF MUSIC THEORY (3 credits)**

Designed to introduce teachers to the techniques and problems of teaching music theory in elementary and secondary schools and colleges. This will be accomplished through a variety of methods to include a review of texts, teaching, and research.

**Prerequisite(s)/Corequisite(s):** Acceptance to the graduate program in music.

**MUS 8670 KODALY I: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level I courses focus specifically on pedagogy, repertoire, and materials for grades prekindergarten through grade 1.

**MUS 8680 KODALY 2: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level I courses focus specifically on pedagogy, repertoire, and materials for grades 2 through grade 4.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 8670

**MUS 8690 KODALY 3: METHODOLOGY (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. Level III courses focus specifically on pedagogy, repertoire, and materials for grades 5-6.

**Prerequisite(s)/Corequisite(s):** Successful completion of MUS 8680.

**MUS 8696 HEALTH AND WELLNESS FOR MUSICIANS (3 credits)**

Health and Wellness for Musicians gives an overview of the dimensions of wellness and common health/wellness challenges for musicians. The course provides students with a toolbox of ideas and strategies for the development, design, and implementation of a music wellness campaign for non-musicians and individualized wellness plans for specific instruments and voice types. (Cross-listed with MUS 4660).

**MUS 8700 CONDUCTING PRACTICUM (1-3 credits)**

Private instruction in conducting and an intense study of the various disciplines in music and their relationship and application to the art of conducting. Course may include a group seminar component. This course may be repeated for credit.

**Prerequisite(s)/Corequisite(s):** Acceptance into the graduate program for conducting majors. Permission of instructor for performance or music education majors.

**MUS 8710 KODALY 4: METHODOLOGY AND ADVANCED STUDIES (3 credits)**

This course provides strategies for teaching music based on the philosophies and practices of musician-composer-educator Zoltan Kodaly. It is designed for students who have completed Kodaly certification (levels I-III). The course assists students in continual development of individual musicianship, mentoring, and research skills.

**MUS 8720 KODALY 1: MUSICIANSHIP (1 credit)**

This course provides basic musicianship skills through singing, conducting, and dictating simple rhythms, melodies and folk songs.

**Prerequisite(s)/Corequisite(s):** Requires concurrent enrollment in MUS 8670

**MUS 8726 CHORAL LITERATURE (3 credits)**

A survey course in the study of significant choral genre of the various periods of music from plain song to contemporary music. (Cross-listed with MUS 4720).

**Prerequisite(s)/Corequisite(s):** Graduate music major standing or permission of the instructor.

**MUS 8730 KODALY 2: MUSICIANSHIP (1 credit)**

This course provides intermediate musicianship skills through singing, conducting, and dictating simple rhythms, melodies and folk songs.

**Prerequisite(s)/Corequisite(s):** Prerequisites: MUS 8670 and MUS 8720; Requires concurrent enrollment in MUS 8680

**MUS 8736 KEYBOARD LITERATURE (3 credits)**

This course will examine literature written for keyboard (piano) from the 16th century to the present. Emphasis will be placed on solo literature of the Baroque, Classic, Romantic, and Contemporary periods. Included are keyboard concertos with orchestra and works for four hands and two pianos. (Cross-listed with MUS 4730).

**MUS 8740 KODALY 3: MUSICIANSHIP (1 credit)**

This course provides advanced musicianship skills through singing, conducting, and dictation of rhythms, melodies and folk songs in multiple meters, scales, and modes.

**Prerequisite(s)/Corequisite(s):** Prerequisite must have completed MUS 8680 and MUS 8730; Requires concurrent enrollment in MUS 8690

**MUS 8746 VOICE LITERATURE (3 credits)**

This course is a study of the development of art song in Europe and America. Emphasis will be given to German and French song literature and their influences on English and American song. (Cross-listed with MUS 4740).

**Prerequisite(s)/Corequisite(s):** MUS 815T or permission of graduate instructor.

**MUS 8770 KODALY 4: MUSICIANSHIP (1 credit)**

This course provides advanced musicianship skills through singing, conducting, and dictation of rhythms, melodies and folk songs in multiple meters, scales, and modes.

**Prerequisite(s)/Corequisite(s):** Prerequisites: completion of MUS 8690 and MUS 8740; Corequisites: Requires concurrent enrollment in MUS 8710

**MUS 8970 GRADUATE PROJECT (3 credits)**

Completion of a graduate project relevant to the student's major area of study under the supervision of an advisor. The project must demonstrate competency in writing and research/creative activity as it pertains to appropriate aspects of music.

**Prerequisite(s)/Corequisite(s):** A committee comprised of three full-time faculty members, with graduate standing in the School of Music must approve the project.

**MUS 8980 RECITAL (3 credits)**

This course involves the selection, preparation and public performance of a full recital in the student's major applied area. The recital should demonstrate the student's competency in a variety of styles and make advanced technical and interpretative demands. The course also includes related Electronic Press Kit: program, press release and photo.

**Prerequisite(s)/Corequisite(s):** Students are required to pay a Recital Fee which covers costs for programs and recording. Students must be concurrently enrolled in applied lessons (MUS 815) on the instrument/voice on which they are performing the recital.

**MUS 8990 THESIS (3 credits)**

The purpose of this course is to allow graduate students in Music Education the opportunity to develop a substantive thesis which employs and mirrors research or original thought of a quality and quantity appropriate to advanced work in music education. This course will be handled on an individual study basis with aid and consultation from a faculty thesis advisor and thesis committee. Method of grading will be a designation of "satisfactory" or "unsatisfactory".

**Prerequisite(s)/Corequisite(s):** MUS 8630 and 24 hours of graduate coursework. A Proposed Supervisory Committee Form and Thesis Proposal Approval Form filed with the Office of Graduate Studies before initiating the thesis at least one semester prior to the anticipated graduation date.

## Natural Sciences (NSCI)

### **NSCI 8140 CHEMISTRY FOR HIGH SCHOOL TEACHERS (4 credits)**

This course is a study of the chemistry concepts essential to high school chemistry courses which meet the National Science Education Standards. Taking this course will help high school chemistry teachers increase their understanding of chemistry to become more effective teachers of chemistry.

**Prerequisite(s)/Corequisite(s):** Current employment as a high school teacher and instructor permission based on adequate chemistry background.

## Neuroscience (NEUR)

### **NEUR 8006 SYSTEMS NEUROSCIENCE (3 credits)**

This is an advanced course for the Neuroscience major designed to provide a solid understanding of the peripheral and central connections that make the systems of the body function. Data and theories of brain-behavior relationships from current research in neuroscience will be discussed. (Cross-listed with NEUR 4000).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission. Not open to non-degree graduate students.

### **NEUR 8876 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)**

This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, BIOL 8876, NEUR 4870).

**Prerequisite(s)/Corequisite(s):** NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

### **NEUR 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, BIOL 4890, BIOL 8896, PSYC 8896).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

## Philosophy (PHIL)

### **PHIL 8225 PHILOSOPHY OF ART (3 credits)**

An inquiry into historical and contemporary philosophical perspectives on the making, interpreting and criticizing of works of art, including relations of the arts to other dimensions of cultures. (Cross-listed with PHIL 3220)

**Prerequisite(s)/Corequisite(s):** Graduate standing

### **PHIL 8655 PHILOSOPHY OF MIND (3 credits)**

A discussion of various accounts of the nature of minds which focuses upon philosophical problems such as whether the mind is identical with the brain, the extent of similarities between human minds and computers, the nature of personal identity and the relationship of mental activity to behavior. (Cross-listed with PHIL 3650)

**Prerequisite(s)/Corequisite(s):** 6 hours of philosophy or permission of instructor.

### **PHIL 8900 READINGS IN PHILOSOPHY (3 credits)**

An individually organized program of readings pertinent to one or more topics subordinate to the heading of Philosophy. To be carried out under the supervision of a member of the graduate faculty. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of instructor, and no "incompletes" outstanding.

## Physics (PHYS)

### **PHYS 8055 THE PHILOSOPHY OF SPACE EXPLORATION (3 credits)**

This course deals mainly with the justification of space exploration in the face of conflicting needs. Topics to be studied include objections to the space program and responses to them, spin-off benefits, space industrialization, planetary and interstellar exploration, space colonies, search for life elsewhere, and other related theoretical issues. (Cross-listed with PHYS 3050)

**Prerequisite(s)/Corequisite(s):** Graduate or permission of instructor.

### **PHYS 8110 REPRESENTATIONS IN PHYSICS INSTRUCTION (3 credits)**

In this course, students will integrate pedagogical knowledge with content knowledge in physics. Specifically, students will learn how to plan instruction in physics and physical science using research-based tools that target state and national science standards. Students in this class will learn what productive representations their students can use to assist them in bridging phenomena, words and mathematics. The course will focus on cross-cutting concepts in motion, forces, and energy/momentum. This course is designed for pre- and in-service teachers.

**Prerequisite(s)/Corequisite(s):** PHYS 1050, PHYS 1110, PHYS 2110, or permission of the instructor.

### **PHYS 8120 EXPERIMENTS IN PHYSICS INSTRUCTION (3 credits)**

In this course, students will learn to reconceptualize the role experiments play in the teaching and learning of physics. Specifically, students will learn a framework for thinking about experiments that engage understanding, and they will use this framework to plan instruction in physics and physical science that targets state and national science standards. Students in this class will also learn the role of labs and their integration, multilayered experiments, and practical aspects of experimentation. This course is designed for pre- and in-service teachers.

**Prerequisite(s)/Corequisite(s):** PHYS 1050, PHYS 1110, PHYS 2110, or permission of the instructor.

### **PHYS 8155 MODERN DEVELOPMENTS IN PHYSICS (3 credits)**

A resume of the most important discoveries, changes and new concepts gleaned from the last decade of research in physics. Superconductivity, lasers, masers, superfluidity, ultra large magnetic fields, space plasmas, nuclear fusion power, etc. Designed for updating physical science concepts for science majors and for science teachers. (Cross-listed with PHYS 3150)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120.

### **PHYS 8165 CURRENT TOPICS IN SCIENCE (1-3 credits)**

The subject matter of this course will generally not be presented in a standard physics course and may be of an interdisciplinary nature. The specific topics and prerequisites will be listed in the schedule. (Cross-listed with PHYS 3160)

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

### **PHYS 8206 INTRODUCTION TO QUANTUM MECHANICS (3 credits)**

This course provides an introduction to the historical development of modern physics and to the Schroedinger formulation of quantum mechanics. Specific topics will include square wells potential barriers, the simple harmonic oscillator potential and the hydrogen atom. Characteristics of multi-electron atoms, including angular momentum coupling schemes, spectra and transition rules will also be included. (Cross-listed with PHYS 4200)

**Prerequisite(s)/Corequisite(s):** PHYS 3250 or permission.

**PHYS 8210 TEACHING PROBLEM-SOLVING IN PHYSICS (3 credits)**

In this course, students will learn how to teach problem-solving process abilities within the context of physics. Specifically, students will learn how the Zone of Proximal Development can be used as a model for designing structured problem-solving activities that build student abilities with time and acquisition of content knowledge, leading to their students solving multi-step and multi-concept problems. Students will also learn how to assess problem-solving process in a consistent and rigorous way. Concepts include problem framing and getting students to see beyond surface features, physics representations, translating physics representations into mathematics, multi-equation and multi-concepts problems, and reflection. Content includes motion, force, energy, momentum, electric force and fields, and magnetism.

**Prerequisite(s)/Corequisite(s):** PHYS 1050, PHYS 1110, PHYS 2110, or permission of the instructor.

**PHYS 8216 QUANTUM THEORY (3 credits)**

The matrix operator formalism is covered along with philosophical implications of this approach. The methods developed will be applied to simple harmonic oscillator and hydrogen atom potentials. Raising and lowering operators, creation-annihilation operators, and first and second order perturbation theory will be discussed. (Cross-listed with PHYS 4210)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 8226 PHYSICS OF MOLECULES AND SOLIDS (3 credits)**

This course covers the various types of atomic bonding found in molecules and solids. Electronic energy levels and spectra of molecules will be discussed. Topics in solid state physics will include mechanics and thermodynamics of crystals, the scattering of waves including x-ray and neutron scattering, electron scattering and phonon and photon interactions. (Cross-listed with PHYS 4220)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 8230 PHYSICS EDUCATION METHODS (3 credits)**

In this course, students will integrate the research on learning theories with effective educational practices in the teaching of physics. Specifically, students will learn how to implement active learning strategies that support eliciting of student ideas, listening and questioning, and relationship building. In effect, this course focuses on the 'soft' skills needed for effective teaching of physics. Students will read articles from the education literature both specific to physics and in general. They will reflect on their experiences with their own students and how this relates to the literature they read.

**Prerequisite(s)/Corequisite(s):** PHYS 1050, PHYS 1110, PHYS 2110, or permission of the instructor.

**PHYS 8236 SPECIAL RELATIVITY AND NUCLEAR PHYSICS (3 credits)**

This course includes a brief historical background of the development of relativity theory and the importance of the experiments performed in conjunction with it. Lorentz transformations and covariant formalism will be developed and applied to certain problems in mechanics and electricity and magnetism. The nuclear physics portion of the course will include the historical development of the concept of the nuclear atom. Theoretical models of nuclear structure will be discussed, along with the theory of alpha, beta and gamma decay. Fission and fusion discussed as time permits. (Cross-listed with PHYS 4230)

**Prerequisite(s)/Corequisite(s):** PHYS 4200 or permission.

**PHYS 8306 GENERAL RELATIVITY (3 credits)**

A study of general relativity theory and its leading applications. Physical motivations and conceptual foundations will be explored. Students will be guided step-by-step to mastery of the tensor analysis required by this theory. Topics covered will include the equivalence principle, recap of special relativity, tensors, curvature and geodesics, Einstein field equations, black holes, cosmology, and gravitational waves. (Cross-listed with PHYS 4300)

**Prerequisite(s)/Corequisite(s):** PHYS 3750 and PHYS 4230, or permission of instructor.

**PHYS 8356 ASTROPHYSICS (3 credits)**

This course introduces the fundamental of astrophysics to students with a prior knowledge of physics and mathematics. A review will be given of light and telescopes, classical and quantum mechanics and special relativity. Basic laws of physics will be applied to various topics such as: the sun, nuclear fusion and particle physics, evolution and end state of stars, interstellar medium, galaxies and cosmology. (Cross-listed with PHYS 4350)

**Prerequisite(s)/Corequisite(s):** PHYS 2130 or 4200 and MATH 1970.

Recommended: PHYS 1350.

**PHYS 8455 CLASSICAL MECHANICS (3 credits)**

Statics and dynamics of particles and rigid bodies including the equations of Lagrange and Hamilton. (Cross-listed with PHYS 8455)

**Prerequisite(s)/Corequisite(s):** MATH 1970, PHYS 3250 or permission.

**PHYS 8505 ELEMENTS OF ELECTRONICS (3 credits)**

The topics covered will include basic circuit theory, principles and operation of electronic devices such as diodes, transistors and integrated circuits.

Application of these devices in various electronic circuits. Both analog and digital circuitry will be studied. (Cross-listed with PHYS 3500)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970

**PHYS 8506 BIOLOGICAL PHYSICS (3 credits)**

This course is designed primarily for students specializing in Biomedical Physics. As a part of Biomedical Physics program at the Department of Physics, the course introduces the fundamental principles of physics and the use of these principles for various biological applications. PHYS 4500/8506 covers various topics including cells, polymers, polyelectrolytes, membranes, mesoscopic forces, self-assembly, photonics, fluid mechanics, motility, chemical kinetics, enzyme kinetics, modern experimental techniques of biophysics. Each topic connects biomolecules with their functions and relevant biological phenomena from a physics perspective. This course will benefit students with interests in biological and medical physics, as well as chemistry, biology. (Cross-listed with PHYS 4500).

**Prerequisite(s)/Corequisite(s):** PHYS 2110 or permission of instructor required. PHYS 2120 and 3300 are recommended.

**PHYS 8556 PHYSICS IN MEDICINE (3 credits)**

This course is designed primarily for students desiring to specialize in Biomedical Physics. The course introduces principles and applications of various medical imaging modalities and medical physics based therapies. Topics include such imaging techniques as ultrasound, X-ray imaging, Computed Tomography (CT), MRI imaging, and positron emission tomography. The course discusses physical principles behind medical imaging and therapeutic applications and covers interaction of different kinds of radiation with biological matter. (Cross-listed with PHYS 4550).

**PHYS 8605 THERMODYNAMICS AND STATISTICAL PHYSICS (3 credits)**

Topics include: empirical and absolute temperature, equations of state, work, heat, entropy, the four laws of thermodynamics, phase changes, thermodynamic potentials, classical and quantum statistics of an ideal gas (e.g., blackbody radiation). Possible applications to be included: Einstein theory of a solid, paramagnetism, blackbody radiation, and conduction of electrons. (Cross-listed with PHYS 3600)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and MATH 1970.

**PHYS 8755 ELECTRICITY AND MAGNETISM I (3 credits)**

An advanced study of electrostatics and magnetostatics, including Coulomb's law, Gauss' law, the scalar potential, conductors and dielectrics, electrostatic energy, special methods, electric currents, Ampere's law, the magnetic induction, Faraday's law, and the electromagnetic wave equation as obtained from Maxwell's equations, with simple examples such as transmission lines and antennas. (Cross-listed with PHYS 3750)

**Prerequisite(s)/Corequisite(s):** MATH 1950, MATH 1960, MATH 1970, PHYS 3250, or permission.

**PHYS 8765 ELECTRICITY AND MAGNETISM II (3 credits)**

A selection of more advanced topics from electromagnetic theory, including a deeper treatment of the electromagnetic wave equations derived from Maxwell's equations, extending to propagation, reflection, and refraction of plane waves, waves in wave guides, and radiation. Other topics covered might be magnetism and magnetic energy, plasmas, and special relativity. (Cross-listed with PHYS 3760)

**Prerequisite(s)/Corequisite(s):** PHYS 3750.

**PHYS 8805 OPTICS (3 credits)**

The behavior of electromagnetic radiation as formulated in the ray, wave, and quantum models. Topics will include: reflection and refraction, vergence, matrix method, optical instruments, scalar waves, electromagnetic waves, blackbody radiation, interference, diffraction, and lasers; if time permits, fiber optics and holography will also be included. (Cross-listed with PHYS 3800)

**Prerequisite(s)/Corequisite(s):** PHYS 1120 or PHYS 2120 and MATH 1970.

**PHYS 8956 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4950, PHYS 4960, PHYS 8966)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

**PHYS 8960 TOPICS IN THE TEACHING OF NATURAL SCIENCE (1-4 credits)**

This course is for K-12 science teachers with emphasis on content appropriate to the educational standards of the State of Nebraska and the National Science Education Standards. Teaching methodologies and technologies will be integrated with the subject matter. The format varies but is that of a workshop using lecture, individual mentoring, group study, laboratory exercises and presentations. The number of credits offered will vary.

**Prerequisite(s)/Corequisite(s):** Permission of Instructor.

**PHYS 8966 PROBLEMS IN PHYSICS (1-3 credits)**

Individual laboratory and/or library work, or reading course in some field of physics. (Cross-listed with PHYS 4950, PHYS 4960, PHYS 8956)

**Prerequisite(s)/Corequisite(s):** PHYS 2120 and permission of instructor.

## Political Science (PSCI)

**PSCI 8000 SEMINAR IN THE RESEARCH METHODS IN POLITICAL SCIENCE (3 credits)**

This course introduces students to the methods of data collection and analysis for political science research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8005 QUANTITATIVE ANALYSIS IN POLITICAL SCIENCE (3 credits)**

This course introduces students to the techniques that political scientists use to answer research questions with quantitative data, as well as issues of research design, hypothesis formation, and causation. The course emphasizes the methods used to collect, analyze, and extract information from data using statistical computer software. (Cross-listed with PSCI 3000)

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor

**PSCI 8015 URBAN POLITICS (3 credits)**

This course introduces students to the development, powers, forms of government, and functions of cities and their suburbs as well as the problems faced by elected officials, business and community leaders, and citizens in the urban setting. (Cross-listed with PSCI 3010)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

**PSCI 8036 THE PRESIDENCY (3 credits)**

This course introduces students to the development and modern application of presidential leadership through examination of presidential selection, presidential decision-making, the relationship of the presidency with other governmental and non-governmental actors, and the role of the presidency in making public policy. (Cross-listed with PSCI 4030)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8040 SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (3 credits)**

This course introduces students to classic and contemporary scholarship on the principles, institutions, processes, and policies of national government in the United States with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8045 GOVERNMENT AND POLITICS OF NEBRASKA (3 credits)**

This course introduces students to the development, structures, functions and public policies of the government of the state of Nebraska.. (Cross-listed with PSCI 3040)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

**PSCI 8046 CONGRESS AND THE LEGISLATIVE PROCESS (3 credits)**

This course introduces students to the development of the Congress and modern application of the legislative process through examination of congressional elections, congressional leadership, congressional decision-making, legislative rules and procedures, the relationship of the Congress with other governmental and non-governmental actors, and the role of the Congress in making public policy. (Cross-listed with PSCI 4040)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8055 STATE GOVERNMENT AND POLITICS (3 credits)**

This course introduces students to the development, structures, functions and public policies of states. (Cross-listed with PSCI 3050)

**Prerequisite(s)/Corequisite(s):** PSCI 1100.

**PSCI 8056 THE JUDICIAL PROCESS (3 credits)**

This course introduces students to the administration of law in federal and state courts with respect to the organization of the courts, judicial selection, judicial powers, judicial decision-making, judicial policy-making, the bar, and reform movements in the pursuit of justice. (Cross-listed with PSCI 4050)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 8100 SEMINAR IN POLITICAL ECONOMY (3 credits)**

A comprehensive study of theories of political economy, linkages between politics and economics, and major contemporary issues.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate adviser

**PSCI 8105 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 3100, WGST 3100, WGST 8105)

**PSCI 8116 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 4110, PSYC 4110, PSYC 8116)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**PSCI 8120 SEMINAR IN LEADERSHIP (3 credits)**

This course introduces students to classical and contemporary scholarship on leadership theory, research, and application. Students gain a foundation in models of leadership, assess their own leadership styles, and learn to integrate what they learn in corporate, governmental, non-profit, or community organizations. (Cross-listed with CACT 8510)

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**PSCI 8126 PUBLIC OPINION AND POLLING (3 credits)**

This course introduces students to the origins, nature, measurement, and consequences of public opinion on policymaking. (Cross-listed with PSCI 4120)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8135 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 3130, WGST 3130, WGST 8135)

**PSCI 8145 LATINO/-A POLITICS (3 credits)**

This course introduces students to the dynamism and growth of the role of Latinos, as a group of political actors, in the United States. This course provides students with an exposure to and understanding of various concepts and dimensions of this phenomenon, including historical and contemporary Latino political thought and the efforts to increase political empowerment (representation and participation) and influence through grassroots, social, and political movements. (Cross-listed with PSCI 3140, LLS 3140, LLS 8145)

**PSCI 8146 CONSTITUTIONAL LAW: CIVIL RIGHTS (3 credits)**

This course introduces students to the history, principles, and judicial interpretation of key constitutional provisions and federal statutes regarding civil rights in the United States. (Cross-listed with PSCI 4140)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or equivalent.

**PSCI 8150 SEMINAR IN CONSTITUTIONAL LAW (3 credits)**

This course introduces students to the Constitution and the Supreme Court's exercise of judicial review in relation to governmental powers, civil rights, and civil liberties.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8165 POLITICAL PARTIES (3 credits)**

This course introduces students to the origin, development, structure, and functions of political parties in the United States as political organizations, coalitions of voters, and governing coalitions that seek to hold office and influence public policy. (Cross-listed with PSCI 3160)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8175 INTEREST GROUPS (3 credits)**

This course introduces students to the theories, formation, organization, and activities of interest groups and their impact on public policy, particularly through their role in campaigns and elections and lobbying. (Cross-listed with PSCI 3170)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8176 CONSTITUTIONAL LAW: FOUNDATIONS (3 credits)**

This course introduces students to the principles, design and operation of the American constitutional system with emphasis on analysis of the Declaration of Independence, the Articles of Confederation, the proceedings of the Constitutional Convention, and the Federalist Papers. (Cross-listed with PSCI 4170)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 or junior standing or permission of instructor.

**PSCI 8185 CAMPAIGNS AND ELECTIONS (3 credits)**

This course introduces students to the evolution and modern application of campaigns and elections in the United States through examination of campaign management and campaign strategy in congressional and presidential elections. (Cross-listed with PSCI 3180)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8186 CONSTITUTIONAL LAW: THE FEDERAL SYSTEM (3 credits)**

This course introduces students to American constitutional law as it relates to issues of federalism, the relation of the nation and the states, and separation of powers, the relation of the three branches of the national government. (Cross-listed with PSCI 4180)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8196 CONSTITUTIONAL LAW: CIVIL LIBERTIES (3 credits)**

This course introduces students to the philosophy, history, and development of the personal liberties guaranteed by the Constitution including freedom of speech, religion, assembly, petition, and the right of privacy, primarily through examination of Supreme Court decisions. (Cross-listed with PSCI 4190)

**Prerequisite(s)/Corequisite(s):** PSCI 1100

**PSCI 8200 SEMINAR IN FOREIGN POLICY AND NATIONAL SECURITY (3 credits)**

This course introduces students to classic and contemporary scholarship on the formulation and implementation of foreign and national security policy in the United States with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of the graduate adviser.

**PSCI 8206 INTERNATIONAL RELATIONS OF EAST ASIA (3 credits)**

This course introduces students to the international politics of East Asia with an emphasis on the contemporary relations among major East Asian states (China, Japan, the Korean peninsula) and the United States. (Cross-listed with PSCI 4200)

**PSCI 8216 INTERNATIONAL RELATIONS OF THE MIDDLE EAST (3 credits)**

This course focuses on the international politics of the Middle East region, specifically looking at conditions for peace and causes of war. It examines how the international system, domestic politics, ideologies, and leaders influence international politics in the Middle East. (Cross-listed with PSCI 4210)

**PSCI 8220 SEMINAR ON INTERNATIONAL LEADERSHIP AND STRATEGY (3 credits)**

This course introduces students to international leadership and strategy theory, research, and application.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8225 INTERNATIONAL ORGANIZATIONS (3 credits)**

This course introduces students to the history, principles, structures, and processes developed to organize and legitimize peaceful reconciliation of the differences of nation-states and to advance their mutual interests in the contemporary global political and economic system. (Cross-listed with PSCI 3220)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8235 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 3230, WGST 3230, WGST 8235)

**PSCI 8245 THE POLITICS AND PRACTICE OF HUMAN RIGHTS (3 credits)**

This course introduces students to human rights issues across the globe and explores the theoretical foundations of human rights as well as human rights institutions and transitional justice. (Cross-listed with PSCI 3240)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8246 INTERNATIONAL CONFLICT RESOLUTION (3 credits)**

This course introduces students to different approaches to peace, their basic assumptions, and their application to current conflicts.. (Cross-listed with PSCI 4240)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8250 SEMINAR IN INTERNATIONAL RELATIONS (3 credits)**

This course introduces students to classic and contemporary scholarship on the issues, theories, and methodological approaches associated with the study of the nation-state system, international law, international organizations, international security, and globalization.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8255 GLOBAL SECURITY ISSUES (3 credits)**

This course introduces students to issues of national and international security that cross boundaries and threaten all countries including issues such as climate change, environmental deterioration, population and demographics, gender issues, disease and public health, the media, asymmetrical warfare, drugs/organized crime, and cyberthreats. (Cross-listed with PSCI 3250)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8256 INTELLIGENCE AND NATIONAL SECURITY (3 credits)**

This course introduces students to the United States intelligence services, and their relation to broader U.S. national security policy. (Cross-listed with PSCI 4250)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8265 UNITED STATES FOREIGN POLICY (3 credits)**

This course introduces students to the analysis of foreign and defense policy processes in the United States, including the role of the President, Congress, Departments of State and Defense, the intelligence community, and other actors/factors affecting policy formulation and implementation. (Cross-listed with PSCI 3260)

**Prerequisite(s)/Corequisite(s):** PSCI 2210.

**PSCI 8266 INTERNATIONAL LAW (3 credits)**

The course introduces students to the general principles of international law, including the key actors, the creation and sources of international law, the interpretation of international law by courts and tribunals, and its enforcement. (Cross-listed with PSCI 4260)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8276 GLOBAL ENVIRONMENTAL POLITICS (3 credits)**

This course introduces students to issues of global environmental politics and policy, including the science behind issues such as climate change, how environmental policy is made at the national and international levels, and what role politics plays in determining environmental resource use. (Cross-listed with ENVN 4270, PSCI 4270)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8286 INTERNATIONAL RELATIONS OF LATIN AMERICA (3 credits)**

Analysis of the role of Latin American states in the international political arena. Emphasis upon developing, applying and testing an explanatory theory of international politics through the study of the inter-American system: the regional, institutional and ideological environment, power relations, policies and contemporary problems. (This course fulfills the department's international politics requirement). (Cross-listed with PSCI 4280, LLS 4280, LLS 8286)

**PSCI 8296 INTERNATIONAL DEVELOPMENT & SUSTAINABILITY (3 credits)**

This course introduces students to different concepts of international development through the lens of sustainability. The course explores a broad range of activities related to international development, including international aid, trade, philanthropy, interventions in conflict, peacebuilding, public health, human rights, social justice, and the environment. (Cross-listed with PSCI 4290, CACT 8306)

**Prerequisite(s)/Corequisite(s):** PSCI 2210 or equivalent is recommended.

**PSCI 8300 SEMINAR IN POLITICAL THEORY (3 credits)**

This course introduces students to the history of political theory, from its origins in ancient Greece to its manifestations in contemporary thought. (Cross-listed with CACT 8200)

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8316 CLASSICAL POLITICAL THOUGHT (3 credits)**

This course introduces students to key works representative of premodern political thought. Authors examined may include Plato, Aristotle, Xenophon, Cicero, Augustine, and Aquinas. (Cross-listed with PSCI 4310).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8326 EARLY MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key works of the 16th through mid-18th centuries. Authors examined may include Machiavelli, Hobbes, Hume, Smith and Montesquieu. (Cross-listed with PSCI 4320)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8336 LATE MODERN POLITICAL THOUGHT (3 credits)**

This course introduces students to key texts of the mid-18th through 19th centuries. Authors to be examined may include Rousseau, Burke, Mill, Tocqueville, Marx, and Nietzsche. (Cross-listed with PSCI 4330).

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8345 AMERICAN POLITICAL THOUGHT (3 credits)**

This course introduces students to the ideals, ideologies, identities, and institutions of American political thought from the country's origins to the present. Topics to be covered may include the political thought of the early American settlers and of the founding generation, the debates over the creation and implementation of the Constitution, the 19th century arguments over slavery, the rise of progressivism, the New Deal and its critics, and contemporary American conservatism and liberalism. (Cross-listed with PSCI 3340)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 is recommended.

**PSCI 8346 CONTEMPORARY POLITICAL THOUGHT (3 credits)**

This course introduces students to leading works of contemporary political thought, including Marx, Spencer, Dahl, Rawls, feminism, and rational choice. The theories, their interrelationships, the theorists, and the manifestations of these works will be discussed and analyzed. (Cross-listed with PSCI 4340)

**Prerequisite(s)/Corequisite(s):** PSCI 2310 or equivalent is recommended

**PSCI 8356 DEMOCRACY (3 credits)**

A basic study of theory, practice and practitioners of political democracy, its roots, development, present application and problems and future. (Cross-listed with PSCI 4350)

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 8366 AUTHORITARIAN REGIMES (3 credits)**

An analysis of various types of authoritarian regimes, their differences from democratic governments, and the causes of their establishment, maintenance, and failure. (Cross-listed with PSCI 4360).

**PSCI 8376 GENERALS AND POLITICIANS: CIVIL-MILITARY RELATIONS (3 credits)**

This course introduces students to civil-military relations and military politics across the globe. (Cross-listed with PSCI 4370).

**Prerequisite(s)/Corequisite(s):** PSCI 2500 or equivalent is recommended.

**PSCI 8500 SEMINAR IN COMPARATIVE POLITICS (3 credits)**

This course introduces students to classic and contemporary scholarship on the issues, theories, and methodological approaches associated with the systematic and comparative study of nation-states and their political systems with an emphasis on engaging in thoughtful discussion and individual research.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser.

**PSCI 8505 EUROPEAN POLITICS (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Europe, including the European Union. (Cross-listed with PSCI 3500)

**PSCI 8506 GOVERNMENT AND POLITICS OF GREAT BRITAIN (3 credits)**

A comprehensive study of British politics and government. Emphasis will be focused on the formal institutions and informal customs and practices of the British political system. (This course satisfies the department's comparative politics requirement). (Cross-listed with PSCI 4500)

**PSCI 8526 POLITICS OF FRANCE (3 credits)**

This course introduces students to the political heritage of France, contemporary political institutions and problems, and political and policy responses to these problems. (Cross-listed with PSCI 4520)

**PSCI 8556 POLITICAL VIOLENCE, INSURGENCY, AND TERRORISM (3 credits)**

This course is a survey on the types of violence used within a political context, focusing on its causes, forms and consequences. Specifically, this course details why and how violence occurs, and its impact on institutions and the people operating within that system. (Cross-listed with PSCI 4550).

**PSCI 8585 GOVERNMENT AND POLITICS OF RUSSIA AND THE POST-SOVIET STATES (3 credits)**

This course introduces students to the political cultures, institutions, processes, and public policies of Russia and the states of the former Soviet Union. (Cross-listed with PSCI 3580)

**PSCI 8626 ISLAM AND POLITICS (3 credits)**

This course introduces students to the interaction between religion and politics in the Muslim world, covering various political ideologies in the Muslim world and different experiences of Muslim-majority countries such as Saudi Arabia, Pakistan, Iran, Turkey, Indonesia, and Egypt. It will also analyze mainstream and radical transnational Islamic movements. (Cross-listed with PSCI 4620)

**PSCI 8645 GOVERNMENT AND POLITICS OF CHINA AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies, and other characteristics of China and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 3640)

**PSCI 8665 GOVERNMENT AND POLITICS OF JAPAN AND EAST ASIA (3 credits)**

This course introduces students to the political cultures, institutions, processes, policies and other characteristics of Japan and neighboring states, with reference to other major powers engaged in the region. (Cross-listed with PSCI 3660)

**PSCI 8685 GOVERNMENT AND POLITICS OF LATIN AMERICA (3 credits)**

This course introduces students to the political institutions, processes, and public policies of the states of Latin America. (Cross-listed with PSCI 3680, LLS 3680, LLS 8685)

**PSCI 8705 GOVERNMENT AND POLITICS OF THE MIDDLE EAST (3 credits)**

This course introduces students to government and politics in the contemporary Middle East, including considerations of state formation, authoritarianism and democratization, state-society relations, religion, culture, gender, and economy. (Cross-listed with PSCI 3700)

**PSCI 8716 COMPARATIVE INTERNATIONAL DEVELOPMENT AND INNOVATION (3 credits)**

Comparative International Development and Innovation will analyze the rise and fall of civilizations from a historical and theoretical perspective in a comparative manner. The course will address issues concerning political, social, economic, and environmental change in national, and international contexts. Among its major emphases are state institutions, economic growth, entrepreneurship, and the transformation of social structure and culture. (Cross-listed with PSCI 4710, ENTR 4710, ENTR 8716).

**PSCI 8776 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, SOC 4770, SOC 8776).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**PSCI 8826 POLITICS AND FILM (3 credits)**

This course introduces students to the analysis of politics and film, focusing on how politics is portrayed in film and the politics of film making. (Cross-listed with JMC 4820, JMC 8826, PSCI 4820)

**PSCI 8900 READINGS IN POLITICAL SCIENCE (1-3 credits)**

This course provides students an opportunity to study an advanced and specialized subject matter in the field of political science not covered in existing courses. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate adviser

**PSCI 8910 POLITICAL SCIENCE INTERNSHIP (3 credits)**

This course offers students an opportunity to experience the resolution of public issues through direct involvement in career-oriented policy organizations. The host organization must be approved in advance in consultation with the internship coordinator. This course may be repeated for a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of instructor.

**PSCI 8920 SEMINAR IN SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of twelve credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor.

**PSCI 8926 ADVANCED SPECIAL TOPICS IN POLITICAL SCIENCE (1-3 credits)**

This course introduces students to an advanced and specialized subject matter in the field of political science not covered in existing courses. This course may be repeated for different topics up to a maximum of six credit hours. (Cross-listed with PSCI 4920)

**PSCI 8980 RESEARCH IN POLITICAL SCIENCE (3 credits)**

This course provides students an opportunity to conduct research in a specialized subject matter in the field of political science. The student must be capable of pursuing a highly independent course of study, which must be approved in consultation with the instructor in advance. This course may be repeated for different topics up to a maximum of six credit hours.

**Prerequisite(s)/Corequisite(s):** Permission of graduate advisor, not open to non-degree graduate students.

**PSCI 8990 THESIS (3-6 credits)**

A research project, written under the supervision of a graduate adviser in the Department of Political Science, in which the students establish their capacity to design, conduct and complete an original, independent, scholarly investigation of a high order. The research topic and the completed project must be approved by the student's departmental committee.

**Prerequisite(s)/Corequisite(s):** Permission of graduate program chair. Not open to non-degree graduate students.

## Psychology (PSYC)

**PSYC 8000 THE PROFESSION OF PSYCHOLOGY (0 credits)**

Required non-credit course for graduate students in psychology. Intended to familiarize the beginning graduate student with the profession of psychology including such topics as ethics, professional organizations, job and educational opportunities, use of reference materials, licensing and certification and other relevant material.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 8016 HISTORY OF PSYCHOLOGY (3 credits)**

A study of the origins, development and nature of psychology and its relation to external events; emphasis on the period since 1875. (Cross-listed with PSYC 4010)

**Prerequisite(s)/Corequisite(s):** Admission to graduate program in Psychology or permission of instructor. Not open to non-degree students or students in other departments or programs.

**PSYC 8116 POLITICAL PSYCHOLOGY (3 credits)**

This course introduces students to the role of human thought, emotion, and behavior in politics through examination of the psychological factors that motivate political elites and the mass public. (Cross-listed with PSCI 4110, PSCI 8116, PSYC 4110)

**Prerequisite(s)/Corequisite(s):** PSCI 1100 is recommended.

**PSYC 8156 AFRICAN AMERICAN PSYCHOLOGY (3 credits)**

African American Psychology traces the psychological history of Africans and African Americans from self-attributes and identity, through race and racism, to cognition, learning, and language. This course will review concepts relevant to understanding the psychology of African Americans, methodological and research issues, and best practices. (Cross-listed with PSYC 4150, BLST 4150, BLST 8156).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**PSYC 8250 FAMILY ANALYSIS AND TREATMENT (3 credits)**

This course covers theories and techniques for family therapy, with special reference to adapting individual and group therapeutic, as well as consultation, principles for family interventions. Case analyses and evaluation methods are considered.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8256 LIMITS OF CONSCIOUSNESS (3 credits)**

A course focusing on the scientific study of the psychology, neurology, and philosophy of mind. This course is designed for students who are interested in thinking about thinking. (Cross-listed with PSYC 4250, PHIL 3250)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 8276 ANIMAL BEHAVIOR (3 credits)**

Behavior of diverse animals for the understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. (Cross-listed with PSYC 4270, BIOL 4270, BIOL 8276)

**Prerequisite(s)/Corequisite(s):** BIOL 1750 and PSYC 1010 or permission of instructor, junior-senior.

**PSYC 8286 ANIMAL BEHAVIOR LABORATORY (3 credits)**

Laboratory and field studies of animal behavior with an ethological emphasis. Classical laboratory experiences and independent studies will be conducted. (Cross-listed with PSYC 4280, BIOL 4280, BIOL 8286)

**Prerequisite(s)/Corequisite(s):** PSYC 4270 or BIOL 4270 or PSYC 8276 or BIOL 8273 and not open to non-degree graduate students.

**PSYC 8296 NEUROETHOLOGY (3 credits)**

In the field of Neuroethology a major goal is to understand the neural bases of animal behaviors in a natural context. In this course students will investigate how behaviors are generated and modulated by the nervous system in organisms ranging from insects to mammals. We will explore the neural mechanisms underlying a variety of animal behaviors as they interact with their natural environment ranging from sensory perception of the world (e.g. echolocation, electrolocation), to locomotor movements (e.g. flying, swimming), to more complex behaviors (e.g. learning, memory). (Cross-listed with BIOL 4290, BIOL 8296, NEUR 4290).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**PSYC 8316 PSYCHOLOGICAL AND EDUCATIONAL TESTING (3 credits)**

The use of standardized tests in psychology and education is considered with special regard to their construction, reliability and validity. (Cross-listed with PSYC 4310)

**Prerequisite(s)/Corequisite(s):** PSYC 1010 and junior/senior and not open to non-degree graduate students.

**PSYC 8326 HORMONES & BEHAVIOR (3 credits)**

In this course, students will examine the interaction between hormones, chemical messengers released from endocrine glands, and behavior in both human and animal systems. Methods for studying hormonal issues on behavior will be addressed. This course will provide students in psychology, biology, and related disciplines an understanding of how hormones affect sensory processing, motor activities, and processing of information in the central nervous system. (Cross-listed with PSYC 4320, BIOL 4320, BIOL 8326)

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of department.. Not open to non-degree graduate students.

**PSYC 8336 SOCIAL NEUROSCIENCE (3 credits)**

This course will evaluate the biological substrates of sociality and social behavior, and explore the impact of social environments on brain function and development. Students in the course will explore the molecular, cellular, neurotransmitter, and endocrine influences on social behavior, including affiliative care, aggression, social bonding, altruism, and social cognition. (Cross-listed with NEUR 4330)

**Prerequisite(s)/Corequisite(s):** Graduate status or permission of Instructor. Not open to non-degree graduate students.

**PSYC 8446 ABNORMAL PSYCHOLOGY (3 credits)**

A course designed to examine the aberrant behavior of individuals. Symptoms, dynamics, therapy and prognosis of syndromes are considered. (Cross-listed with PSYC 4440)

**Prerequisite(s)/Corequisite(s):** PSYC 1010. Not open to non-degree graduate students.

**PSYC 8456 PERSONALITY THEORIES (3 credits)**

A comparative approach to the understanding and appreciation of personality theories considering history, assertions, applications, validations and prospects. (Cross-listed with PSYC 4450)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 8476 MENTAL HEALTH AND AGING (3 credits)**

The goal of this course is to survey the mental health needs of older adults. Consideration is given to identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families also are discussed. (Cross-listed with PSYC 4470, GERO 4470, GERO 8476)

**Prerequisite(s)/Corequisite(s):** Junior or senior.

**PSYC 8500 PROFESSIONAL, LEGAL, AND ETHICAL FOUNDATIONS OF SCHOOL PSYCHOLOGY (3 credits)**

This course covers the role description and job activities of a school psychologist, as well as theories, assessment and intervention techniques, certification requirements, employment opportunities, public policy, legislation, and ethics relevant to school psychology. School-based field experiences will also be included in the course.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of dept. Not open to non-degree graduate students.

**PSYC 8520 FOUNDATIONS OF ASSESSMENT (3 credits)**

Course content covers traditional psychometric concepts (e.g., norms, reliability, validity) and their application to various areas of human behavior that are assessed (e.g., cognitive ability, personality, achievement). Clinical considerations are applied to how assessment information is integrated into a problem-solving process.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8526 PSYCHOLINGUISTICS (3 credits)**

A discussion of the literature concerned with how such psychological variables as perception, learning, memory and development relate to the linguistic variables of sentence structure, meaning and speech sounds. (Cross-listed with PSYC 4520)

**Prerequisite(s)/Corequisite(s):** Senior level or graduate level student or permission of the instructor. Not open to non-degree graduate students.

**PSYC 8530 EARLY CHILDHOOD ASSESSMENT (3 credits)**

This course is an introduction to the assessment of children during early development including infancy, toddler, preschool and early primary ages. Assessment will be discussed as it relates to problem-solving and data-based decision making (i.e., diagnosis, treatment, program evaluation). Students will learn the principles of working with young children and their families and how these principles will be used in conducting valid and reliable assessments that, in turn, lead to appropriate interventions.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8536 CULTURAL PSYCHOLOGY (3 credits)**

This course will provide an overview of the cultural, community and ecological factors that play a role in how people perceive their environments. The goal is to investigate the ways in which culture affects individual behaviors, attitudes and cognitions. It may be easy to tell that two cultures are different, but identifying exactly what is meant - and all that is encompassed - when speaking about "culture" can be much more difficult. Culture can include everything from gender constructs and race/ethnicity to the effects of new technologies. All of these aspects of culture affect individuals' psychological make-up and behavior. Although psychology has largely developed from a Western tradition, attention to research from non-Western perspectives will also be emphasized. This course supports the Cultural and Global Analysis concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4530, CACT 8106).

**Prerequisite(s)/Corequisite(s):** Enrollment in MA in Critical & Creative Thinking program or by permission of the instructor.

**PSYC 8540 SCHOOL AGE ASSESSMENT (3 credits)**

This course covers data-based decision-making as it applies to schools. Students will learn and practice the skills of reviewing records, interviewing, systematically observing, and testing. They will be exposed to the following types of assessments: academic, behavior, curriculum-based, intellectual, social-emotional, and screening measures.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8550 PSYCHOTHERAPEUTIC INTERVENTIONS (3 credits)**

This course provides graduate students knowledge in the application of evidence-based therapeutic interventions that can be utilized with children and adolescents in school, home, and family settings. Various approaches and techniques are presented along with supporting research. Observation and participation in clinical cases may be arranged.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8576 BEHAVIOR ANALYSIS AND INTERVENTIONS (3 credits)**

Introduction to experimental methodology, rationale and research literature of changing behavior through behavior modification techniques. Particular attention will be paid to methodological concerns regarding single subject design, ethical considerations and ramifications of behavior intervention with children and youth. (Cross-listed with PSYC 4570)

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8590 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3 credits)**

The content of this course will focus on children who are identified as "exceptional"; in terms of behavioral, cognitive, and learning problems. Exceptionality in this sense includes students who are in need of preventative and/or intervention-based services. The topics will be approached from a multidisciplinary perspective and emphasis will be placed on utilizing a response to intervention approach in working with exceptional individuals. The service-learning component of the course will require students to learn about the educational environment by spending time in an elementary classroom, consulting with school staff and addressing the educational needs of students.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8636 ORGANIZATIONAL PSYCHOLOGY (3 credits)**

This is a survey course which will cover the major concepts, theories and empirical research related to organizational psychology. Specific topics will include: work motivation, leadership, decision making and job satisfaction as well as more recent trends such as cultural diversity, work teams, work-family and quality issues. (Cross-listed with PSYC 4630)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or graduate certificate program. Not open to non-degree graduate students.

**PSYC 8646 PERSONNEL PSYCHOLOGY (3 credits)**

A survey of psychological principles, theories and research related to personnel issues. Course includes discussion of personnel selection, performance appraisal, recruitment, training and health and safety. (Cross-listed with PSYC 4640)

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program or graduate certificate program. Not open to non-degree graduate students.

**PSYC 8656 CREATIVITY AND INNOVATION IN ORGANIZATIONS (3 credits)**

To provide a discussion of the antecedents of individual and organizational creativity, including measurement, models, characteristics of the individual and the environment that facilitate creativity and innovation in an organizational setting. Students in this course will be able to understand the research literature related to creativity and innovation and apply the findings to improve critical and creative thinking, implementation of creative ideas, and development of creative teams and organizations. This course supports the Organizational Science and Leadership concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with PSYC 4650, CACT 8506)

**PSYC 8700 ETHICS AND LAW FOR PSYCHOLOGY AND APPLIED BEHAVIOR ANALYSIS (3 credits)**

This course provides graduate students with advanced knowledge of ethical codes, legal statutes, and case law that guide the profession of psychology and related applied fields with particular attention to the practice of applied behavior analysis. The primary emphasis of the class is on clinic-, community-, and school-based practice with children and adolescents.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 8800 GRADUATE SEMINAR IN THE AGING BRAIN (3 credits)**

The Graduate Seminar in the Aging Brain is a graduate level gerontology course focused on understanding the changes to the brain due to normal aging and aging-related diseases. This is an elective course for the Gerontology graduate program at UNO. The content matter of this course also makes it a relevant fit for graduate students from disciplines such as biology, psychology, geriatric medicine, nursing, social work, and exercise science. By the end of the course, students should have a thorough understanding of the changes to the brain in healthy aging and aging-related disease that affect cognitive and emotional functioning. (Cross-listed with GERO 8800).

**Prerequisite(s)/Corequisite(s):** Graduate level standing

**PSYC 8806 LAW & PSYCHOLOGY: ETHICS, RESEARCH & SERVICE (3 credits)**

This course presents legal principles relevant to all psychological specialties, with special reference to mental health services. Ethical reasoning and the APA ethics code are considered. (Cross-listed with PSYC 4800)

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)**

This course will evaluate the complex interaction between an organism's genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, NEUR 8896, BIOL 4890, BIOL 8896).

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PSYC 8900 PROBLEMS IN PSYCHOLOGY (1-6 credits)**

A faculty-supervised research project, involving empirical or library work and oral or written reports.

**Prerequisite(s)/Corequisite(s):** Written permission of department. Not open to non-degree graduate students.

**PSYC 8950 PRACTICUM FOR MASTER'S STUDENTS (1-6 credits)**

Faculty-supervised experience in industry or business designed to bridge the gap between the classroom and a job, emphasizing use of previously acquired knowledge in dealing with practical problems for master's students.

**Prerequisite(s)/Corequisite(s):** Written permission of your practicum committee. Not open to non-degree graduate students.

**PSYC 8970 MASTER'S LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY (1-6 credits)**

Faculty-supervised experience designed to provide experience in academic and behavioral assessment and intervention with children, and consultation with parents and school personnel.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 8980 PRACTICUM IN DEVELOPMENTAL PSYCHOLOGY (1-6 credits)**

Faculty-supervised experience in a setting designed to provide a practical understanding of theoretical concepts of human development. Emphasizes direct observation and or personal interaction as a means of training, and can be directed toward various populations within the developmental life span (e.g., infants, preschoolers, middle childhood, adolescents, adults, aged persons).

**Prerequisite(s)/Corequisite(s):** PSYC 9560 and permission of Developmental Psychology Area Committee. Not open to non-degree graduate students.

**PSYC 8990 THESIS (1-6 credits)**

Independent research project written under supervision of a faculty committee. May be repeated up to a total of six hours.

**Prerequisite(s)/Corequisite(s):** Written permission of your thesis committee. Not open to non-degree graduate students.

**PSYC 9010 PROSEMINAR: STATISTICAL METHODS I (3 credits)**

The purpose of this course is to introduce students to the statistical concepts of correlation and regression. The course will cover basic understanding of these techniques, their applications, and interpretations of results.

**Prerequisite(s)/Corequisite(s):** Graduate standing and an undergraduate course in basic statistics which included an introduction to correlation and linear regression. Not open to non-degree graduate students.

**PSYC 9020 PROSEMINAR: STATISTICAL METHODS II (3 credits)**

An advanced approach to experimental design and inferential statistics using the analysis of variance models.

**Prerequisite(s)/Corequisite(s):** A course in basic statistics which included an introduction to analysis of variance. Not open to non-degree graduate students.

**PSYC 9030 SEMINAR: TOPICS IN INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY (3-9 credits)**

A topic area within field of Industrial Organizational Psychology will be explored in depth.

**Prerequisite(s)/Corequisite(s):** Admission to Industrial Organizational graduate program and permission of instructor. Not open to non-degree graduate students.

**PSYC 9040 PROSEMINAR LEARNING (3 credits)**

A comprehensive and intensive coverage of experimental literature on learning in humans and animals.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PSYC 9050 APPLIED BEHAVIOR ANALYSIS IN EDUCATION (3 credits)**

The purpose of this course is to familiarize students with knowledge and skills in educational systems, educational assessment, educational interventions, and problem solving models with an emphasis on applied behavior analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9070 PROSEMINAR: COGNITIVE PSYCHOLOGY (3 credits)**

This course will be a comprehensive overview of the field of cognitive psychology including the topics of attention and performance, memory, problem solving, and language. In addition, there will be a more in-depth coverage of selected issues.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor. Not open to non-degree graduate students.

**PSYC 9090 PSYCHOMETRIC THEORY (3 credits)**

Study of theoretical and practical problems related to the development and use of psychological measures and research designs covering such topics as scaling, test development, reliability, validity, interpretation of results and generalizability.

**Prerequisite(s)/Corequisite(s):** PSYC 3130 or equivalent. Not open to non-degree graduate students.

**PSYC 9100 SMALL N RESEARCH DESIGNS (3 credits)**

This course uses applications of research methodology that involve direct observation and single-subject designs to identify evidence-based practices that address clinical problems experienced by individuals across a variety of settings. Topics covered include behavioral assessment techniques, graphing data, single subject experimental designs, and consumer satisfaction with interventions.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor.

**PSYC 9120 MULTIVARIATE STATISTICAL ANALYSIS (3 credits)**

An examination of statistical techniques for describing and analyzing multivariate data commonly collected in behavioral research. Analytic techniques derived from general linear model will be considered, focusing on proper interpretation and use. The course is intended for doctoral students in psychology and (selectively) for advanced masters students in behavioral sciences.

**Prerequisite(s)/Corequisite(s):** PSYC 9090, 9010 and 9020 or permission of instructor. Not open to non-degree graduate students.

**PSYC 9130 APPLICATIONS OF ADVANCED STATISTICS IN PSYCHOLOGY (3 credits)**

This course covers a variety of statistical tools that may be used to answer research questions for group designs. A primary focus of the class is the application of statistical tools to psychology research and practice.

**Prerequisite(s)/Corequisite(s):** Admission to a graduate program in Psychology. Not open to non-degree graduate students.

**PSYC 9140 ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS (3 credits)**

The purpose of this course is to familiarize students with the diagnosis, assessment, and treatment of autism spectrum disorders (ASD). (Cross-listed with SPED 9140).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9230 PROSEMINAR: BEHAVIORAL NEUROSCIENCE (3 credits)**

A study of the biological substrates of behavior with emphasis upon neuroanatomy, neurophysiology and neuropharmacology.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9240 PROSEMINAR: EVOLUTIONARY PSYCHOLOGY (3 credits)**

A comprehensive overview of behavioral biology including topics of evolution and behavior, behavioral ecology, physiology and genetics of behavior, and learning.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9320 SEMINAR IN PROGRAM EVALUATION (3 credits)**

This course is intended to help advanced graduate students in the applied social sciences understand the literature and conduct evaluation research. The history of program evaluation and philosophies manifest in evaluation research are reviewed, alternative evaluation models are discussed, and relevant methodological and practical issues such as quasi-experimental design and utilization are explored.

**Prerequisite(s)/Corequisite(s):** Students should have prior graduate-level course work or experience in research design and statistics in the applied social sciences. Not open to non-degree graduate students.

**PSYC 9421 POSITIVE ORGANIZATIONAL PSYCHOLOGY AND LEADERSHIP (3 credits)**

This course is a graduate seminar on organizational psychology and leadership that focuses on the understanding and critical analysis of theory and practice pertaining to individual functioning at work. Positive organizational psychology theories and practices will provide the overarching framework in understanding potential solutions to challenges and problems facing leaders and their employees. (Cross-listed with CACT 8520)

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**PSYC 9430 PROSEMINAR: PERSONALITY (3 credits)**

A course considering the effects of personality variables on behavior. A historical, theoretical, psychometric and experimental approach will be emphasized.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9440 PROSEMINAR: SOCIAL PSYCHOLOGY (3 credits)**

Examination of theories, research findings and controversies in social psychology. Topics will include socialization; person perception; interpersonal attraction, leadership and group effectiveness; attitudes, attitude measurement, and attitude change; intergroup relations, power and social influence. New topics will be added as they become part of the research interests of social psychologists.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PSYC 9460 SEMINAR IN AGING AND HUMAN BEHAVIOR (3 credits)**

This course will examine in detail age-related changes in psychological processes and explore the implications of these changes for behavior. The course is intended primarily for graduate students in psychology and gerontology. (Cross-listed with GERO 9460)

**Prerequisite(s)/Corequisite(s):** Graduate standing in gerontology or psychology.

**PSYC 9470 PRACTICUM IN APPLIED BEHAVIOR ANALYSIS (1-12 credits)**

The practicum in applied behavior analysis provides students with intensive supervised experience providing behavior analytic services to improve the well-being of children and their families. Students will be assigned to practicum sites based on their respective interests, career goals, and availability of positions.

**Prerequisite(s)/Corequisite(s):** One semester of coursework in the Applied Behavior Analysis Master's degree program or admission to the Applied Behavior Analysis Certificate program. Not open to non-degree graduate students.

**PSYC 9500 SOCIOEMOTIONAL DEVELOPMENT (3 credits)**

This seminar is designed to provide an in-depth examination of the research literature on socioemotional development (emotional development that influences social behavior & development), with particular emphasis on both classic issues and current topics of debate. The course topics cover issues of importance in infancy, childhood, and adolescence. Research methods, as they apply to socioemotional development, will be emphasized throughout the course.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PSYC 9560. Not open to non-degree graduate students.

**PSYC 9510 RESEARCH METHODS IN DEVELOPMENTAL PSYCHOLOGY (3 credits)**

This course is designed to provide graduate students in developmental psychology and school psychology with the necessary skills to enable them to frame a research question and to design a study to answer that question. In addition, students will become familiar with methodologies for specialized areas within developmental psychology. Research ethics is a major component in the course.

**Prerequisite(s)/Corequisite(s):** PSYC 9560. Not open to non-degree graduate students.

**PSYC 9530 COGNITIVE DEVELOPMENT (3 credits)**

This course covers contemporary issues in theory and research concerning the development of processes by which environmental information is perceived, attended to, stored, transformed and used. Both Piagetian and information processing orientations will be emphasized.

**Prerequisite(s)/Corequisite(s):** PSYC 9560. Not open to non-degree graduate students.

**PSYC 9550 PSYCHOSOCIAL DEVELOPMENT (3 credits)**

A seminar focusing on research methods, theory and the empirical literature as they apply to social and personality development across the life span. All students will be expected to design and conduct a mini-observational experimental study in some specific area of social and personality development.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PSYC 9560. Not open to non-degree graduate students.

**PSYC 9560 PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY (3 credits)**

A survey of developmental processes across the life-span, with a particular emphasis on the interface of biological, cognitive and social influences. Theories of human development and issues pertaining to developmental processes are examined. The primary focus in the course is on the research literature pertaining to developmental psychology. Special emphasis is given to the role of context in development and to the topics of research methods, multicultural factors in development and social policy.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PSYC 9570 APPLIED BEHAVIOR ANALYSIS (3 credits)**

A comprehensive introduction to experimental methodology in applied behavior analysis. Topics covered include observational recording systems, reliability indices, procedural implementation of behavioral techniques, single-subject research designs and a broad review of the research literature.

**Prerequisite(s)/Corequisite(s):** A minimum of one course in learning theory (PSYC 8560, PSYC 8576, PSYC 9040, or equivalent) and permission. Not open to non-degree graduate students.

**PSYC 9610 MOTIVATION & MORALE (3 credits)**

A course focusing on theory and research in the areas of work motivation, work behavior and job satisfaction. Emphasis is placed on such topics as expectancy theory, job redesign, leadership, absenteeism, turnover, goal setting and behavior modification.

**Prerequisite(s)/Corequisite(s):** Admission into industrial/organizational psychology graduate program and permission of instructor. Not open to non-degree graduate students.

**PSYC 9620 INDUSTRIAL TRAINING AND ORGANIZATIONAL DEVELOPMENT (3 credits)**

This course will review theory and research relevant to training and organizational development, with emphasis on diagnosis, design, implementation, and evaluation. Practical concerns associated with intervention will be addressed.

**Prerequisite(s)/Corequisite(s):** Admission into industrial/organizational psychology graduate program and PSYC 9090, PSYC 9010, and PSYC 9020. Not open to non-degree graduate students.

**PSYC 9630 LEADERSHIP THEORIES AND RESEARCH (3 credits)**

The purpose of this course is to provide the student with a thorough review of the theories and research in the area of leadership. Theories reviewed will be those that focus on the role of the individual in effective leadership, the role of the situation, and the role of the followers. Special attention will be given to the psychological theories of leadership. The application of leadership research and theory to areas such as selection and training will also be reviewed.

**Prerequisite(s)/Corequisite(s):** Admission into the psychology graduate program or graduate standing and instructor permission. Not open to non-degree graduate students.

**PSYC 9640 PROBLEM SOLVING & DECISION MAKING (3 credits)**

The primary objective of the course is to acquaint students with some of the major conceptual, methodological, and measurement issues within the field of problem solving and decision making. Due to the scope of this field, the course will focus on the psychological research on individual decision making, with special emphasis on the cognitive and motivational processes underlying problem solving and decision making. The second major objective of the course is to encourage students to creatively integrate and apply decision making approaches and findings to traditional areas of concern to the industrial-organizational psychologist (e.g., employee selection, performance appraisal, training, leadership, motivation). The third objective is to hone students' critical thinking skills and their ability to present their ideas in a clear and coherent manner using oral and written formats.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 9650 RESEARCH METHODS IN PSYCHOLOGY (3 credits)**

A course designed to allow students to integrate and extend their knowledge and understanding of psychological research. Students will develop skills in writing research proposals, conducting research, and preparing manuscripts for publications.

**Prerequisite(s)/Corequisite(s):** PSYC 9010 or PSYC 9020. Not open to non-degree graduate students.

**PSYC 9660 CRITERION DEVELOPMENT AND PERFORMANCE APPRAISAL (3 credits)**

An in-depth examination of the fundamentals of personnel psychology including job analysis, criterion development and performance measurement and appraisal in organizations. Practical experience in the application of techniques and procedures is emphasized through group and individual projects in organizational settings.

**Prerequisite(s)/Corequisite(s):** Admission to industrial/organizational psychology graduate program and PSYC 9090 (may be taken concurrently). Not open to non-degree graduate students.

**PSYC 9670 PERSONNEL SELECTION (3 credits)**

An exploration of current theory and practice in personnel selection. Problem solving strategies are emphasized through the design, analysis, and interpretation of selection research and the implementation of selection programs consistent with Equal Opportunity Guidelines and federal law.

**Prerequisite(s)/Corequisite(s):** Admission to industrial organizational psychology graduate program, PSYC 9660. Not open to non-degree graduate students.

**PSYC 9680 GROUPS AND TEAMS (3 credits)**

Teamwork is hard but inevitable; individuals must be able to work effectively in a team. Teamwork is only becoming more difficult and complex as organizations use technology to communicate across space and time, bringing together culturally and functionally diverse, physically distributed team members who are members of multiple teams or systems of teams. This course explores what it means to be a good team member, to help others work effectively in teams, and to diagnose and solve teamwork problems. Challenges such as communication, decision-making, conflict resolution, and leadership are explored.

**Prerequisite(s)/Corequisite(s):** Admission to industrial organizational psychology graduate program and PSYC 9660. Not open to non-degree graduate students.

**PSYC 9780 ADVANCED CONSULTATION IN PSYCHOLOGY AND EDUCATION (3 credits)**

The course is designed to provide education and psychology professionals a comprehensive understanding of foundational theories and processes of consultation applied to education and psychology problems of children. A major objective is to focus on developing consultation skills considered necessary to be an effective consultant through direct practice and feedback. The course will emphasize the relationship between the consultant and parents, teachers, and other professionals within the school and child mental health settings.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9910 TOPICAL SEMINAR IN PSYCHOLOGY (1-3 credits)**

A discussion of specific advanced topics which will be announced whenever the course is offered.

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PSYC 9940 SCHOOL PSYCHOLOGY APPLIED RESEARCH PROJECT (1-7 credits)**

The applied research project consists of students conducting an independent research project from start to finish. This project should have relevance to a practical aspect of school psychology and provide a unique contribution to the field. It may be quantitative or qualitative in nature, and must rely on sound research methodology.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

**PSYC 9950 PRACTICUM FOR DOCTORAL STUDENTS (1-6 credits)**

Faculty-supervised experience in industry or business designed to bridge the gap between the classroom and a job, emphasizing use of previously acquired knowledge in dealing with practical problems for doctoral students.

**Prerequisite(s)/Corequisite(s):** Admission to industrial/organizational psychology graduate program. Not open to non-degree graduate students.

**PSYC 9960 RESEARCH OTHER THAN THESIS (1-12 credits)**

Research work under supervision of a faculty member. May be repeated up to a total of 12 credit hours.

**Prerequisite(s)/Corequisite(s):** Enrollment in a graduate program beyond the master's level. Not open to non-degree graduate students.

**PSYC 9970 ED.S. LEVEL PRACTICUM IN SCHOOL PSYCHOLOGY (1-6 credits)**

School Psychology School-Based Practicum is a capstone course in school psychology intended for students who have completed their Master's degree in School Psychology. This course is designed to reflect the scientist-practitioner model of training and practice in School Psychology. To accomplish this goal, students will be assigned to a practicing school psychologist employed by the public schools. The content of this course will focus on integrating previous and concurrent training experiences from courses and field experiences.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9980 INTERNSHIP IN SCHOOL PSYCHOLOGY (3-6 credits)**

School Psychology Internship is the final course in school psychology intended for students who have completed all of their other coursework. It is a 1200 hour culminating experience leading to licensure/certification as a school psychologist in most states, and eligibility for the NCSP exam. The internship requires that students apply the domains of training and practice that are outlined in the School Psychology program philosophy and training objectives. University and site-based supervision is required.

**Prerequisite(s)/Corequisite(s):** Admission to School Psychology Graduate Program and/or permission of instructor. Not open to non-degree graduate students.

**PSYC 9990 PSYCHOLOGY DISSERTATION (1-24 credits)**

The course provides doctoral candidates in Psychology with a process to complete a dissertation research plan. The course learning activities will focus on the completion of a candidate's dissertation. The course is designed to allow advanced doctoral candidates to demonstrate technical mastery of the discipline and to advance knowledge by completing an investigation.

**Prerequisite(s)/Corequisite(s):** Must be admitted to a graduate level PSYC program or permission of instructor. Not open to non-degree graduate students.

## Public Administration (PA)

**PA 8010 THE PUBLIC ECONOMY (3 credits)**

This course focuses on microeconomics and its application to policy and management in the public and non-profit sectors. The concept of efficiency is developed along with the goal of social equity to help determine the roles of the public, private, and non-profit sectors. Some key issues examined are: the balance between equity and efficiency, government intervention in the market, privatization of public services, and cost benefit analysis.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8020 AVIATION MANAGEMENT AND POLICY (3 credits)**

The purpose of the course is to acquaint students with advanced concepts of aviation administration and the implementation of aviation policy within the public sector and to identify key concepts and critical issues both domestic and international. The primary focus is to explore the various effects that have resulted from the formation and enactment of major aviation and transportation regulatory issues. (Cross-listed with AVN 8020).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8030 INTERNSHIP IN PUBLIC ADMINISTRATION (1-6 credits)**

Maximum of 3 hours to be granted upon completion of written report on internship. Internship in some government: national, state, local or nonprofit agency and in some instances public-oriented private agencies. Students will take course as Satisfactory/Unsatisfactory. An additional 3 hours may be taken through PA 8040.

**Prerequisite(s)/Corequisite(s):** Nine hours of MPA coursework and permission of school. Not open to non-degree graduate students.

**PA 8040 INTERNSHIP IN PUBLIC ADMINISTRATION (1-6 credits)**

Maximum of 3 hours to be granted upon completion of written report on internship. Internship in some government: national, state, local or nonprofit agency and in some instances public-oriented private agencies. Students will take the course as Satisfactory/Unsatisfactory. An additional 3 hours may be taken through PA 8030.

**Prerequisite(s)/Corequisite(s):** Nine hours of MPA course work and permission of the school. Not open to non-degree graduate students.

**PA 8050 FOUNDATIONS OF PUBLIC ADMINISTRATION (3 credits)**

The purpose of this course is to introduce the student to the art and science of public administration and to enable the student to develop the knowledge, skills and abilities requisite to the pursuit of graduate education in public administration.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**PA 8090 ORGANIZATION THEORY AND BEHAVIOR (3 credits)**

A study of the various approaches to understanding public organizations and people in them with special emphasis on the design, functioning and management of public agencies.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**PA 8100 ADVANCED MANAGEMENT AND LEADERSHIP FOR PUBLIC AND NONPROFIT PROFESSIONALS (3 credits)**

This course is designed to advance students' understanding and techniques about the role of leadership and ethics in the public and nonprofit sectors. Special attention will be paid on the application of theories of leadership and ethics to manage various boundary spanning activities including managing external relationships, collaborations/networks, performance, and innovation and change. (Cross-listed with AVN 8100)

**Prerequisite(s)/Corequisite(s):** PA 8050 and PA 8090. Not open to non-degree graduate students.

**PA 8106 MARKETING IN PUBLIC, NON-PROFIT AND AVIATION ORGANIZATIONS (3 credits)**

This course will focus on developing a working knowledge of marketing and its component parts as they may be applied to non-profit organizations. Emphasis will be placed on understanding the marketing process and applying marketing principles to real organizational settings. (Cross-listed with PA 4100).

**Prerequisite(s)/Corequisite(s):** Graduate and permission of instructor, and PA 8010, PA 8090; or permission of department.

**PA 8110 MANAGING INFORMATION IN THE PUBLIC SECTOR (3 credits)**

This course is directed toward in-career and pre-career students in public administration who wish to acquire knowledge of issues in the management of information in the public sector and the basics of computing applications in the public sector. Its primary focus is on special issues in the management of information.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090, or permission of school. Not open to non-degree graduate students.

**PA 8120 ANALYSIS AND DECISION MAKING (3 credits)**

This course assists students to develop their skills in research design and data analysis, covering both qualitative and quantitative data relevant to public affairs. The course introduces students to the fundamentals of research design, data collection, data and statistical analysis, and drawing pertinent policy and management recommendations. (Cross-listed with AVN 8120).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students

**PA 8130 MANAGING DIGITAL GOVERNANCE (3 credits)**

This course equips current and future public and nonprofit managers with capabilities and strategies to evaluate, participate in, and/or lead an information technology (digital governance) project to improve or even transform public service and governance. Because information technology has become increasingly integrated into public service and governance, understanding the role of information and information technology in government has become a necessity. This course provides the concepts and tools for public and nonprofit managers to succeed in the information age by better managing information as a resource and information technology as an enabler for public services and governance. The topics include digital divide, online participation, strategic IT management and change management, information resource and knowledge management, financing IT projects, IT project and performance management, management of IT outsourcing, and business process management. Basic literacy in computing and information technology is an integral part of the course. The discussion of these topics will address the growing use of information and communication technologies such as social media, smart mobile devices, and internet of things. Moreover, this course addresses the interplay of management, technology, and policy in the context of public service organizations, including governmental and non-profit organizations. This course offers the best of both practical and academic worlds via assigned readings and exercises, discussions, and a service-oriented project. The emphasis is on research-based knowledge and best practices informing one another. The class discussion is aimed at integrating professional experience with quality research to generate additional insights.

**Prerequisite(s)/Corequisite(s):** PA 8050. Not open to non-degree graduate students.

**PA 8206 COMMUNITY ORGANIZING & SOCIAL CHANGE (3 credits)**

This course will focus on various theories and applications of organizing communities and neighborhoods to effect change. Of particular interest is the role of engaging citizens in improving their communities. (Cross-listed with PA 4200).

**Prerequisite(s)/Corequisite(s):** Permission of instructor. Not open to non-degree graduate students.

**PA 8300 POLICY DESIGN AND IMPLEMENTATION (3 credits)**

This course examines the formulation, adoption, implementation and evaluation of public policy. Important topics include the basic features of American government, the causes and determinants of public policies, the dynamics of decision-making in the public sector, the obstacles to "successful" public programs, and the criteria for the assessment of a public program's impact. Special emphasis is given to the role public managers play within the policy process.

**Prerequisite(s)/Corequisite(s):** PA 8050, PA 8090 and PA 8120. Not open to non-degree graduate students.

**PA 8320 PUBLIC POLICY EVALUATION (3 credits)**

This course is designed to have the students understand the role of evaluation in the policy process, to demonstrate how to conduct and implement evaluations of public programs, to illustrate the procedures for presenting an evaluation report to public officials and citizens, to introduce operational issues and problems associated with management of an office of policy evaluation, and to insure the exploration of conflicts and limitations inherent to public policy evaluation.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090 and PA 8120 and completion of at least 24 hours in the MPA program, not open to non-degree graduate students

**PA 8330 SEMINAR IN POLICY ANALYSIS (3 credits)**

Application of analytical techniques to the assessment of alternative courses of public action and the development and design of public programs; utilization and impact of expert analysis by public officials and political groups; impact and role of technical analysis in a democracy; management of policy analysis units within government.

**Prerequisite(s)/Corequisite(s):** PA 8050 and PA 8120, not open to non-degree graduate students

**PA 8400 PUBLIC AND NONPROFIT BUDGETING (3 credits)**

The purpose of the course is to familiarize public administration students with the basic characteristics and features of public budgets and enable them to deal competently with them.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8410 PUBLIC HUMAN RESOURCE MANAGEMENT (3 credits)**

A study of the personnel process in American governmental administration. The processes and problems of recruiting, structuring and operating public bureaucracies are examined as well as problems in personnel leadership, neutrality, accountability and performance.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8420 PUBLIC WORKS MANAGEMENT (3 credits)**

This course is designed to develop an understanding of the profession of public works management, and its relationship with urban service delivery. Students will learn substantive specialty areas of public works, as well as management techniques to improve service delivery efficiency.

**Prerequisite(s)/Corequisite(s):** PA 8050. Not open to non-degree graduate students.

**PA 8436 MUNICIPAL ADMINISTRATION (3 credits)**

The administrative structure and administrative practices of American cities covering such areas as finance, personnel, public works, public safety, health, utilities and planning. (Cross-listed with PA 4430).

**Prerequisite(s)/Corequisite(s):** PA 8010 and PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8440 ORGANIZATION DEVELOP. & PLANNED CHANGE IN THE PUBLIC SECTOR (3 credits)**

This course provides students with the theories and skills necessary to manage organizational change in the public sector. To accomplish this will require that the student become versed in the strategies of organizational development (OD) and planning in the public sector while at the same time mastering intervention techniques.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120 and completion of at least 24 hours in the MPA, not open to non-degree graduate students

**PA 8450 SEMINAR IN ADVANCED MANAGEMENT ANALYSIS IN PUBLIC AGENCIES (3 credits)**

A study of theory and method related to analysis of problems of organization and workflow in public agencies. The course includes problem analysis, field study methods, design of improved methods, selecting alternatives and developing decision packages.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120 and completion of at least 24 hours in the MPA program.

**PA 8470 ADMINISTRATIVE ETHICS AND LEADERSHIP (3 credits)**

Ethical action and effective leadership are especially important in public service and they are closely related. This course introduces students to concepts from public sector ethics and from leadership theory. Emphasis is placed on decision-making processes, relationships between public and nonprofit sector professionals and elected officials and citizens, and the role of the career public service professional in a democratic society.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8480 SEMINAR IN PUBLIC FINANCIAL ADMINISTRATION (3 credits)**

The study of public finance administration policy and techniques areas. Emphasis is placed on the technical aspects of public finance administration with particular emphasis on the purposes, processes and issues associated with particular techniques or technique areas. (Cross-listed with AVN 8480).

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of department.

**PA 8500 ISSUES IN PUBLIC-PRIVATE SECTOR COOPERATION (3 credits)**

This course introduces students to the organization and processes, as well as the tools and techniques, of public-private sector cooperation. The objective of such a course is to familiarize students with the concepts and skills needed to develop and administer joint activities between the public and private sectors. Such cooperative activities have become an important aspect of public administration in recent years.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090 or permission of school. Not open to non-degree graduate students.

**PA 8516 LONG-TERM CARE ADMINISTRATION (3 credits)**

An investigation of the broad range of policy issues, theoretical concerns and practical management strategies influencing the design, organization and delivery of long-term care services. (Cross-listed with GERO 4510, GERO 8516, PA 4510).

**Prerequisite(s)/Corequisite(s):** Permission of instructor and PA 8050, PA 8090 or permission of school. Not open to non-degree graduate students.

**PA 8520 SEMINAR IN GRANT WRITING (3 credits)**

This course explores the grant-writing process from initial conceptualization through submission and award to final report. The purposes of the course are to provide graduate students with the expertise and tools needed to fund their own research, to provide effective grant-writing assistance to faculty mentors and other colleagues, and to compete more effectively in the job market and/or for acceptance into doctoral and post-doctoral programs.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090. Not open to non-degree graduate students.

**PA 8530 PLANNING AND EVALUATION (3 credits)**

The basic question presented in this course is how we can use strategic planning and evaluation to build public and nonprofit organizations that function creatively and effectively, and that enhance the overall public value of their services.

**Prerequisite(s)/Corequisite(s):** PA 8100, PA 8050, PA 8090, PA 8120 and PA 8300. Not open to non-degree graduate students.

**PA 8550 INTRODUCTION TO THE NON-PROFIT SECTOR (3 credits)**

This course focuses on the contribution and importance of philanthropy, volunteerism and nonprofit organizations in society. Includes the differentiation between both public and private nonprofit organizations and the for profit sector. Management issues regarding nonprofit agencies is introduced.

**Prerequisite(s)/Corequisite(s):** Graduate standing, PA 8010, PA 8090 and permission of advisor or permission of school. Not open to non-degree graduate students.

**PA 8560 NONPROFIT FINANCIAL MANAGEMENT (3 credits)**

The focus of this course is on developing an understanding of the managing of financial resources within a nonprofit organization. A special emphasis is also placed on developing and executing budgets for such organizations.

**Prerequisite(s)/Corequisite(s):** Graduate standing and PA 8550 or permission of instructor. Not open to non-degree graduate students.

**PA 8566 INTERGOVERNMENTAL MANAGEMENT (3 credits)**

This course is directed at those who wish to improve their knowledge and understanding of intergovernmental relations as it impacts policy and administration in the United States. The course will look at history and theoretical underpinnings of intergovernmental relations, the different elements of these relationships and review specific management arenas that are affected by these relationships. (Cross-listed with PA 4560).

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050 and PA 8090; or permission of school. Not open to non-degree graduate students.

**PA 8580 NONPROFIT HUMAN RESOURCES MANAGEMENT (3 credits)**

This graduate-level course provides an introduction to the theories, principles, policies and practices related to leading and managing human resources in nonprofit organizations, including personnel, board and volunteer management and development.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of adviser; PA 8050; or permission of school. Not open to non-degree graduate students

**PA 8596 TECHNIQUES TOPICS IN NONPROFIT MANAGEMENT (1-3 credits)**

A variable content course emphasizing nonprofit management techniques and topics. Topics include nonprofit leadership, board executive staff roles and relationships, personnel and volunteer management, financial management, proposal and grant writing community resources, special events planning and administration, needs assessments and legal ethical aspects.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8600 ADMINISTRATIVE LAW (3 credits)**

A review of the principal elements of the role and character of legal processes in government administration, including delegation of powers, legal forms of administrative action, liability of government units and officers and judicial review of administrative action.

**Prerequisite(s)/Corequisite(s):** PA 8050, not open to non-degree graduate students

**PA 8616 MUNICIPAL LAW (3 credits)**

This course is directed at both graduates and undergraduates who wish to have some exposure to the legal issues which affect public administrators.

At the conclusion of the course, each student should have a basic understanding of municipal law which defines the parameters within which a public administrator must function, as well as other laws or legal concepts which will affect them on a day-to-day basis. Upon completion of the course, the student should be able to identify potential legal problems with their proposed actions.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of school. Not open to non-degree graduate students.

**PA 8676 PROGRAMS AND SERVICES FOR THE ELDERLY (3 credits)**

This course is provided to give the student a historical overview of programs for the elderly; examine the national policy process as it relates to the older American; and review the principles and practices relative to the existing national programs for the aged. (Cross-listed with GERO 4670, GERO 8676).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8710 FUND RAISING IN PUBLIC AND NON-PROFIT ORGANIZATIONS (3 credits)**

The purpose of this course is to introduce students to a variety of fund raising methods, provide the context in which these methods might be used, and provide an understanding of how fund raising operates within public and not-for-profit organizations.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of instructor, PA 8010, and PA 8090; or permission of school. Not open to non-degree graduate students.

**PA 8740 HEALTH CARE POLICY (3 credits)**

This course helps students understand major health care policy making and related issues. It focuses on the history/background; physical, social, and economic environment; policy process; and political marketplace of contemporary U.S. health care policies. Topics include health care reform, cost containment, indigent health care and urban vs. rural health care. A health care background is helpful, but not required.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**PA 8810 SEMINAR IN METROPOLITAN PLANNING (3 credits)**

An overview of the present status of planning in metropolitan areas with special emphasis on structure of planning departments, comprehensive plans and problems of annexation.

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of instructor or permission of school. Not open to non-degree graduate students.

**PA 8826 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (3 credits)**

An introduction to environmental law and regulations intended for students pursuing careers in environmental sciences or related fields. The course emphasizes the origins, implementation, and enforcement of U.S. state and federal laws and regulations. Major federal environmental laws, covering air and water quality, solid and hazardous waste, pollution prevention and remediation, and natural resources will be discussed. Usually offered Fall semesters. (Cross-listed with ENVN 8826, ENVN 4820, BIOL 4820, GEOG 4820, GEOG 8826).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**PA 8896 SPECIAL TOPICS PUBLIC ADMIN (3 credits)**

A course with the purpose of acquainting the student with key issues and topics of special concern to public and non-profit management that they otherwise would not receive elsewhere. No more than six hours of total credit in PA 8896 and PA 8906 can be taken without prior permission by the graduate program committee. Further, each topic in the course will need the approval of the Dean of Graduate Studies prior to being offered. (Cross-listed with PA 4890).

**PA 8906 SPECIAL TOPICS IN PUBLIC ADMINISTRATION (1-3 credits)**

A variable content course with Public Administration and Urban Studies topics selected in accordance with student and faculty interest. Possible topics include urban homesteading, administrative federalism and economic development and the public sector. (Cross-listed with PA 4900).

**Prerequisite(s)/Corequisite(s):** PA 8050 or permission of the school. Not open to non-degree graduate students.

**PA 8920 READINGS IN PUBLIC ADMINISTRATION (1-3 credits)**

Specially planned readings in public administration for the graduate student who encounters scheduling problems in the completion of his degree program, or who has special preparatory needs and who is adjudged by the department to be capable of pursuing a highly independent course of study.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120, and permission of the school. Not open to non-degree graduate students.

**PA 8940 RESEARCH IN PUBLIC ADMINISTRATION (1-3 credits)**

The course is intended for advanced graduate students in public administration. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of public administration rather than additional classroom courses.

**Prerequisite(s)/Corequisite(s):** PA 8010, PA 8050, PA 8090, PA 8120, and permission of the school. Not open to non-degree graduate students.

**PA 8990 CAPSTONE PROJECT IN PUBLIC ADMINISTRATION (3 credits)**

The Capstone Project offers each student the opportunity to demonstrate mastery of the theory and practice of public administration by applying the knowledge and skills gained in the MPA program to a project of the student's choice. This involves completing a project report reflecting the cumulative knowledge gained from these experiences. The course is intended only for students who are completing their Masters of Public Administration (MPA).

**Prerequisite(s)/Corequisite(s):** Completion of at least 30 hours in the MPA, PA 8050, PA 8100, PA 8090, PA 8120, PA 8300, PA 8400, PA 8530 and school permission. Not open to non-degree graduate students.

**PA 9000 FOUNDATIONS OF PUBLIC ADMINISTRATION (3 credits)**

This course is designed as a doctoral seminar that surveys the development of public administration from its earliest antecedents to the present day, taking both a historical and topical approach.

**Prerequisite(s)/Corequisite(s):** Admission into the doctoral program. Not open to non-degree graduate students.

**PA 9080 ADVANCED STATISTICAL APPLICATIONS (3 credits)**

This is a required course which will provide the student with fundamentals of modern statistical techniques used in criminal justice and public affairs research. (Cross-listed with CRCJ 9080).

**Prerequisite(s)/Corequisite(s):** CRCJ 8950

**PA 9200 THEORIES OF THE POLICY PROCESS (3 credits)**

Proseminar in public policy with emphasis on the development and application of theories of the formulation, adoption, and implementation of public policy.

**Prerequisite(s)/Corequisite(s):** Completion of a Master's degree in Public Administration or a related field, and permission of the instructor. Not open to non-degree graduate students.

**PA 9300 KNOWLEDGE DEVELOPMENT AND USE IN THE PUBLIC SERVICE PROFESSION (3 credits)**

This course will examine current issues in knowledge, development and use in the public service professions. Emphasis is placed on understanding various systematic research to effect social change.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9400 THE ENVIRONMENT OF PUBLIC ADMINISTRATION (3 credits)**

The purpose of this course is to enable the doctoral student to understand the role and responsibility of public administration in the context of the broader political economy.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9500 THEORIES OF NONPROFIT ORGANIZATIONS AND CIVIL SOCIETY (3 credits)**

This seminar course focuses on the theories and context of nonprofit and voluntary organizations, philanthropy, and civic society. It is designed for Ph.D. students to increase their depth of knowledge in specific content areas, including historical, legal, social, political, economic, behavioral, religious, ethical, organizational, and critical theories. The purpose is to help students gain knowledge of theories and context related to nonprofit and voluntary organizations, philanthropy, and civic society; as well as develop other skills to improve as a scholar.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9600 SEMINAR IN ADVANCED MANAGEMENT THEORY (3 credits)**

This course examines how recent advances in management theory may be incorporated into the practice of public administration.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program and PA 8090 or permission of instructor. Not open to non-degree graduate students.

**PA 9700 PUBLIC BUDGETING AND FINANCIAL THEORY (3 credits)**

This seminar is focused on theoretical issues in public budgeting and governmental finance. The aim of the seminar is for the student to understand the central issues in public budgeting and finance, and the place of this field of study within public administration.

**Prerequisite(s)/Corequisite(s):** Admission to doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9800 ADVANCED RESEARCH DESIGN (3 credits)**

This is a required course which will expose students to advanced topics in research methods in preparation for writing their doctoral dissertation. It will also apply advanced methodological techniques to problems in the field.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program. Not open to non-degree graduate students.

**PA 9900 ADVANCED TOPICS (3 credits)**

This course provides a format for exploration of topics of interest to advanced students in public administration. Topics covered will change periodically in keeping with the interests of faculty and students. (Cross-listed with AVN 9900).

**Prerequisite(s)/Corequisite(s):** Admission to PhD program in Public Administration or permission of instructor. Not open to non-degree graduate students.

**PA 9920 TEACHING AND PROFESSIONAL SKILLS WORKSHOP (1 credit)**

The workshop offers training for a career in higher education. Instruction and practice in teaching includes creating and presenting lecture material, facilitating discussion, constructing syllabi, and related matters. Instruction in professional skills includes topics such as interviewing for positions, writing and publishing, and the tenure process.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program or permission of instructor. Not open to non-degree graduate students.

**PA 9930 PHD RESEARCH & PROFESSIONAL SKILLS WORKSHOP (1 credit)**

This one credit hour PhD workshop offers training and practice related to research and professional development to prepare for a career in higher education or another research-oriented career. Topics covered include developing a research design and proposal, applying for research funding, presenting research, publishing research, preparing to go on the academic or professional job market, and self-care/well-being.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program or permission of the instructor. Not open to non-degree graduate students.

**PA 9950 QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION (3 credits)**

This course is designed to prepare the student to understand and apply advanced statistical methods needed in the design and analysis of public administration investigations. The major topics to be covered include research designs, nonexperimental research and specialized research designs, multiple linear regression, analysis of covariance, and logistic regression.

**Prerequisite(s)/Corequisite(s):** CRCJ 8030 or equivalent, PA 8050 or permission of the school. Not open to non-degree graduate students.

**PA 9960 QUALITATIVE RESEARCH METHODS (3 credits)**

This course is a doctoral seminar in the methods and practice of qualitative research. Advanced research design techniques, validity, mixed methodology, and qualitative research tools common to the practice of public administration are presented.

**Prerequisite(s)/Corequisite(s):** Admission to the doctoral program in public administration or permission of the instructor. Not open to non-degree graduate students.

**PA 9970 DIRECTED RESEARCH IN PUBLIC ADMINISTRATION (3 credits)**

This course offers a structure for doctoral students to conduct advanced research in their chosen area of specialization. (Cross-listed with AVN 9970).

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in Public Administration and permission of instructor. Not open to non-degree graduate students.

**PA 9980 DIRECTED READINGS IN PUBLIC ADMINISTRATION (1-6 credits)**

This course is designed to provide the advanced graduate student with the opportunity to do extended readings on a specialized public administration topic. (Cross-listed with AVN 9980).

**Prerequisite(s)/Corequisite(s):** Admission to the Ph.D. program in public administration and permission. Not open to non-degree graduate students.

**PA 9990 DISSERTATION (1-20 credits)**

The dissertation is an original research project conducted and written under the direction of a faculty dissertation committee. The dissertation provides the student with an opportunity to do original research that contributes to advancing the body of knowledge in public administration.

**Prerequisite(s)/Corequisite(s):** Admission to Ph.D. program in public administration. Admission to candidacy for Ph.D. degree. Prior to enrolling for dissertation hours, student must have permission from the chair of the supervisory committee. Not open to non-degree graduate students.

## Public Health & Behavior (PHHB)

**PHHB 8050 APPLIED RESEARCH IN PUBLIC HEALTH (3 credits)**

This course will assist candidates to develop the basic skills to conduct applied research to address contemporary problems in public health. The course will emphasize proposal writing, data collection, research design, statistical analysis, computer application, and writing of research reports.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**PHHB 8080 TOPICS IN HEALTH EDUCATION (3 credits)**

This course will explore important current issues in Health Education. Candidates will explore economic, political, ethical and technological developments that affect the practice of Health Education. There is no limit to the number of times a candidate may enroll in HED 8080 as long as a different topic is offered each time.

**Prerequisite(s)/Corequisite(s):** Graduate.

**PHHB 8206 A PUBLIC HEALTH APPROACH TO MENTAL HEALTH (3 credits)**

This public health course will help students think critically about the prevention, identification, and treatment of mental illness in the United States. Students will be introduced to concepts from the disciplines of public health, psychology and sociology to understand mental health disorders and their impact on population health. Students will explore health disparities through the lens of cultural, social, behavioral, psychological, and economic factors. Students will recognize that mental health exists on a continuum and develop skills to address environmental influences on behavior. (Cross-listed with PHHB 4200).

**PHHB 8250 HUMAN SEXUALITY (3 credits)**

This graduate-level course is aimed at providing an overview of the current scientific knowledge concerning human sexuality. The course is designed to be interdisciplinary in nature, providing the biological, behavioral and cultural aspects of human sexuality. Priority will be given to candidates from the helping professions. Qualified candidates from other related disciplines must have permission of instructor.

**Prerequisite(s)/Corequisite(s):** Undergraduate Anatomy and Physiology

**PHHB 8270 INTERVENTIONS IN HEALTH EDUCATION (3 credits)**

This course will provide health behavior candidates with an opportunity to investigate, contrast, develop, implement and evaluate a variety of intervention activities, to be applied in different settings. Theories regarding methods to enhance behavior change and teaching strategies to meet the health needs of a diverse population will be explored.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**PHHB 8330 ALCOHOL EDUCATION (3 credits)**

A study of the problems associated with alcohol use, misuse and abuse. The patterns and trends of use, theories of dependence, pharmacological aspects and health consequences are explored. Emphasis is given to the identification of people with alcohol related problems and the role of the private and public sectors in prevention, education, intervention, and referral. Methods of assessing needs, prescribing, implementing, and evaluating alcohol education programs will be explored.

**PHHB 8360 COMMUNITY HEALTH (3 credits)**

An in-depth examination of community health and determinants of community health issues. The epidemiology, statistical sciences, environmental health, political influences on health, and behavioral social sciences for community health are examined. Students are expected to be able to apply concepts addressed in class to contemporary health issues.

**PHHB 8400 HEALTH PROMOTION PROGRAM PLANNING (3 credits)**

An in-depth application of the health promotion program planning process utilizing a choice of planning models. Students develop a comprehensive plan in response to an actual grant announcement and follow appropriate guidelines.

**PHHB 8450 EPIDEMIOLOGY & PREVENTION OF DISEASE (3 credits)**

The course is designed for health behavior graduate students and others who are interested in public health. The causes, prevention, treatment and control of prevalent communicable and non-communicable disease in a culturally diverse and global society will be emphasized. Special emphasis will be given to diseases and health problems that can be prevented or controlled through education and advocacy. Students will apply skills to contemporary issues.

**PHHB 8500 HEALTH PROGRAM DESIGN (3 credits)**

This course will provide students the skills to design an education/advocacy health initiative based on health behavior theory and models. They will develop a plan that includes a detailed needs assessment, a carefully crafted set of SMART (Specific, Measurable, Achievable, Relevant, Time-Bound) objectives for all levels of program outcome, an implementation strategy using health behavior models, and a thorough and systematic evaluation framework (formative and summative).

**PHHB 8556 HEALTH ASPECTS OF AGING (3 credits)**

This course emphasizes health promotion for older adults. Special health needs of older Americans are compared and contrasted with health needs for other age groups. Prevention or delaying of chronic diseases and disorders are emphasized. (Cross-listed with PHHB 4550, GERO 4550, GERO 8556, WGST 4550).

**PHHB 8600 HEALTH BEHAVIOR (3 credits)**

The purpose of this course is to study the theoretical foundations of health behavior. Candidates will develop an understanding of the determinants of health behavior, the models and theories that provide a framework for predicting health behavior, and the strategies employed to bring about behavioral changes for health and disease prevention in individuals and groups.

**PHHB 8706 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with PHHB 4700, SOC 4700, SOC 8706).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**PHHB 8730 DYING, DEATH & GRIEVING (3 credits)**

An examination of theory and research relevant to interaction with the older, terminally ill person, focusing on communication with widows and other survivors as well as the dying patient. (Cross-listed with GERO 8730).

**Prerequisite(s)/Corequisite(s):** Graduate Students

**PHHB 8750 PROGRAM EVALUATION AND INSTRUMENTATION (3 credits)**

This course will build skills for selection, development and analysis of various types of instruments and techniques for conducting process, impact, and outcome evaluations in health promotion, education, and behavior. Evaluation of health behavior change and its antecedents, changes in community services programs, and community health status will be discussed. Candidates will learn methods for developing choosing psychometric tools, choosing appropriate evaluation designs, procedures for data collection, and describing evaluation results. Emphasis will be placed on political, statistical, and theoretical aspects of instrumentation and evaluation practices.

**Prerequisite(s)/Corequisite(s):** HED 8270/PHHB 8270 or permission of instructor.

**PHHB 8850 HEALTH ASPECTS OF STRESS MANAGEMENT (3 credits)**

The health-related aspects of stress management and control will be the focus of this course. Selected techniques for self-regulating stress will be demonstrated, practiced and analyzed. Candidates will be introduced to current scientific research in human stress.

**Prerequisite(s)/Corequisite(s):** Graduate.

**PHHB 8950 PUBLIC HEALTH LEADERSHIP AND ADVOCACY (3 credits)**

This course incorporates public health leadership theory and practices that are grounded in biomedical and social science and sanctioned by public law. Also included is the politics of communities and organizations. Advocacy is emphasized as a key tool to secure funding and to help assure that local, state, and federal policy-makers will adopt, implement, and maintain important public health regulations, policies and programs.

**Prerequisite(s)/Corequisite(s):** Fifteen (15) health education graduate credits. Not open to non-degree graduate students.

**PHHB 8980 HEALTH EDUCATION PRACTICUM (1-3 credits)**

This course offers graduate candidates in health education an opportunity to gain practical, on-the-job training in health education in local schools, businesses, hospitals, clinics, voluntary health agencies or governmental health agencies.

**Prerequisite(s)/Corequisite(s):** Candidates must have completed 21 credit hours at the undergraduate or graduate level (3.0 GPA or above) in health education prior to enrolling in this course. Not open to non-degree graduate students.

## Recreation-Leisure Study (RLS)

**RLS 8000 SPECIAL STUDIES IN RECREATION AND LEISURE STUDIES (1-3 credits)**

A series of intensive courses especially designed for (1) practitioners within recreation, parks and leisure services and/or (2) candidate majors within recreation and leisure studies; scheduled as seminars or workshops, according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate.

**RLS 8050 SEMINAR IN RECREATION THERAPY (3 credits)**

Seminars especially designed for recreational therapy majors within recreation and leisure studies and/or practitioners within therapeutic recreation and leisure services.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**RLS 8060 PERSPECTIVES OF LEISURE EDUCATION (3 credits)**

A survey approach which will focus on an awareness and understanding of leisure values, lifestyles, contributions, and basic concepts associated with the clinical application of leisure education.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of the instructor.

**RLS 8076 CAMPUS RECREATION MANAGEMENT (3 credits)**

A review of the knowledge, skills, and abilities required for the management of typical campus recreation programs and facilities. This course will prepare students for entry level positions managing campus recreation employees, programs, facilities and services. (Cross-listed with RLS 4070)

**RLS 8080 RT: CLINICAL ASSESSMENT, EVALUATION & RESEARCH (3 credits)**

An overview of the role of assessment, evaluation and research and their relevance to the priorities of the field of recreational therapy (RT). A seminar approach that will include historical and philosophical concepts as well as practical experience related to these areas. Special attention will be given to implications for developing a comprehensive understanding of the roles that assessment and evaluation play in the research process in providing information about RT efficacy and outcomes. The course will also provide the candidate an opportunity to develop a research agenda that is consistent with current recreation therapy efficacy needs.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**RLS 8246 RECREATION ADMINISTRATION (3 credits)**

Designed to provide a background of information on public, private and commercial recreation with special attention to organization, promotion, and development from the administrative aspect. (Cross-listed with RLS 4240)

**Prerequisite(s)/Corequisite(s):** RLS major and senior status.

**RLS 8306 RECREATION PROGRAMMING AND LEADERSHIP (3 credits)**

An advanced study of recreational programming and planning through practical applications. Emphasis is upon understanding proven programming and leadership knowledge and skills, understanding participant leisure behavior, understanding participant leisure needs, and skill development in ways through which organizations, agencies and businesses create service to respond to the leisure needs of the consumer. (Cross-listed with RLS 4300)

**Prerequisite(s)/Corequisite(s):** Junior, senior or graduate.

**RLS 8406 TRAVEL AND TOURISM (3 credits)**

This course is designed to provide the recreation major or practitioner, and other interested candidates, with an awareness of the major components of the travel and tourism industry, including its costs and benefits to a resident community. (Cross-listed with RLS 4400)

**Prerequisite(s)/Corequisite(s):** Junior Standing.

**RLS 8420 LEISURE, PLAY AND HUMAN DEVELOPMENT (3 credits)**

An examination of leisure and play as conditions of human development, reflections of human development, and as buffers for adjusting to age-related life events. These three foci will be considered in relationship to the entire life span, and implications will be drawn for recreation and leisure services.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**RLS 8426 RECREATION FOR THE AGING (3 credits)**

Role of leisure services as related to understanding and working with elders. Emphasis on recreation programming as a mode of intervention. Analysis and study of the phases of aging, with reference to psychomotor, affective, and cognitive changes; introduction to the theories of aging and how they relate to the lifestyle of this population; recreational therapy intervention, activity adaptation and program design; leisure education and issues and trends. (Cross-listed with RLS 4420, GERO 4420, GERO 8426)

## Religion (RELI)

**RELI 8036 AFRICANA RELIGIONS (3 credits)**

An introduction to religions in Africa and the diaspora, including African Traditional Religions, Christianity, Islam, and Afro-Caribbean religious traditions, using anthropological, historical, and other academic approaches to the study of religious and spiritual traditions. In particular, students will learn about the role of spirits, ancestors, witches, and other invisible agents in ideas and practices regarding health and healing. Finally, the class will examine the complex inter-relationships between religious ideas and practices and contemporary post-colonial political-economic realities, including the consequences of genocide and other human rights violations and the role of religious communities in social and economic development. (Cross-listed with RELI 4030, BLST 8036, BLST 4030).

**RELI 8156 JUDAISM IN THE MODERN AGE (3 credits)**

A critical investigation of Judaism since the Enlightenment emphasizing historical, intellectual and religious-legal developments. Pivotal movements (e.g., Hassidism, Reform, Historical Conservative Judaism, Modern Orthodoxy, Zionism) and major historical events (e.g., the American and French Revolutions, Tsarist oppression, the Holocaust and the establishment of the State of Israel) will be analyzed for their ongoing impact. (Cross-listed with RELI 4150)

**Prerequisite(s)/Corequisite(s):** Nine hours in religion or permission of instructor.

**RELI 8166 THE HOLOCAUST (3 credits)**

An interdisciplinary approach in a seminar oriented format discussing various aspects of the most notorious genocide in modern times. The course will explore the history of anti-Semitism, the rise of Nazi Germany and the road to the 'final solution.' It will further explore psychological, sociological and intellectual aspects of the dark side of humanity. (Cross-listed with RELI 4160, HIST 4720, HIST 8726)

**RELI 8176 HISTORY OF CHRISTIANITY I (3 credits)**

The development of Christian theological, ritual, and social practice from the beginnings of Christianity through the Reformation. History of Christianity from its origins in the first century through the sixteenth century movements for reform. (Cross-listed with RELI 4170).

**RELI 8206 COMPARATIVE RELIGIOUS ETHICS (3 credits)**

An introduction to historical and contemporary approaches to comparative religious ethics, with special focus on specific case studies as encountered in societies and religious communities across the globe. In addition to reading authors from a variety of perspectives (Aristotelians, natural law theorists, philosophers of law, pragmatists, theologians, and historians of religion), students will be introduced to special topics in the field, e.g., religion and public life, religion and law, syncretism, the secular/non-secular divide, etc. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4200, CACT 8206)

**RELI 8226 VIOLENT CONFLICTS, PEACEBUILDING, AND THE ETHICS OF INTERVENTION (3 credits)**

This course is designed to familiarize the student with the nature of violent conflict, including terrorism, and a variety of the mechanisms for peacebuilding. The course will also explore human rights and the ethics of intervention. This course supports the Ethics and Values concentration in the Master of Arts in Critical and Creative Thinking. (Cross-listed with RELI 4220, CACT 8226)

**RELI 8256 WAR, RELIGION, AND HUMAN RIGHTS (3 credits)**

What is the connection between human rights, religion, conflict, and peacebuilding? Does religion cause war or help to stop it? How can human rights violations be prevented or stopped, and can religious actors be engaged in this work? Is the use of force ever appropriate to protect human rights? This course engages all of these questions by examining the ethical thought of multiple religious traditions; the work of human rights organizations; the just war tradition; and questions about sovereignty, peacebuilding, and the use of force worldwide. It includes discussion of historical issues and contemporary case studies. (Cross-listed with RELI 4250).

**RELI 8266 THE END OF THE WORLD: RELIGION AND APOCALYPSE (3 credits)**

This course introduces students to sacred texts and their interpretation by "end of the world" groups across world history. Several ancient, medieval, and contemporary groups are discussed. Special attention is paid to the connections between apocalyptic and political movements, as well as religion and violence. (Cross-listed with RELI 4260).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**RELI 8406 WOMEN IN ISLAM (3 credits)**

This course examines the religious, political and cultural assignments ascribed to Muslim women. Starting with the Qur'an, social, legal, and scriptural norms will be explored through the voices of Muslim women around the world. Passages of the Qur'an, hadiths and the commentaries that lead to the elevation and/or demise of Muslim women and their rights are studied. Examining the role of the female body, sexuality and seclusion within a historical context will lead to an understanding of the gendering of women in Islam. (Cross-listed with RELI 4400)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**RELI 8426 MUSLIMS IN AMERICA (3 credits)**

This course is designed to familiarize the student with the multiplicity of Muslim voices in the United States and to examine the myths created through stereotyping and orienting. The course will also investigate how Muslims in America form identities as hybrids and transnationals and follows the chronological development of American Muslims including their identity construction, religious issues, and politics. (Cross-listed with RELI 4420)

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**RELI 8556 JESUS IN FILM (3 credits)**

This course is a study of how the life of Jesus of Nazareth has been portrayed in cinema over the past century. Emphasis will be placed upon knowledge of the principal written sources (the canonical gospels), how films emphasize certain themes and offer their own interpretations, the motives or intentions of the actors, and the reception by audiences of some of the main portrayals of Jesus in film. (Cross-listed with RELI 4550).

**RELI 8606 WOMEN AND RELIGION (3 credits)**

This course on women and religion will focus on the intersections of power and oppression that women experience in four of the major world religions - Judaism, Christianity, Buddhism, and Islam. Students will examine the historical, cultural and religious contexts that highlight women's involvement or exclusion from activity and power within each religion. Students will research case studies from around the world to examine tensions within and between religious and secular societies through the lens of gender. (Cross-listed with RELI 4600).

**RELI 8836 ANCIENT GREEK MYTH, RELIGION & MAGIC (3 credits)**

Students will examine the impact of ancient Greek myth and belief on actual religious practice: e.g., "lived" religion. Areas covered include formal civic sacrifice, wartime religion, family and personal devotions, mystery cults, oracles and seers, plus the popular pursuit of magic. (Cross-listed with HIST 8836, HIST 4830, RELI 4830).

**RELI 8856 ROME AND THE EARLY CHURCH (3 credits)**

Students will cover Roman-Christian-Jewish interactions from just before the birth of Jesus of Nazareth to c. 450 CE, with an emphasis on social and political history. We catalogue Christianity's transformation from its origins as a Jewish movement and an illegal "superstition" to the dominant religion of the Roman empire. (Cross-listed with HIST 8856, HIST 4850, RELI 4850).

**Prerequisite(s)/Corequisite(s):** Junior standing.

**RELI 8900 READINGS IN RELIGION (1-6 credits)**

An individually organized program of readings pertinent to one or more topics subordinate to the heading of Religion. To be carried out under the supervision of a member of the graduate faculty. May be repeated for credit when the topic varies.

**Prerequisite(s)/Corequisite(s):** Graduate, permission of instructor, and no incompletes outstanding.

## Russian (RUSS)

**RUSS 8946 RUSSIAN MASTERPIECES (3 credits)**

This course introduces Russian literature in translation and will be conducted in English. Readings in this survey course will include a selection of Russian authors from the early 19th century period to the present. The main objective of this course is the development of critical reading skills and an in-depth understanding of major authors, movements, and themes in Russian literature. Students will read selections from numerous authors in a variety of genres, including short stories, theater, poetry, and the novel. (Cross-listed with RUSS 4940)

**Prerequisite(s)/Corequisite(s):** Graduate standing

## Science, Tech, Engr, and Math (STEM)

**STEM 8030 EVOLUTION: FROM GENOMES TO ECOSYSTEMS (3 credits)**

This course will prepare students to evaluate and discuss evolution as an underlying concept in all of biology. Further, it will provide a comprehensive overview of evolutionary processes related to the evolution of genomes, development, physiology, morphology, behavior, and ecosystems. (Cross-listed with BIOL 8030).

**Prerequisite(s)/Corequisite(s):** Courses for graduate admission or equivalent, or with permission of instructor.

**STEM 8040 TOPICS IN MATHEMATICAL COMPUTING (3 credits)**

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. (Cross-listed with MTCH 8040)

**Prerequisite(s)/Corequisite(s):** MATH 2200 or equivalent or approval of instructor.

**STEM 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with TED 8050).

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**STEM 8170 ECOSYSTEM ANALYSIS FOR EDUCATORS (3 credits)**

This course is designed for education graduate students who wish to take a field-based biology course that uses an interdisciplinary approach to understanding the ecosystem of the tallgrass prairie. This course engages graduate students in methods reflecting multidisciplinary STEM strategies (e.g. scientific inquiry, modeling, geographic information system mapping, etc.) associated with research taking place at the Glacier Creek Preserve. Graduate students completing this course will develop advanced knowledge of ecology, restoration ecology, and monitoring of prairie habitat restoration. Graduate students will focus on the technical, biogeochemical, ecological and cultural aspects of analyzing and restoring the prairie ecosystem and its various habitats. (Cross-listed with BIOL 8170)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission from the Instructor.

**STEM 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with TED 8370).

**STEM 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with TED 8410).

**STEM 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with TED 8420).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with TED 8430).

**STEM 8450 BIOLOGY EDUCATION RESEARCH METHODS (3 credits)**

In this course, students will learn the methods of conducting pedagogical research in Biology, understand how people learn the concepts, practices, and ways of thinking in science and engineering; understand the nature and development of expertise in a discipline; help identify and measure appropriate learning objectives and instructional approaches that advance students toward those objectives; contribute to the knowledge base in a way that can guide the translation of statistical findings to classroom practice; and identify approaches to make science and engineering education broad and inclusive. Students will work with live data sets to evaluate effective pedagogical approaches in the biology classroom of various audiences (K-16).

**STEM 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with TED 8510, AVN 8510)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**STEM 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEAM, but also the creativity and innovation that arts integration can add to enhance STEAM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with TED 8530)

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**STEM 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with TED 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**STEM 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with TED 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**STEM 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with TED 8860)

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**STEM 8910 CAPSTONE IN CS EDUCATION (3 credits)**

This course will allow graduate students, as an individual or as part of a group, to study and analyze specific problems related to teaching computing in schools. Projects will be concerned with the curriculum and/or instruction of computing and should address a broad scope of application rather than a specific level. (Cross-listed with CSTE 8910).

**Prerequisite(s)/Corequisite(s):** Student must have completed 21 hours in the Masters of CS Education program.

## Social Work (SOWK)

**SOWK 8016 SOCIAL WORK WITH AMERICAN INDIANS (3 credits)**

This course provides the student with a broad study of the origins, influences and issues of the American Indian which affect social work practice. The usefulness of established social work generalist methods is explored. Alternative methods applicable to culturally diverse people across the lifespan are presented. This is a Service Learning class. (Cross-listed with SOWK 4010).

**Prerequisite(s)/Corequisite(s):** SOWK 8130 prior to or concurrent, or BSSW degree. Not open to non-degree graduate students.

**SOWK 8026 SOCIAL WORK WITH THE AFRICAN AMERICAN FAMILY (3 credits)**

This course seeks to develop in students an awareness and understanding of some of the social and psychological/cognitive realities influencing the behavior of African American youth and families across the lifespan. The content draws upon theories, research and social work practice skills relevant to African American youth and families, as well as the cognitive process and social systems which impact African youth and families. (Cross-listed with SOWK 4020).

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8046 WORKING WITH MINORITY ELDERLY (3 credits)**

This course is designed to provide the student with knowledge of the differing status, attitudes, and experiences of older adults who identify as members of minority groups in the U.S. This course examines various social policies, service systems, and practice models in terms of their relevance and effectiveness in meeting the needs of an increasing and diverse aging population. (Cross-listed with GERO 4690, GERO 8696, SOWK 4040).

**SOWK 8056 ETHNIC DIVERSITY AND SOCIAL WORK PRACTICE (3 credits)**

This course focuses on effective generalist social work practice with clients of ethnic diversity. (Cross-listed with SOWK 4050)

**Prerequisite(s)/Corequisite(s):** Admission to the MSW program or permission of the Grace Abbott School of Social Work

**SOWK 8070 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3 credits)**

This course is the first part of a two-semester sequence within the Master of Social Work required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan, particularly infancy through adolescence, within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** Undergraduate Human Biology course (prior to or concurrent) and admission to the Master of Social Work program.

**SOWK 8080 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3 credits)**

This course is the second part of a two-semester sequence within the Master of Social Work required curriculum. It focuses on major contributions of theories from the biological, social, and behavioral sciences that help to understand human functioning across the lifespan—particularly during young, middle, and late adulthood—within the social environment at the micro- and macro-level (e.g., individuals, families, groups, organizations, institutions, and communities), as they relate to effective social work generalist practice.

**Prerequisite(s)/Corequisite(s):** SOWK 8070

**SOWK 8090 SOCIAL WELFARE POLICY (3 credits)**

This course is an introduction to social welfare policy analysis. The course examines social welfare policy taking into account historical, political, economic, social, and cultural perspectives. Basic concepts and choices are examined in relation to values, ethics, context, social functioning and social consequences.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8110 INSTITUTIONAL OPPRESSION (3 credits)**

This course is about institutional racism, sexism and classism as it relates to social policy and social injustice. The focus is on how institutional oppressions are related and are mutually reinforcing. The consequences of institutional racism, sexism and classism are examined at the individual, group, family, and agency levels.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program or permission of the Grace Abbott School of Social Work.

**SOWK 8130 GENERALIST PRACTICE I (3 credits)**

This course provides an introduction to the values, ethics, knowledge, and skills of generalist social work practice. Using constructs from the Generalist Intervention Model, systems theory, and the strengths-based perspective, students learn about engagement, assessment, planning and contracting, intervention, evaluation, and termination. Diversity and case management are emphasized as part of bringing planned change to client systems, including individuals and families..

**Prerequisite(s)/Corequisite(s):** SOWK 8070 prior or concurrent.

**SOWK 8150 GENERALIST PRACTICE II (3 credits)**

This practice course is an introduction to a goal-oriented planned change process with an emphasis on educational, support, and task groups, organizations, and communities. The focus is on building knowledge and developing indirect practice skills in collaboration, planning, empowerment, and advocacy to effect social change using the Generalist Intervention Model.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 prior, and SOWK 8080 prior or concurrent

**SOWK 8160 GENERALIST SOCIAL WORK PRACTICUM I (3 credits)**

This course is designed to provide supervised, individual and experiential learning offered within the setting of a selected social service agency. The student will be introduced to a variety of social work practice roles, develop professional relationships with client systems and learn to apply different interventions to effect change across the life span. In order to facilitate integration of classroom theory with practice, students will attend a seven-week practicum seminar (2 hours per week).

**Prerequisite(s)/Corequisite(s):** Prior: Human Biology, Research Methods, and Statistics deficiencies complete; Prior or Concurrent: SOWK 8070, SOWK 8090, SOWK 8130; Not open to non-degree graduate students.

**SOWK 8170 GENERALIST SOCIAL WORK PRACTICUM II (3 credits)**

This course is designed to provide supervised, individual, experiential learning offered within the setting of a social service agency, typically the same agency as in SOWK 8160. This course builds upon opportunities provided and competence achieved in Generalist Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** Prior or Concurrent: SOWK 8160, SOWK 8080, SOWK 8110, and SOWK 8150. Not open to non-degree graduate students.

**SOWK 8190 RESEARCH & COMPUTER APPLICATIONS (3 credits)**

This course focuses on the use of research and computer programs in social work practice. Social and behavioral science research methods are reviewed. Students learn to analyze existing data using SPSS and to write an empirical research report. The use of Microsoft Word, Excel, and PowerPoint in social work practice are explored.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work program.

**SOWK 8220 CLINICAL SOCIAL WORK WITH INDIVIDUALS (3 credits)**

This advanced course provides an in-depth study of several theories of personality and behavior, and of therapeutic approaches derived from the theories. Major focus is on therapy with individuals across the life span, but application to family systems is also considered, as well as the fit of each theory within the broader social systems framework.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 prior to or concurrent; SOWK 8160 or admitted with advanced standing.

**SOWK 8230 CLINICAL SOCIAL WORK WITH GROUPS (3 credits)**

This advanced course provides knowledge of and experience in working with groups as systems. It includes both assessment of dynamics as well as developing skills in intervention modalities appropriate for working with various types of groups.

**Prerequisite(s)/Corequisite(s):** SOWK 8220; SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8240 SOCIAL WORK PRACTICE WITH CHILDREN (3 credits)**

This advanced practice course provides an overview of several social work interventions used with children and adolescents. A brief review of normal child development and the family life cycle is the context for presenting a range of children's problems and special needs. The course will cover several intervention models and address their application in various service settings and in individual, family, group, and social action formats. Children in diverse family settings, institutions, and in minority families and cultures are considered to understand unique therapeutic issues present for them.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing and SOWK 8220.

**SOWK 8250 SOCIAL WORK PRACTICE WITH FAMILIES (3 credits)**

This course considers the family context as a system for therapeutic intervention. The family unit and its diverse forms are defined; theories for assessment and understanding family's interactions across the lifespan are considered, and the alternative modalities useful for treating family dysfunction are presented. As a practice-oriented course, it emphasizes the development of professional skills in working with the family across the lifespan.

**Prerequisite(s)/Corequisite(s):** SOWK 8220; SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8260 SOCIAL WORK PRACTICE WITH OLDER ADULTS (3 credits)**

This course is part of the advanced MSW curriculum and focuses on micro- and macro-level practice skills essential to competent and effective social work practice with diverse older adults. This course emphasizes clinical and complimentary/ alternative interventions (particularly creativity programming) that focus on individuals and small groups as well as community practice skills that involve social marketing and community organizing, networking, and collaborating with inter-professional community practitioners.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Social Work program with advanced standing.

**SOWK 8270 SOCIAL WORK PRACTICE WITH SEXUAL CONCERNS (3 credits)**

This course provides a survey of the current knowledge base, theory and research in human sexuality with a focus on advanced practice intervention and prevention approaches for a variety of sexuality issues faced by individuals, couples, and families throughout the lifespan.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing, and SOWK 8220.

**SOWK 8280 SOCIAL WORK PRACTICE WITH COUPLES AND CHANGING FAMILY STRUCTURES (3 credits)**

This is an advanced practice course designed to prepare students to provide therapy for couples and families at all life stages who are experiencing problems in intimacy, marital, divorce, or remarriage adjustment.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted the Master of Social Work Program with advanced standing and SOWK 8220.

**SOWK 8290 SOCIAL WORK PRACTICE IN HEALTH AND MENTAL HEALTH (3 credits)**

This course emphasizes the development of advanced level clinical and social work practice skills for working with selected acute and chronic health and mental health conditions affecting individuals across the life cycle.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing, and SOWK 8220. Not open to non-degree graduate students.

**SOWK 8400 ADVANCED SOCIAL WORK PRACTICUM I (3 credits)**

This course is designed to provide supervised, individual professional learning experiences offered within the setting of a selected social service agency in the student's chosen concentration. The student will be introduced to a variety of advanced direct and indirect social work practices. The Dual Degree Program is a part of Integrated Practice. Dual Degree students may take SOWK 8400 as their administrative practicum. If so, then PA 8010, 8050 and 8090 must be taken prior to and one course from concentration prior to or concurrently.

**Prerequisite(s)/Corequisite(s):** SOWK 8190, SOWK 8220, SOWK 8230. Additional prerequisites for dual-degree students. Not open to non-degree graduate students.

**SOWK 8410 ADVANCED SOCIAL WORK PRACTICUM II (3 credits)**

This course is designed to provide supervised, individual professional learning experiences offered within the setting of a social service agency in the student's chosen concentration, typically the same agency as in SOWK 8400. This course builds upon opportunities provided and competence achieved in Advanced Social Work Practicum I.

**Prerequisite(s)/Corequisite(s):** SOWK 8400 prior or concurrent, and an additional course from the plan of study. Not open to non-degree graduate students.

**SOWK 8420 ADVANCED SOCIAL WORK PRACTICUM III (1-3 credits)**

This course is designed to provide a third supervised, individual professional learning experience offered within the setting of a social service agency in the student's chosen concentration. This course builds upon opportunities provided and competence achieved in Advanced Social Work Practicum II.

**Prerequisite(s)/Corequisite(s):** SOWK 8410 prior to or concurrent, and permission of the Grace Abbott School of Social Work.

**SOWK 8510 SOCIAL WORK LEADERSHIP (3 credits)**

This course provides social work students with the knowledge and skills to be leaders in their organizations and communities. This course will explore leadership models and theories, and their usefulness in diverse settings, including social work leadership ethics. Students will also learn models and theories related to general supervision, power, and authority in public and nonprofit organizations. Useful skills covered include conflict management and evidence-informed decision-making. Students will also learn about care of self and others, especially as it relates to resiliency and vicarious trauma.

**Prerequisite(s)/Corequisite(s):** SOWK 8160 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8516 TREATMENT ISSUES IN CHEMICAL DEPENDENCY (3 credits)**

This course addresses chemical dependency treatment issues including denial, minimization, relapse and its prevention, resistance, family dynamics, poly-substance abuse, co-occurring disorders, spirituality and the influence of self-help groups. The education will include the clinical treatment needs of individuals suffering from chemical dependency, taking into consideration diversity, gender, culture and lifestyle. (Cross-listed with COUN 4510, COUN 8516, SOWK 4510).

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work programs or permission of instructor. For social work students, SOWK 8686 or COUN 8696 and SOWK 8696 or COUN 8696 must be taken prior to COUN 8516 or SOWK 8516. Not open to non-degree graduate students.

**SOWK 8536 SCHOOL SOCIAL WORK (3 credits)**

This course explores the field of social work practice in school settings, including the history of social work practice in schools, school environment, roles of school social workers, mandated foundations for school social work services, eligibility for special education and 504 plans, theories of practice that include school and community based models, and interventions for target populations in schools. (Cross-listed with SOWK 4530).

**Prerequisite(s)/Corequisite(s):** SOWK 3320 or SOWK 8130. Not open to non-degree graduate students.

**SOWK 8540 PLANNING FOR SOCIAL CHANGE (3 credits)**

This course takes an in-depth look at the framework of macro-level problem solving and its application to all areas of social work practice. Focus will be placed on the critical exploration of social problems, their causes, and their potential solutions from a lens of broader social inequity.

**Prerequisite(s)/Corequisite(s):** SOWK 8160 or admitted to the Master of Social Work (MSW) program with advanced standing. Not open to non-degree graduate students.

**SOWK 8550 SOCIAL JUSTICE AND SOCIAL ADVOCACY (3 credits)**

This course provides a perspective on national and international social and economic injustices experienced by people under corporate globalization. Practice implications for social workers are addressed.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing. Not open to non-degree graduate students.

**SOWK 8560 ADVANCED COMMUNITY PRACTICE (3 credits)**

This course is an elective macro course in the MSW curriculum. The course is designed to help students develop an analytical and empirical approach to empowering communities. The course builds on the social work "person-in-environment" perspective by focusing on the client system and its environmental contexts as a partner in practice. This course is particularly relevant to direct practice with and advocacy for diverse disempowered groups in society. The course may use a community-based service-learning pedagogy.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or Master of Social Work student admitted with advanced standing or permission of the Grace Abbott School of Social Work. Not open to non-degree graduate students.

**SOWK 8570 ADMINISTRATION OF SOCIAL WELFARE AGENCIES (3 credits)**

This course focuses on the knowledge and skills needed by administrative leaders of social welfare agencies. Students will learn about resource issues, including grant writing, fundraising, budgeting, and financial management. Acknowledging political contexts and shaping organizational culture will also be covered. In addition, they will learn about personnel and managerial issues related to collaboration, human relations, governing/advisory boards, and strategic planning.

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8600 PERMANENCE FOR CHILDREN (3 credits)**

This course is about the child welfare system and focuses on policies, laws, and agency structures designed to help abused and neglected children and their families.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8610 FAMILY AND COMMUNITY VIOLENCE (3 credits)**

This course covers family and community violence across the life span with an emphasis on gaining knowledge of the issue, skills in policy analysis, and a broad framework for developing effective services in various service settings.

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8626 TRAUMA AND RESILIENCE (3 credits)**

This course provides an overview of issues related to trauma including: the factors related to development of trauma, definitions of trauma, the impact of trauma on individuals, families and communities, and the programs and practices that are most effective and appropriate regarding the social work role in responding to trauma. (Cross-listed with SOWK 4620)

**Prerequisite(s)/Corequisite(s):** SOWK 8070 and SOWK 8080 or Advanced Standing

**SOWK 8650 HEALTH/MENTAL HEALTH POLICIES FOR SOCIAL WORK (3 credits)**

This course emphasizes the development of health and mental health policy analysis skills and knowledge for social work students. Major topics include government response to health care, cultural and historical perspectives, service provision, and epidemiological trends across the life span. It provides a framework for clinical interventions in a variety of health and mental health settings.

**Prerequisite(s)/Corequisite(s):** SOWK 8090 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8686 MEDICAL AND PSYCHOSOCIAL ASPECTS OF ALCOHOL/DRUG USE AND ADDICTION (3 credits)**

This course introduces students to substance abuse disorders and their impact on the individual, family, and society. It covers psychopharmacology, alcohol and drug interactions, drug classifications, theories of chemical dependency, various models of treatment, vulnerable populations, and ethical and legal issues. (Cross-listed with SOWK 4680, COUN 4680, COUN 8686)

**Prerequisite(s)/Corequisite(s):** Admission to counseling program or social work program or permission of instructor.

**SOWK 8696 ASSESSMENT AND CASE MANAGEMENT IN SUBSTANCE ABUSE (3 credits)**

This course focuses on assessment of clients and their environment, and diagnosis and referral for substance abuse treatment. Emphasis is given to assessment instruments, treatment levels, treatment planning, case management, and social justice. (Cross-listed with COUN 4690, COUN 8696, SOWK 4690).

**Prerequisite(s)/Corequisite(s):** Admission to MSW program or permission of the School and SOWK 8686 or COUN 8686 (or equivalent course) prior to or concurrent.

**SOWK 8806 SOCIAL WORK AND THE LAW (3 credits)**

This course presents the fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include: the legal system, legal research methods, professional ethical/legal responsibilities and liabilities, family law, elder law, criminal law, juvenile law, personal injury law, employment discrimination law, capacity to make contracts and wills, rights of institutionalized patients, and rights of handicapped children to an education. (Cross-listed with SOWK 4800)

**Prerequisite(s)/Corequisite(s):** SOWK 8090 or admitted to the Master of Social Work program with advanced standing.

**SOWK 8816 SPIRITUALITY AND SOCIAL WORK PRACTICE (3 credits)**

Social work literature defines spirituality as the human striving for a sense of meaning, purpose, values, and fulfillment. Spirituality is expressed through diverse forms throughout a client's lifespan; it is central to clients' understanding of suffering and their attempts to resolve it. This course examines major issues pertaining to spiritually-sensitive social work practice with clients of diverse religious and non-religious (i.e., outside sectarian institutional contexts) perspectives. (Cross-listed with SOWK 4810)

**Prerequisite(s)/Corequisite(s):** Students in the Master of Social Work program, or permission of the Grace Abbott School of Social Work.

**SOWK 8826 GLOBAL ENGAGEMENT: A SOCIAL WORK PERSPECTIVE (3 credits)**

This course prepares students to work in a global setting. Students examine theories, concepts, and skills related to social development, cross-cultural engagement, and issues related to particular countries. The course is designed with two elements: 1) On-campus classroom learning focused on global social work knowledge, and, 2) Field-based labs that involve direct engagement with an international population. Students select one lab: i) faculty-led trip to China for two-weeks, ii) refugee resettlement service-learning project in Omaha. (Cross-listed with SOWK 4820).

**Prerequisite(s)/Corequisite(s):** Admitted to Graduate College. Travel overseas early summer-course lab. Passport, visa-China, travel insurance-UNO, immunizations and registration (International Studies) required to travel abroad. Faculty member leading trip will provide further info.

**SOWK 8836 CRISIS INTERVENTION (3 credits)**

The prevalence of crisis experiences within our society and lifespan development necessitates that social workers acquire a knowledge and skill-base for effective and professional crisis intervention practice. Students will study the ABC Model of Crisis Intervention and how to ethically practice with diverse and vulnerable populations. Students will apply crisis intervention theory and models of intervention to various concern areas including but not limited to: suicide, sexual assault, domestic violence, substance abuse, grief and loss, and violence. A systems, strengths, and cultural emphasis will be applied to the various crisis situations covered. (Cross-listed with SOWK 4830)

**Prerequisite(s)/Corequisite(s):** SOWK 8170 or admitted to the Master of Social Work program with advanced standing or permission of the Grace Abbott School of Social Work.

**SOWK 8856 HOSPICE & OTHER SERVICES FOR THE DYING PATIENT/FAMILY (3 credits)**

This course examines the hospice concept and other related services available in the community. The student will learn that hospice is an alternative to the traditional medical model. (Cross-listed with GERO 4850, GERO 8856, SOWK 4850.)

**Prerequisite(s)/Corequisite(s):** SOWK 8130 or advanced standing

**SOWK 8880 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with School of Social Work program objectives, faculty expertise, and student needs. This course may be repeated for up to nine hours credit.

**SOWK 8886 TOPICAL SEMINAR IN SOCIAL WORK (3 credits)**

Specific seminar topics will focus on advanced content in social work theory and practice. The course description will be announced when a specific topical seminar is proposed. The topics selected will be consistent with Grace Abbott School of Social Work program objectives, faculty expertise, and student needs. (Cross-listed with SOWK 4880)

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Social Work (MSW) program or permission of the Grace Abbott School of Social Work (GASSW).

**SOWK 8900 SPECIAL STUDIES IN SOCIAL WELFARE (1-3 credits)**

This independent study course allows students to pursue a special selected area or topic within social welfare in order to deepen knowledge and/or skills in that particular area.

**Prerequisite(s)/Corequisite(s):** Permission of the Grace Abbott School of Social Work (GASSW). Not open to non-degree graduate students.

**SOWK 8940 EVALUATION OF SOCIAL PROGRAMS (3 credits)**

This is an advanced research course in the evaluation of social programs and social agencies which focuses on agency organizational structure, program design and effectiveness, and social impact.

**Prerequisite(s)/Corequisite(s):** SOWK 8190

**SOWK 8950 RESEARCH METHODS IN CLINICAL PRACTICE (3 credits)**

This course provides a study of the issues involved in clinical research methodology. Students are introduced to the tools for documenting the effects of clinical practice interventions for individuals, couples, families and groups (including qualitative and quantitative methodologies: single-case design, standardized measurement, self-report data, self-monitoring, case study, grounded theory etc.).

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and SOWK 8220

**SOWK 8960 RESEARCH OTHER THAN THESIS (3 credits)**

This course enables students, under faculty supervision, to prepare a research proposal, carry out the study, and prepare a detailed report of the purpose, design, outcome, and significance of the study.

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and permission of the Grace Abbott School of Social Work

**SOWK 8990 MASTER'S THESIS (3-6 credits)**

The Master's thesis provides students the opportunity to acquire first-hand experience in research methods under faculty direction. With the guidance of the thesis coordinator and a supervisory committee, the student prepares a research proposal, conducts the proposed study, and prepares a detailed report of the purpose, design, results, and implications of the findings.

**Prerequisite(s)/Corequisite(s):** SOWK 8190 and permission of the Grace Abbott School of Social Work (GASSW)

## Sociology (SOC)

**SOC 8010 CLASSICAL SOCIOLOGICAL THEORY (3 credits)**

This course surveys the nineteenth century writers whose ideas have had a strong influence on the development of contemporary sociology and sociological theories. It examines work in such areas as: structural functionalism; conflict theory; rationalism; and the beginnings of modern symbolic interaction, feminist, and race theory. The course emphasizes a close reading of original texts, as well as seminar-style class discussions.

**Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside Sociology MA program.

**SOC 8020 CONTEMPORARY SOCIOLOGICAL THEORY (3 credits)**

This course reviews some of the most important developments in contemporary sociological theory. It examines work in such areas as: symbolic interactionism, phenomenology and ethnomethodology; dramaturgical analysis; functionalism and neo-functionalism; structuralism, post-structuralism and postmodernity; postcolonial and subaltern studies; neo-marxism; critical theory; critical race studies; feminist theory; cultural theory; and world systems and globalization theory. The course emphasizes a close reading of original texts, as well as seminar-style class discussions.

**Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside Sociology MA program.

**SOC 8030 SOCIOLOGICAL INQUIRY & RESEARCH DESIGN (3 credits)**

This course focuses on the research design process from a sociological perspective. It gives broad, intermediate-level coverage to social science research methodology, with an emphasis on the logic of research procedures. Topics covered include the relationship of theory and research, causal analysis, sampling, and quantitative and qualitative design approaches.

**Prerequisite(s)/Corequisite(s):** Graduate; undergraduate course in research methods; permission of instructor if outside Sociology MA program.

**SOC 8040 SOCIOLOGICAL STATISTICS (3 credits)**

This course focuses on intermediate statistics and data analysis as applied to social research. Topics include descriptive statistics, probability, significance tests, multiple regression, and more advanced topics as time permits. Students will also learn how to utilize computer software packages to perform statistical analyses.

**Prerequisite(s)/Corequisite(s):** Graduate; undergraduate statistics course; permission of instructor if outside Sociology MA program.

**SOC 8050 SEMINAR ON TEACHING: PEDAGOGICAL THEORY AND PRACTICE (3 credits)**

A survey of various approaches to teaching at the college level (including critical, feminist, and other pedagogical theories) as well as strategies that can be employed in teaching. Topics include: syllabus and course design, evaluation and assessment strategies, developing a teaching style and philosophy, and the scholarship of teaching and learning. Emphasis is on preparing new teachers in sociology, but the course is intended for any graduate student who may already be teaching or anticipates teaching in the future.

**Prerequisite(s)/Corequisite(s):** Enrollment in the graduate program in sociology or permission of the instructor.

**SOC 8060 QUALITATIVE METHODS (3 credits)**

This course familiarizes students with contemporary qualitative methodologies and techniques by which the social sciences explore social and cultural relations in natural settings. Students will conduct individual and or group field projects.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of the instructor.

**SOC 8100 SOCIAL INEQUALITY (3 credits)**

This course examines social inequality from a sociological vantage point. Students will review theoretical frameworks for studying social inequality, processes that result in the unequal distributions of individual resources, empirical analyses of inequality, and the consequences of various inequalities for intergenerational social mobility. While the course focuses on inequality in the United States, global and international dimensions of social inequality are also covered.

**Prerequisite(s)/Corequisite(s):** Graduate; permission of instructor if outside of Sociology MA program

**SOC 8136 SOCIOLOGY OF DEVIANCE (3 credits)**

This course introduces students to the sociological study of behaviors that have been labeled as "deviant" because they presumably violate social norms. The course takes a constructionist approach, critically analyzing how deviance is socially defined, organized, and managed. Students will be challenged to see the diversity and pervasiveness of deviance in society and to question the labelling of behaviors, individuals, and powerless groups as deviant. We will explore the social processes, powerful actors, and social institutions that create deviance as well as efforts to resist definitions of deviance. (Cross-listed with SOC 4130).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8146 URBAN SOCIOLOGY (3 credits)**

This course examines classical and contemporary sociological theories on city formation, the urbanization process, and the interaction of society and the built environment. Topics covered include suburbanization, gentrification, residential segregation, social networks, crime, housing, city culture, and public policy. The focus is on U.S. cities with selected comparisons to other world regions. Students will also get basic knowledge and exposure to research methods to study urban areas locally. (Cross-listed with SOC 4140).

**Prerequisite(s)/Corequisite(s):** Graduate standing, or permission of instructor

**SOC 8156 AMERICAN FAMILY PROBLEMS (3 credits)**

This course explores the problems and issues faced by contemporary American families, such as racism and sexism; the challenges of childhood and adolescence; divorce and remarriage; work and family conflict; and family violence. The difficulty of defining both "family" and "problems" is addressed throughout the course. (Cross-listed with SOC 4150)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOC 8176 SOCIOLOGY OF FATHERHOOD (3 credits)**

This course examines the existing social science research on fatherhood, exploring topics such as the evolution, history, demography, and politics of fatherhood; father involvement and its relationship to both children's and men's well-being; the effects of diversity and family structure on fatherhood; and public policy surrounding fatherhood. (Cross-listed with SOC 4170)

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**SOC 8186 OCCUPATIONS & CAREERS: FULFILLMENT AND CHALLENGES AT WORK (3 credits)**

This course examines what makes individuals and groups happy and satisfied with their jobs, and the factors that can turn "a dead-end job" into a meaningful pursuit that lasts decades. The course utilizes a life course approach and covers early socialization experiences to retirement transitions. It also employs a sociological lens to explore how individual experiences in the work realm are affected by stratification (such as race/ethnicity, gender, sexuality, social class, and parental status) and as well as by occupational norms and structures, workplace relationships, and culture and practices at the organizational and societal levels. (Cross-listed with SOC 4180).

**Prerequisite(s)/Corequisite(s):** Enrollment in sociology graduate program or permission of the instructor.

**SOC 8200 HEALTH & SOCIETY (3 credits)**

The course provides a critical sociological understanding of health, illness, healing, and medical care within a social context. The focus ranges from examining health and illness behavior and patient-provider interaction to issues addressing the social organization of health care and medicine.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8216 DISABILITY AND SOCIETY (3 credits)**

This course takes a sociologically grounded but interdisciplinary look at the past, present, and potential future of disability. Along the way, competing models and theories of disability are critically explored and substantive issues pertaining to the social experiences and social responses to people with disabilities are discussed. (Cross-listed with SOC 4210)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior or senior standing; or permission of instructor. Not open to non-degree graduate students.

**SOC 8246 SOCIAL TRANSFORMATIONS IN LATIN AMERICA (3 credits)**

The course reviews the main social, economic, and political forces that have shaped Latin American societies, and the sociological theories used to understand Latin American development and underdevelopment. Race, ethnicity, gender and class in Latin America, as well as the region's position in the global economy are examined. (Cross-listed with SOC 4240, LLS 4240, LLS 8246).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8256 CRISSCROSSING THE CONTINENT: LATIN AMERICAN MIGRATIONS (3 credits)**

In this course we will use an interdisciplinary lens to study the changes and continuities of migration in the Americas. The course starts with an overview of immigration to the Americas during the first era of mass migration (1850-1920) to explore the relevance of European migrations for national and identity constructions in the Southern Cone of America. Students then will be introduced to the impacts of social and political change on emigration flows, both regionally and beyond the region. They will also explore migration related policies at the national and regional level. We will also study the changes and continuities in the migration system of the Americas. Lastly, we will analyze the new North-South migration, as well as immigration to Latin America from Asia (recent and historical), Europe, and Africa. (Cross-listed with SOC 4250, LLS 4250, LLS 8256).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SOC 8316 SOCIOLOGY OF SEXUALITIES (3 credits)**

This class focuses on the social construction of sexualities - especially heterosexual sexualities, bisexual sexualities, and homosexual sexualities. A primary focus of the class will be LGBT/Queer Studies. The class examines how sexual desires/identities/orientations vary or remain the same in different places and times, and how they interact with other social and cultural phenomenon such as government, family, popular culture, scientific inquiry, and race, gender, and class. (Cross-listed with SOC 4310)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SOC 8356 WORK & FAMILY (3 credits)**

This course examines the contemporary problems that individuals, families and communities in the U.S. have in integrating work and family/personal life. (Cross-listed with SOC 4350)

**SOC 8446 HUMAN CONNECTION, LONELINESS, & HEALTH (3 credits)**

This course examines the "loneliness epidemic" through a sociological perspective and is based on the premise that loneliness is a public health issue, as research consistently shows it is associated with a vast array of physical and mental health outcomes. After discussing the extent of loneliness and how to define it by distinguishing it from other types of social pain, the course covers: 1) the extent and nature of loneliness and its cultural/social sources; 2) the pathways from loneliness to health outcomes; and 3) possible interventions to reduce loneliness and improve public health. (Cross-listed with SOC 4440).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8500 COMPLEX ORGANIZATIONS (3 credits)**

This graduate seminar provides an overview focused on the understanding and analysis of intricate internal and external organizational forces such as organizational bureaucracy, organizational culture, autonomy and control systems, which affect performance of organizational members as well as influence organizational survival. (Cross-listed with CACT 8500)

**Prerequisite(s)/Corequisite(s):** Graduate enrollment or permission of class instructor.

**SOC 8550 ORGANIZATIONAL CULTURE (3 credits)**

This course will discuss the various dimensions of organizational cultures and their consequences to organizational life. Emphasis will be placed on the significance of culture to human behavioral patterns, and the analysis of how organizational cultures shape the behavior and performance of organizational members. The course will prepare students for leadership success in organizations using advanced knowledge of organizational culture.

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8556 ORGANIZATIONAL DIVERSITY AND INCLUSION (3 credits)**

This course provides advanced-level knowledge of the structural understanding, assessment, analysis, and management of social diversity as well as successful inclusion strategies in the workplace. Concepts and theories dealing with structural basis of the creation of difference, consequences of difference, inclusion, affirmative action, and diversity consulting skills are fully examined in this course. This course will prepare students for successful leadership in diverse organizational environments. (Cross-listed with SOC 4550)

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8600 SEMINAR IN SOCIAL ORGANIZATION (3 credits)**

Graduate seminar on the sociological analysis of organizational fields and an in-depth study of one organizational system, such as decision-making, authority, communication, change, supervision, technology, bureaucracy, and reward system, in one organizational type within one organizational field. As seminar topics change, this course may be repeated twice in a student's program without implying duplication.

**Prerequisite(s)/Corequisite(s):** Graduate standing and SOC 4620/8626; or permission of instructor.

**SOC 8626 APPLIED FORMAL ORGANIZATIONS (3 credits)**

An advanced-level applied organizational sociology course that uses organizational theory, concepts, research, and practice to examine the structural bases of organizational effectiveness, efficiency, survival, and actions of organizational members. The course is designed to prepare students for organizational leadership using advanced knowledge and skills of organizational sociology. (Cross-listed with SOC 4620).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8706 WOMEN'S HEALTH AND ISSUES OF DIVERSITY (3 credits)**

This course provides a critical understanding of the inter-relationship between socio-cultural, economic, and political factors and women's physical and mental health. The aim is to provide an overview of the experience with the health care system. Emphasis will be on critically examining recent scholarship from a sociological, behavioral, health policy perspective. (Cross-listed with SOC 4700, PHHB 4700, PHHB 8706)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SOC 8746 SOCIAL JUSTICE AND SOCIAL CHANGE (3 credits)**

This course investigates the economic, political and social constraints on equality present in local, national and global arrangements. Students will gain a theoretical understanding of these conditions as well as those that lead to social change, spanning from day-to-day resistance techniques to large scale social movements. Students will participate in a service learning or applied project as they explore contemporary social justice issues and learn both theoretical and practical tools needed to become successful change makers, activists, or community organizers. Examples of social justice movements or campaigns form the basis for understanding injustice at a local, national, and global level. (Cross-listed with SOC 4740)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor.

**SOC 8766 ENVIRONMENTAL SOCIOLOGY (3 credits)**

This course is an introduction to environmental sociology, a field of sociology that explores the interaction between the environment and society. Environmental sociologists consider how political, social, and economic factors have come to shape our patterns of interaction with the natural and built environment. Students will be expected to use the sociological perspective to understand the landscape of environmental problems, focusing on such issues as environment and health, disaster, environmental policy, climate change, environmental risk, human and animal interactions, sustainability, environmental justice and social movements. (Cross-listed with SOC 4760).

**SOC 8776 POLITICAL SOCIOLOGY (3 credits)**

This course explores political sociology, focusing on political processes and power. Political sociologists investigate relationships between political institutions and various other institutions, including but not limited to the economy, education, media, and religion, and the impacts that these relationships have on society and the individuals that comprise the society. This course will explore the concepts, theories, and knowledge that comprise this field such as power, legitimacy, the state, networks, stratification, and collective action. (Cross-listed with PSCI 4770, PSCI 8776, SOC 4770).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SOC 8786 URBAN LATIN AMERICA (3 credits)**

This course examines the experience of Latin American urbanization, attending to its contributions to urban sociology, social movements, and policymaking. Topics include urban transitions (e.g. pre-Hispanic to colonial, post-colonial to industrial, and the neoliberal turn), socio-spatial configurations (e.g. plazas, squatter settlements), urban marginality debates, urban politics, and planning as well as governance innovations (e.g. bus rapid transit systems, participatory budgeting). Students will compare city case studies across the region and to urban life in the United States. (Cross-listed with SOC 4780, LLS 4780, LLS 8786).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor

**SOC 8806 CONTEMPORARY TOPICS IN SOCIOLOGY (3 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4800)

**Prerequisite(s)/Corequisite(s):** Sociology major; or permission of instructor.

**SOC 8836 SOCIOLOGY OF MENTAL HEALTH & ILLNESS (3 credits)**

This course will apply the sociological perspective to various topics regarding mental health and illness. The course will cover topics such as the social construction of mental illness, the social epidemiology of mental illness, labeling and stigma of those with a mental illness, and mental health policy/treatment. (Cross-listed with SOC 4830)

**Prerequisite(s)/Corequisite(s):** SOC 1010, and junior standing; or permission of the instructor.

**SOC 8856 SOCIOLOGY OF RELIGION (3 credits)**

This course looks at religion as a social and cultural phenomenon, examining how religious beliefs, practices, institutions and movements shape and are shaped by their social context. Topics include: sociological theories and explanations of religion and spirituality; definitions of religion and the distinction between religion and other ideologies or worldviews; the measurement of religiosity and the scientific study of religion; trends in religiosity, spirituality, and the religious landscape historically and globally; sociological insights gained from the study of new religions, secularization, fundamentalism, and other issues related to contemporary religious experience. (Cross-listed with SOC 4850)

**Prerequisite(s)/Corequisite(s):** SOC 1010 and junior standing; or permission of instructor

**SOC 8886 CONTEMPORARY TOPICS IN SOCIOLOGY (ONE CREDIT HOUR) (1 credit)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4880).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8896 CONTEMPORARY TOPICS IN SOCIOLOGY (TWO CREDIT HOURS) (2 credits)**

This course reviews research and writing in an area of current interest in the field of sociology. The specific topic(s) to be covered will be announced at the time the course is being offered. Since the topics will vary, students may elect to take this course more than once. (Cross-listed with SOC 4890).

**Prerequisite(s)/Corequisite(s):** Graduate standing or permission of instructor.

**SOC 8950 PRACTICUM IN APPLIED SOCIOLOGY (3 credits)**

A practical work experience under supervision that provides opportunity for applying principles from the student's academic area of concentration.

**Prerequisite(s)/Corequisite(s):** Graduate sociology major. Not open to non-degree graduate students.

**SOC 8960 APPLIED PROJECT (1-6 credits)**

This capstone experience in the applied project option is an independent research project conducted in an applied setting under the supervision of a graduate faculty member in the department..

**Prerequisite(s)/Corequisite(s):** Graduate sociology major; permission of the graduate program chair. Not open to non-degree graduate students.

**SOC 8980 INDEPENDENT STUDY IN SOCIOLOGY (1-3 credits)**

Guided reading or independent research in special topics in Sociology under the supervision of a member of the Sociology faculty. This course is designed primarily for the student interested in topics not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated once for credit.

**Prerequisite(s)/Corequisite(s):** Permission of the instructor. Not open to non-degree graduate students.

**SOC 8990 THESIS (1-6 credits)**

A research project, written under the supervision of a graduate advisor in the Department of Sociology & Anthropology, in which the student designs, conducts, and completes an original, independent, scholarly investigation at a graduate level. The research topic and the completed project must be approved by the student's departmental committee.

**Prerequisite(s)/Corequisite(s):** Permission from Graduate Chair. Not open to non-degree graduate students.

**SOC 9110 APPLIED SOCIAL GERONTOLOGY (3 credits)**

An overview of social gerontology with an emphasis on the interplay between social, psychological and physical elements in later life. Restricted to graduate students only; required of gerontology students. (Cross-listed with GERO 9110)

**Prerequisite(s)/Corequisite(s):** Graduate.

## Spanish (SPAN)

### **SPAN 8026 LANGUAGE ENHANCEMENT THROUGH VOCABULARY LEARNING (3 credits)**

This class aims to expand students' vocabulary in Spanish. This will be achieved through doing an overview of current research that investigates how vocabulary is learned; identifying effective vocabulary learning strategies; and exploring topics not commonly encountered in Spanish classes such as commerce and science. The course also includes points of contact with the Spanish-speaking community in Omaha, where students can participate in interactions that connect what has been learned in the classroom to language use in real life. (Cross-listed with SPAN 4020).

**Prerequisite(s)/Corequisite(s):** Graduate standing

### **SPAN 8036 ADVANCED SPANISH CONVERSATION (3 credits)**

This course targets the development of oral skills in Spanish through the incorporation of complex and sophisticated conversational structures and nuanced lexicon. In particular, the course focuses on presentational (i.e., expressing or exposing ideas or opinions), and interpersonal speaking (i.e., engaging in conversation where learners narrate and describe in the major time frames of past, present, and future in paragraph-length discourse with control of aspect). (Cross-listed with SPAN 4030)

**Prerequisite(s)/Corequisite(s):** Graduate standing

### **SPAN 8046 ADVANCED COMPOSITION AND STYLISTICS (3 credits)**

In this capstone course, required for the completion of the major, learners will explore and practice advanced grammatical structures, write compositions in a variety of genres, and familiarize themselves with advanced stylistics. (Cross-listed with SPAN 4040)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

### **SPAN 8066 INTRODUCTION TO TRANSLATION AND INTERPRETATION (3 credits)**

This course offers an introduction to the translation and interpretation field. Course objectives include (a) understanding translation theory; (b) comprehending the role of communication in translation and interpretation; (c) targeting common grammatical and pragmatic errors; (d) increasing vocabulary knowledge in a variety of fields; and (e) gaining an increased awareness of the rigor and demands innate to the translation and interpretation fields. (Cross-listed with SPAN 4060).

**Prerequisite(s)/Corequisite(s):** Admission to MALT program or permission of instructor

### **SPAN 8076 HISPANIC BILINGUALISM (3 credits)**

This course explores bilingualism among Spanish speaking populations. Topics include societal bilingualism, the history of Spanish and language policy in Spain, Latin America, and the U.S., psychological aspects of bilingualism, monolingual vs. bilingual acquisition, first vs second language acquisition, and Spanish as a heritage language in the U.S. (Cross-listed with SPAN 4070).

### **SPAN 8086 INTRODUCTION TO HISPANIC LINGUISTICS (3 credits)**

This course introduces students to the field of linguistics by exploring the following areas: phonetics and phonology (sound systems), morphology (word formation), historical linguistics (language development over time), and sociolinguistics and pragmatics (language in society and context), among others, as framed within the study of the Spanish language. (Cross-listed with SPAN 4080).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040 OR SPAN 3010 and SPAN 3020; Graduate standing

### **SPAN 8126 HISPANIC SOCIOLINGUISTICS (3 credits)**

This course introduces sociolinguistics, the study of the relationship between language and society, with an emphasis on the Spanish language. Its focus will be on correlational linguistics (how social factors such as age, gender and socioeconomic status affect language) and language and society (the role language plays in human conduct and social organization). Course topics will include the concept of speech communities, sociolinguistic variables, phonological and syntactic variation as well as languages in contact, bilingualism, Spanish in the U.S., Spanish as a heritage language, and language attitudes and ideologies. (Cross-listed with SPAN 4120).

**Prerequisite(s)/Corequisite(s):** SPAN 8086 or instructor permission

### **SPAN 8136 SPANISH IN THE UNITED STATES (3 credits)**

This course looks at Spanish in the U.S. from a sociolinguistic perspective. Course topics include: Dialectal/regional differences, dialect contact, Spanish- English bilingualism and code-switching, "Spanglish", language maintenance, language ideologies surrounding Spanish in the U.S., and Spanish in public spheres (e.g., TV, movies, radio, music, stand-up comedy). (Cross-listed with SPAN 4130).

**Prerequisite(s)/Corequisite(s):** SPAN 8086 or instructor permission

### **SPAN 8146 INTRODUCTION TO LATIN AMERICAN FILM (3 credits)**

The course will be a thematic study of significant Latin American films emphasizing and further investigating their relationship to history, culture, society and political issues that have often given rise to social movements. Films from a variety of Spanish-speaking countries including Mexico, Argentina, Chile, Cuba, Bolivia, etc. will be studied in their socio-political context. At the 8146 level, students will be introduced to theoretical approaches such as early film theory, montage theory, feminist theory, race theory, and phenomenological film theory in order to deepen their understanding these themes. (Cross-listed with SPAN 4140, LLS 4140).

### **SPAN 8156 LITERATURE/CULTURE: CENTRAL AMERICA AND THE CARIBBEAN 1898-2000 (3 credits)**

"Literature/ Culture: Central America and the Caribbean 1898- 2000" studies major historical and socio-cultural events in Latin American history in the 20th century, through their articulation in literary texts, film, and other cultural expressions from Central America and the Hispanic Caribbean. (Cross-listed with SPAN 4150, CACT 8156)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040 and SPAN 3060 or permission of instructor

### **SPAN 8176 INTRODUCTION TO LATIN AMERICAN LITERATURES (3 credits)**

The course is intended as an introduction to the study of canonical and non-canonical texts in Latin American literatures, from the 16th to 21st centuries. It seeks to acquaint students with the rich literary traditions of a large region, from South America to Central America and Mexico, as well as with the historical challenges posed by the salient heterogeneity of texts included in the Latin American corpus, from the standpoint of ethnicity, gender, social class, and literary genre. The course also focuses on continuing to develop Spanish language skills, specifically reading for comprehension and interpretation of metaphorical meaning, writing, and presentational speaking skills in Spanish. (Cross-listed with SPAN 4170, LLS 4170).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and SPAN 3040, or SPAN 3010 and SPAN 3020; SPAN 3060

### **SPAN 8226 THE STRUCTURE OF SPANISH (3 credits)**

This course introduces students to the structure of the Spanish language with a focus on its morphology and syntax as seen in the study of constituents of a sentence, lexical categories, content and function words, the pronominal system, the structure of simple and complex sentences, and the verbal system, among others. It reviews frequent syntactical errors in Spanish L2 and Heritage learners with the purpose of advancing their linguistic competence. (Cross-listed with SPAN 4220).

**Prerequisite(s)/Corequisite(s):** SPAN 3030 and 3040 or SPAN 3010 and SPAN 3020; graduate standing

**SPAN 8440 SEMINAR:SPANISH COMPOSITION (3 credits)**

This course provides opportunities for students to refine their composition skills in Spanish through extensive writing workshops and peer editing. Computer applications to composition will be employed.

**Prerequisite(s)/Corequisite(s):** Admission to the Graduate College.

**SPAN 8900 SPANISH INDEPENDENT STUDY: GRADUATE ONLY (1-3 credits)**

Specifically planned projects and readings in a well-defined field of literature or linguistics carried out under the supervision of a member of the foreign languages faculty holding graduate faculty status.

**Prerequisite(s)/Corequisite(s):** Acceptance into the Master of Arts in Language Teaching Program (MALT). Must have completed a minimum of six graduate credit hours.

**SPAN 8906 INDEPENDENT STUDY (1-3 credits)**

Specially planned readings in a well-defined field of literature, carried out under the supervision of a member of the foreign language faculty. Designed primarily for the student who has need of work not currently available in the departmental offerings and who has demonstrated capability of working independently. May be repeated for credit once.

**Prerequisite(s)/Corequisite(s):** Senior status, no incompletes outstanding, and departmental permission.

**SPAN 8956 PRO-SEMINAR: LITERATURE AND/OR FILM (3 credits)**

This course is dedicated to the study of a narrower field of the literature and/or cinema of the Spanish-speaking world. (Cross-listed with SPAN 4950)

**Prerequisite(s)/Corequisite(s):** Graduate standing

**SPAN 8966 PRO-SEMINAR: CULTURE AND SOCIETY (3 credits)**

This course will address a narrow field of study of the civilization, history, film, contemporary culture, art, politics, and/or cultural studies of the Spanish-speaking world. (Cross-listed with SPAN 4960)

**Prerequisite(s)/Corequisite(s):** SPAN 3030, SPAN 3040, and SPAN 3060.

**SPAN 8976 PRO-SEMINAR: LINGUISTICS AND LANGUAGE FOR THE PROFESSIONS (3 credits)**

This course will address a narrow field of study of linguistics, translation/interpretation or the professional language of the Spanish-speaking world. (Cross-listed with SPAN 4970)

**Prerequisite(s)/Corequisite(s):** Graduate standing.

## Special Education & Communication Disorders (SPED)

**SPED 8000 SPECIAL PROJECTS (1-3 credits)**

This course is designed to allow graduate candidates to pursue independent study of a topic under the direction and guidance of a faculty member. Topics studied and the nature of the learning activities is mutually agreed upon by the candidate and instructor.

**Prerequisite(s)/Corequisite(s):** Permission by the instructor. Not open to non-degree graduate students.

**SPED 8016 MENTAL HEALTH IN SCHOOLS: RISK FACTORS AND INTERVENTIONS (3 credits)**

This course explores the role that educators and school mental health professionals play in identifying the risk factors and warning signs of children and youth with mental health concerns. Students will understand the risk and protective factors at the individual, family, school, and community level as related to children and youth's mental health.

The course will provide an overview of externalizing and internalizing disorders as well as school-based and community-based treatments and interventions. (Cross-listed with COUN 4010, COUN 8016, SPED 4010).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**SPED 8030 TEACHING STUDENTS WITH EXCEPTIONALITIES (3 credits)**

This course is designed to describe the characteristics and learning styles of students with various exceptional learning needs. This course also is intended to provide candidates with a knowledge base for the foundation of special education including the basic procedural flow of referral, identification and instruction and strategies for modifying the learning environment and individualizing instruction.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SPED 8046 WORKSHOP IN SPECIAL EDUCATION OR SPEECH-LANGUAGE PATHOLOGY (1-6 credits)**

The purpose of this course is to provide workshops or special seminars in the area of special education and communication disorders. This course will prepare graduate candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their profession in a changing world. (Cross-listed with SPED 4040).

**Prerequisite(s)/Corequisite(s):** Must have graduate status and permission.

**SPED 8100 RESEARCH PROJECTS (1-3 credits)**

The purpose of this course is to allow candidates to participate in research activities other than those related to the thesis. Specific course content and type of research will be dependent on the nature of the intended research and must be approved by the supervising advisor and Department Chair prior to registration.

**Prerequisite(s)/Corequisite(s):** Graduate standing and admitted into a special education or speech-language pathology program of study.

**SPED 8120 HIGH INCIDENCE DISABILITIES (3 credits)**

This introductory course is designed to examine characteristics of learners with high incidence disabilities and the impact of those characteristics on learning. The focus will be on the manifestation of disabilities including learning disabilities, behavior disorders, mild to moderate intellectual disabilities, speech and language disorders, attention-deficit hyperactivity disorders, and autism spectrum disorders.

**Prerequisite(s)/Corequisite(s):** Graduate Standing.

**SPED 8236 LANGUAGE DEVELOPMENT AND DISORDERS FOR TEACHERS (3 credits)**

This course is designed to introduce the candidate to the nature and structure of language, current theories of language, normal first and second language development, language disorders, multicultural issues in language assessment, and contemporary classroom management of language deficits. The topics will be examined from an educational perspective to enhance the teachers knowledge of language and to facilitate classroom management of language deficits exhibited by exceptional children in grades pre-K through 12. (Cross-listed with SPED 4230).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**SPED 8250 LITERACY ASSESSMENT AND INTERVENTIONS FOR STUDENTS WITH DISABILITIES (3 credits)**

This course is designed to provide graduate candidates skills and strategies for instructing students with high incidence disabilities, including dyslexia, that struggle to acquire literacy skills. Emphasis is placed on diagnosis and assessment of specific reading and writing difficulties to determine effective instructional strategies. Instructional strategies will address modifications directed at teaching oral language, reading, writing, and spelling skills.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education or permission of the instructor. Not open to non-degree graduate students.

**SPED 8300 READINGS IN SPECIAL EDUCATION (1-3 credits)**

Reading and discussion of current methodological developments, research, and innovations in special education.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8646 METHODS AND MATERIALS IN SPECIAL EDUCATION (3 credits)**

This course is designed to describe the various instructional methods that have been used successfully in supporting students with disabilities in a variety of settings. This course is also intended to provide pre-service and in-service candidates with knowledge and evidence-based teaching strategies essential for modifying the learning environment and individualizing instruction for students with disabilities. In addition, teaching methods will focus on academic curriculum lesson planning, development of IEPs, selection of instructional methods and materials, and universal design for learning (UDL). (Cross-listed with SPED 4640).

**Prerequisite(s)/Corequisite(s):** Admission into a Special Education Master's program and SPED 8120. Not open to non-degree graduate students.

**SPED 8656 TRANSITION PLANNING (3 credits)**

Curriculum oriented for teachers and related professionals to work with the career development and transition of individuals with disabilities within a multicultural and global society. Includes information for elementary through adulthood with emphasis on transition from high school to community living. (Cross-listed with SPED 4650).

**Prerequisite(s)/Corequisite(s):** SPED 1500. Not open to non-degree graduate students.

**SPED 8670 MATH INTERVENTIONS (3 credits)**

The purpose of this course is to prepare graduate candidates to teach, co-teach or consult in the area of mathematics interventions. Graduate candidates will examine and apply the existing research in mathematics instruction for students with exceptional needs.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in Special Education. Not open to non-degree graduate students.

**SPED 8700 SEMINAR IN SPECIAL EDUCATION (3 credits)**

The seminar in Special Education is designed to be one of the very last courses taken by a master's degree candidate. Content covers a wide range of topics such as: 1) continuum of care; 2) educational and community service systems; 3) legislation; 4) family concerns; and 5) comparative special education. Each candidate develops a teaching module on one of the course topics, which is discussed and evaluated in class.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**SPED 8716 INTERACTIONS AND COLLABORATION (3 credits)**

This course is offered to investigate the building blocks of collaboration. Effective interpersonal communication and collaboration skills are presented as the foundation necessary to build relationships among school personnel, families and community members. (Cross-listed with SPED 4710).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College

**SPED 8720 GRADUATE PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This graduate special education practicum course provides candidates with either inservice experience or placement in a school program for students with exceptionalities at an academic level commensurate with the candidate's desired level of the special education generalist endorsement (K- 6 or 7-12).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in the desired endorsement, completion of 30 hours of required course work, and permission. Not open to non-degree graduate students.

**SPED 8730 ADVANCED GRADUATE PRACTICUM IN SPECIAL EDUCATION (3 credits)**

This course provides candidates with a second semester of classroom experience teaching students with disabilities. This experience is for graduate candidates who are extending their endorsement. For students seeking an additional endorsement as a Special Education Generalist, this course would prepare them for endorsement in grades K-6 or 7-12. For students seeking an additional endorsement in Behavior Intervention Specialist, this course would prepare them for endorsement in grades PK-6 or 7-12.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in the desired endorsement and completion of SPED 8720, SPED 8830 or SPED 8840. Not open to non-degree graduate students.

**SPED 8806 SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN AND YOUTH (3 credits)**

This course is designed to prepare teacher candidates and graduate candidates with the understanding of the psychological, biological and environmental factors that affect the social-emotional development of children and adolescents. Emphasis is placed on the interaction of these factors for children with exceptional learning needs and the implications for the learning environment. (Cross-listed with SPED 4800).

**SPED 8810 RESEARCH METHODS IN SPECIAL EDUCATION (3 credits)**

This course is designed to provide an examination of the theoretical approaches to conducting educational research, research design and analysis, and interpretation and evaluation of existing research in special education and related fields.

**Prerequisite(s)/Corequisite(s):** SPED 8120 or permission from the instructor. Not open to non-degree graduate students.

**SPED 8816 BEHAVIOR INTERVENTIONS AND SUPPORTS (3 credits)**

This course introduces a variety of practical interventions that teachers may use to support the positive classroom behavior of all students within a tiered model. Universal, targeted, and individualized strategies are presented. (Cross-listed with SPED 4810).

**SPED 8820 CHARACTERISTICS OF EMOTIONAL AND BEHAVIORAL DISORDERS (3 credits)**

This course is designed to assess and examine the causes and characteristics of behavioral disorders, which constitute internalizing, externalizing, and pervasive developmental disorders. Extensive use of the case study method will be used.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education.

**SPED 8830 GRADUATE PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST (3 credits)**

This course provides candidates with either an in-service experience or placement in a school program in which the candidate works with students with emotional and behavioral disorders at an academic level commensurate with the candidate's desired level of endorsement (PK- 9, or 7-12).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education with an emphasis in behavior intervention specialist, completion of 30 hours of the required coursework, and permission by the department. Not open to non-degree graduate students.

**SPED 8840 ADVANCED PRACTICUM IN BEHAVIOR INTERVENTION SPECIALIST (3 credits)**

This course provides candidates with additional experiences in working with students with disabilities who present challenging behaviors, including emotional disturbance and autism. This course is designed for graduate students who are already endorsed in special education.

**Prerequisite(s)/Corequisite(s):** Behavior Intervention Specialist program and permission. Not open to non-degree graduate students.

**SPED 8850 INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS (3 credits)**

The focus of the course will be on instruction and interventions that are effective for students with behavior disorders such as explicit instruction, social skills support, supporting executive functions, and cognitive strategy instruction.

**Prerequisite(s)/Corequisite(s):** Graduate standing and successful completion of SPED 8820, not open to non-degree students.

**SPED 8860 BEHAVIOR MODIFICATION (3 credits)**

This course is designed to equip candidates with the skills necessary to assess, modify, and evaluate behavior in accordance with best practice and research-based approaches. In addition, this course will train candidates on how to conduct a functional behavioral assessment and create behavioral intervention plans in accordance with IDEA.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8870 AUTISM SPECTRUM DISORDERS: BEHAVIORAL SUPPORT AND INTERVENTIONS (3 credits)**

This course is designed to provide information on the behavioral characteristics, instructional needs and necessary curriculum development specifically for children and youth with autism spectrum disorder (ASD).

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in special education. Not open to non-degree graduate students.

**SPED 8900 SPECIAL EDUCATION LAW (3 credits)**

The purpose of this course is to research and explore legal and policy issues affecting special education within our schools. Case law will be examined to ensure effective special education programs for children and youth with disabilities. (Cross-listed with EDL 8900).

**Prerequisite(s)/Corequisite(s):** Graduate Standing. Not open to non-degree graduate students.

**SPED 8910 ASSESSMENT IN SPECIAL EDUCATION (3 credits)**

This course provides an overview of measurement and evaluation concepts, strategies, and techniques that are appropriate for students with special needs. Graduate candidates will implement and analyze formal and informal assessments using a systematic and comprehensive approach. Emphasis is placed on those assessment strategies that yield objective data regarding individual learning characteristics that provide a basis for educational decision making.

**Prerequisite(s)/Corequisite(s):** Graduate standing and SPED 8120

**SPED 8920 SPECIAL EDUCATION LEADERSHIP (3 credits)**

The purpose of this course is to examine special education administration and leadership issues. This course will focus on policies and procedures necessary to effectively provide leadership to programs for children and youth with disabilities.

**Prerequisite(s)/Corequisite(s):** Graduate standing. Not open to non-degree graduate students.

**SPED 8930 INCLUSION/COLLABORATION PRACTICUM (3 credits)**

This course provides candidates with a practicum experience in the inclusion/collaboration specialty area with emphasis across PK-12 settings.

**Prerequisite(s)/Corequisite(s):** Admission to the graduate program in inclusion/collaboration and permission by the department. Not open to non-degree graduate students.

**SPED 8960 ADVANCED ASSESSMENT AND INTERVENTION (3 credits)**

This course provides graduate candidates with in-depth practicum experiences in the administration and interpretation of standardized academic achievement measures, criterion-referenced tests, informal assessments, and progress monitoring with children experiencing learning difficulties. Emphasis is placed on utilizing assessment information in order to develop and monitor intervention plans.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree program in special education; SPED 8910, SPED 8646, SPED 8156, and SPED 8970; or have permission from the instructor. Not open to non-degree graduate students.

**SPED 8970 INSTRUCTIONAL STRATEGIES (3 credits)**

This course is designed to prepare graduate candidates with in-depth information regarding effective teaching strategies for students with high-incidence disabilities. Primary emphasis is placed on providing students with theoretical and practical foundations in the design and implementation of cognitive strategy instruction and the use of evidence-based practices and the selection and monitoring of individualized interventions.

**Prerequisite(s)/Corequisite(s):** Admission to the Master of Science degree in special education, SPED 8120, SPED 8646 or equivalent or permission of the instructor. Not open to non-degree graduate students.

**SPED 8980 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with TED 8850).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**SPED 8990 THESIS (1-6 credits)**

This course is intended for all graduate candidates in the Department of Special Education and Communication Disorders who are seeking a Master of Arts degree. The candidate is expected to generate and complete an independent research project under the guidance of a thesis advisor.

**Prerequisite(s)/Corequisite(s):** Permission of Thesis Committee Chair and TED 8010. Not open to non-degree graduate students.

**SPED 9140 ASSESSMENT AND TREATMENT OF AUTISM SPECTRUM DISORDERS (3 credits)**

The purpose of this course is to familiarize students with the diagnosis, assessment, and treatment of autism spectrum disorders (ASD). (Cross-listed with PSYC 9140).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

## Statistics (STAT)

**STAT 8005 STATISTICAL METHODS I (3 credits)**

An introduction to descriptive statistics, measures of central value and dispersion, probability and distributions, population and sample, simple linear regression, statistical inference: point estimation, confidence intervals, hypotheses testing, two population comparison, goodness-of-fit tests, analysis of variance. Statistical software like Minitab or Excel will be utilized in the course. (Cross-listed with STAT 3000).

**Prerequisite(s)/Corequisite(s):** MATH 1310 or MATH 1220 or equivalent with a grade of C- or better.

**STAT 8416 INTRODUCTION TO DATA SCIENCE (3 credits)**

Topics covered in this course include Data Technology, Methods of gathering and cleaning structured or unstructured data, Exploratory data analysis & Dynamic and interactive data visualization, Modeling data for prediction, forecasting or classification. (Cross-listed with STAT 4410).

**Prerequisite(s)/Corequisite(s):** MATH 4740 with a C- or better or concurrent; or STAT 3800 with a C- or better or concurrent; or permission of instructor. Students should be comfortable with computer programming & have knowledge of data structures & preliminary statistical methods.

**STAT 8426 EXPLORATORY DATA VISUALIZATION AND QUANTIFICATION (3 credits)**

Topics covered in this course include Exploratory Data Visualization for categorical/qualitative single/multivariate data, Grammar of Graphics, Organizing Data for Visualization, Methods of Displaying Data that include dynamic and interactive visualization, Visual Diagnostics of Statistical Models and Visual Statistical Inference. Students planning to enroll in this course should be comfortable with computer programming and have knowledge of data structures and preliminary statistical methods. (Cross-listed with STAT 4420)

**Prerequisite(s)/Corequisite(s):** STAT 3800 or STAT 8805 or MATH 4740 or MATH 8746 with a grade of C- or better or another introductory probability/statistics course with a grade of C- or better, and MATH 3200 or CSCI 1620 with a grade of C- or better, or permission of instructor.

**STAT 8436 LINEAR MODELS (3 credits)**

This is an introduction to linear statistical models which will include: simple linear regression models, multiple linear regression models, ANOVA models including one way ANOVA, randomized block design, and other designs. Also, logistic regression models, Poisson regression models, bootstrapping/resampling models, survival analysis. Some necessary linear algebra and mathematical statistics ideas will be covered in the course also. If time allows, some mixed models and/or survival models. Much use of computer software will be made. (Cross-listed with STAT 4430)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or instructor permission based on students' having taken a basic statistics course w/ a grade of C- or better & having at least a basic knowledge of calculus.

**STAT 8446 TIME SERIES ANALYSIS (3 credits)**

The objective of this course is to learn and apply statistical methods for the analysis of data that have been observed over time. Topics covered include: Models for Stationary and Non-Stationary Time Series, Model Specification, Parameter Estimation, Model Diagnostics, Forecasting, Seasonal Models, Time Series Regression, and Spectral Analysis. Statistical software will be used. (Cross-listed with STAT 4440)

**Prerequisite(s)/Corequisite(s):** MATH 4750 or MATH 8756 w/ a grade of C- or better or STAT 3800 or STAT 8805 w/ a C- or better or another introductory probability/statistics course w/ a C- or better, or permission of instructor.

**STAT 8456 INTRODUCTION TO MACHINE LEARNING AND DATA MINING (3 credits)**

This is an introduction to machine learning and data mining which covers the following topics with an emphasis on mathematical and statistical analysis: linear and nonlinear regression models, model selection and regularization methods, resampling methods, classification models, tree-based models, and unsupervised learning topics. If time allows, text mining and deep learning will also be introduced in the course. Statistical software will be used. (Cross-listed with MATH 4450, MATH 8456, STAT 4450)

**Prerequisite(s)/Corequisite(s):** MATH 4740/8746 with a C- or better or STAT 3800/8805 with a C- or better or permission of instructor.

**STAT 8700 BAYESIAN STATISTICS (3 credits)**

The objective of this course is to introduce the Bayesian approach to statistical inference. Topics covered include: Review of probability, Bayes theorem, and Likelihood; The Bayesian methodology, prior and posterior distributions; Choices of prior distribution, conjugate and Jeffreys priors; Credible intervals and inference; Bayesian computation - Markov Chain Monte Carlo and the Gibbs Sampler; Hierarchical models; Regression models.

**Prerequisite(s)/Corequisite(s):** MATH 8756 or equivalent or permission of instructor.

**STAT 8710 DESIGN AND ANALYSIS OF EXPERIMENTS (3 credits)**

Introduction to design and analysis of controlled experiments. The goal of experimental design is to be able to construct an experiment to identify which factors most impact the response and do so in an efficient manner. Statistical software will be used. Types of designs studied include: Randomized Block Designs, Latin Square Designs, Incomplete Block Designs, Factorial Designs, and Nested Designs.

**Prerequisite(s)/Corequisite(s):** MATH 4750/8756 or permission of instructor.

**STAT 8720 RELIABILITY THEORY (3 credits)**

This course covers the probabilistic and statistical aspects of reliability theory. Reliability theory is concerned with the probability that a component or system is successfully working over a given time period or at a specific time instance. (Cross-listed with MATH 8720).

**Prerequisite(s)/Corequisite(s):** Either MATH 4740 or STAT 3800 or permission of the instructor. Some basics of mathematical analysis are helpful when discussing limit theorems, but not required.

**STAT 8805 APPLIED ENGINEERING PROBABILITY AND STATISTICS (3 credits)**

An introduction to the application of probability and statistics to engineering problems. Topics include: probability and probability distributions, mathematical expectation, distribution of random variables, binomial, Poisson, hypergeometric, gamma, normal, and t-distributions, Central Limit Theorem, confidence intervals, hypothesis testing. If time allows, some linear regression and contingency tables. Credit for both MATH 4740 and STAT 3800 will not be given. (Cross-listed with STAT 3800)

**Prerequisite(s)/Corequisite(s):** MATH 1970

**STAT 8960 MASTER'S PROJECT (1-6 credits)**

An applied project, designed and executed under the supervision of both a faculty and industry advisor. In the project the student will apply their mathematical and/or statistical skills to an applied problem. The student will present their results via a written report and oral presentation. (Cross-listed with MATH 8960).

**Prerequisite(s)/Corequisite(s):** Permission of faculty advisor and graduate program chair. Not open to non-degree graduate students.

## Teacher Education (TED)

**TED 8000 SPECIAL STUDIES (1-3 credits)**

A series of intensive studies especially for in-service teachers scheduled as regular seminars or classes, according to purpose.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8006 SPECIAL METHODS IN THE CONTENT AREA (3 credits)**

This course is designed to develop knowledge, skills, and dispositions requisite of teachers. Course content is determined by the discipline area. For some content areas a field experience will be required. This is an in-school, guided practicum completed in conjunction with TED 4000 math, science, language arts, world languages, Business, Information Technology, ESL and social studies sections. Candidates must demonstrate competencies related to performance in 7-12 classrooms. This is the final practicum experience prior to the clinical practice semester. (Cross-listed with TED 4000).

**TED 8010 INTRODUCTION TO RESEARCH (3 credits)**

This course will introduce advanced degree candidates to: A) An understanding of the scientific method as applied to behavioral research B) Assessment, evaluation, descriptive, causal-comparative, experimental and historical data gathering procedures and analytical strategies C) Sampling theory, techniques, distribution and hypothesis testing D) Specific designs, methods, and tools of research E) Search and retrieval of published research, both American and international (global), in the library and over the Internet F) Critical evaluation of research studies G) Basic statistics, both descriptive and inferential, and H) Preparation of a research proposal containing three chapters: Problem, Review of Related Research and Methodology.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8030 SEMINAR IN EDUCATION: SPECIAL TOPICS (1-3 credits)**

This is a variable content course focusing on topics of current relevance to PK-12 teachers.

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8040 SEMINAR ON STUDENT TEACHING/NEW TEACHER INDUCTION (3 credits)**

The seminar is designed for experienced teachers who are, or may be, serving as cooperating teachers for student teachers or as mentor teachers for beginning teachers. Participants will study the purposes, techniques, and trends involved in serving as a cooperating teacher or as a mentor.

**Prerequisite(s)/Corequisite(s):** Successful teaching experience is required for this course.

**TED 8050 DATA-DRIVEN DECISION MAKING FOR EDUCATORS (3 credits)**

This course provides graduate students with hands-on experiences that model data-driven decision making for educational success in today's classroom. Students will learn how to create valid and reliable assessments; interpret test data; use data to identify student, classroom, program, and school needs; and in general, to systematically enhance educational decision making. In addition, students will experience activities that can be integrated into student lessons to help to deepen concept learning, and to build student data literacy. The course will use real data sets, in interesting, hands on and technology-rich activities to find the "educational story" represented by the data. (Cross-listed with STEM 8050).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8055 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

This course is designed to enhance candidates' understanding of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs) in the U.S. context. As dedicated practitioners, reflective scholars, and responsible citizens, students will have knowledge of factors that contribute to an effective multicultural and multilingual learning environment. TED 3050 includes an in school, guided practicum. Candidates must demonstrate competencies related to teaching English Learners (ELs) in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education. (Cross-listed with TED 3050).

**Prerequisite(s)/Corequisite(s):** TED 2300 (EDUC 2010) OR TED 2380; and TED 2050.

**TED 8060 CURRENT ISSUES AND TRENDS IN EDUCATION (3 credits)**

The course is an advanced study of current issues and trends which have substantial impact on PK-12 education. The graduate candidates who take this class will read, analyze, and evaluate relevant research in order to become conversant in those issues.

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8070 TEACHING MULTIPLE INTELLIGENCE (3 credits)**

This course focuses on the utilization of the multiple intelligences (MI) theory by teachers to enhance children's understanding of various disciplines. Graduate candidates will have the opportunity to explore, evaluate, and develop various methodologies that foster understanding.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8080 STORYTELLING AND EDUCATION (3 credits)**

This course is designed to consider the importance of storytelling, to provide teacher candidates with the background materials for storytelling, to study resource material for storytelling from a variety of cultures, and to develop techniques for storytelling. Actual experience in storytelling and opportunities for evaluating storytelling experiences will be provided.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8100 RESEARCH PROJECT (1-3 credits)**

This course is designed for individual or group study and analysis of specific problems in schools dealing with curriculum and instruction in areas which have a broad scope of application rather than a specific level.

**Prerequisite(s)/Corequisite(s):** Approval of Advisor.

**TED 8120 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (ESL) (3 credits)**

TED 8120 is designed to enhance graduate candidates' knowledge of the historical, political, and theoretical perspectives of K-12 English as a Second Language (ESL) education for English Learners (ELs). As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will learn strategies for designing and promoting effective multicultural and multilingual learning environments. This course includes an in-school, guided practicum through which graduate candidates must demonstrate competencies related to standards related to teaching ELs in K-12 classrooms. This is the first of two practicum experiences to complete the field experience requirements for Nebraska Department of Education's ESL teaching endorsement.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**TED 8130 LANGUAGE, CULTURE, AND POWER (3 credits)**

This course will focus on the intersection of language, culture, and power in the schools. This seminar will research how each component impacts the students and teachers in the classroom.

**TED 8150 ANTI-RACISM EDUCATION: PRINCIPLES AND PRACTICES (3 credits)**

This course provides a theoretical analysis of race, racism and the implications for anti-racist education. In addition to exploring the key features of anti-racism education, the course also addresses other axes of oppression, namely, class and gender, with a critical focus on racialized power and privilege, and how such features function in the broader U.S. context as well as the schooling environment. Of equal importance is a critical interrogation of the historical, ideological, and political processes that produce and maintain racism. Course participants explore pedagogies, curriculum, and school leadership strategies as mechanisms for instituting anti-racism work in schools and community.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8160 ENGLISH AS A SECOND LANGUAGE STRATEGIES FOR PK-12 EDUCATORS (3 credits)**

This course is designed to enhance graduate candidates' knowledge of PK-12 English as a Second Language (ESL) pedagogical and assessment strategies that address the needs of English Language Learners (ELs) in content area classrooms. As dedicated practitioners, reflective scholars, and responsible citizens, graduate candidates will be able to explore evidence-based pedagogical and assessment strategies to use in educational contexts serving ELs.

**Prerequisite(s)/Corequisite(s):** Graduate candidate status. Not open to non-degree graduate students.

**TED 8170 DEVELOPMENTAL ASSESSMENT OF THE YOUNG CHILD (3 credits)**

This course is designed as a survey of developmental assessment in early childhood education (ages birth to eight years). Selection of assessment tools and strategies, implementation, data collection, analysis of results, and teaching impact are addressed in context of key assessment purposes in the early childhood field.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8180 CULTURALLY RESPONSIVE TEACHING (3 credits)**

This course includes an introductory analysis of the societal and institutional processes and problems which have bearing upon the education of children in urban settings. In addition, the course will focus on knowledge, skills and dispositions related to instructional strategies and classroom management needed for effective teaching in an urban environment.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8190 CONTEMPORARY ISSUES IN URBAN EDUCATION (3 credits)**

This course is designed for candidates who wish to keep abreast of contemporary issues which confront the educational institution and teaching profession within the urban milieu.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8200 SOCIAL WORLDS OF THE YOUNG CHILD (3 credits)**

This course will explore theoretical and cultural perspectives on the social and emotional development of young children. This course will also examine the relationship between social emotional development, guidance practices, democratic life skills, and school readiness.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8210 THE PRINCIPLES OF MULTICULTURAL EDUCATION (3 credits)**

This course will develop practicing teachers' awareness of and skill in meeting the needs of P-12 students with regards to the areas of human understanding, acceptance and value. Candidates will examine existing attitudes towards various minority groups such as racial, ethnic, gender, exceptionality, etc. School materials and attitudes will also be examined in determining the effect they have on PK-12 students.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8220 PLAY AS A LEARNING MEDIUM IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides an in-depth examination of young children's play and its curricular role in the early childhood classroom. The origins, developmental outcomes, assessment, curricular implementation, and evaluation of play will be covered, with an emphasis on play as a major component of developmentally appropriate practice with young children. The focus is on teachers learning to help children become partners in the operation of the learning environment.

**TED 8230 LITERATURE FOR THE YOUNG CHILD (3 credits)**

Literature for the young child is examined through the lens of developmentally appropriate practice for informing educators' interactions with children and also for developing high-quality, literature-related projects of study across the early childhood (birth-through-age-eight) continuum.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8240 FAMILY, SCHOOL, AND COMMUNITY PARTNERS (3 credits)**

This course will examine the purposes and methods for developing family, school, and community partnerships. Candidates will explore characteristics of diverse families and develop the skills necessary for planning, design, implementation, and evaluation of effective partnerships in early childhood settings.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8250 ASSESSMENT FOR CLASSROOM TEACHER (3 credits)**

This course studies assessment principles, effective practices, and classroom assessment processes throughout the curriculum. The research regarding assessment for learning is studied and application is made to classroom practices.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8260 ADVANCED CURRICULUM IN EARLY CHILDHOOD (3 credits)**

This course is designed to provide an in-depth examination of the processes used in selecting and implementing appropriate curricular content in programs for children ages three to eight years. Particular emphasis is on the role of the teacher as a dedicated practitioner and reflective scholar in the early learning environment.

**TED 8270 TRENDS IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course provides a context for examining socio-political and research-based influences underlying trends in early childhood education at the local, national and international levels.

**Prerequisite(s)/Corequisite(s):** Graduate Status.

**TED 8280 INTRODUCTION TO HUMAN RIGHTS IN P-12 EDUCATION (3 credits)**

The course examines the intersection of human rights and P-12 education and prepares individuals to effectively work with and advocate for children and adolescents in educational settings. Students completing the course will be able to 1) demonstrate an increased understanding of fundamental human rights with a specific emphasis on education rights and the human rights of children and adolescents 2) create learning environments that elevate human rights in educational settings and 3) design developmentally appropriate instruction for children and adolescents on varied human rights topics.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8300 EFFECTIVE TEACHING PRACTICES (3 credits)**

This course focuses on specific characteristics and behaviors of effective teachers. Course content will be derived from research on teaching and learning.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8310 HUMAN DEVELOPMENT - CONTEMPORARY IMPLICATIONS FOR TEACHING & LEARNING (3 credits)**

This course examines human growth and learning from birth through late adolescence. It is designed to prepare teachers to synthesize information regarding developmental theory and subsequently apply this to lesson design and effective content-area pedagogy. Candidates will examine multiple frameworks related to the cognitive, social/emotional, and physical development of children and use those to analyze current educational practices in PK-12 schools. Cultural influences impacting human development and implications for educational practices will also be examined. The course will include field-based experiences.

**Prerequisite(s)/Corequisite(s):** Admission into a Teacher Education Department graduate program.

**TED 8370 DATA VISUALIZATION AND MODELING FOR EDUCATORS (3 credits)**

In the growing context of data informed decisions there is a need to answer "what if" questions in a variety of decision-making situations, as well as to display data both visually and interactively. This course will provide foundational skills in data visualization and modeling for educational decision making and instruction. It draws upon key fundamentals in data visualization (representing data trends visually) as well as key strategies in data modeling (interactive representations to explore possible outcomes). The course also explores the use of visualization and modeling technologies as well as assisting student learning with these tools. (Cross-listed with STEM 8370).

**TED 8376 TEACHING AT THE MIDDLE LEVEL (3 credits)**

This course will provide candidates with a variety of middle level teaching techniques and strategies in their classrooms that have been identified in current research literature as appropriate for the middle level. This course is designed to introduce candidates to the unique characteristics of the middle student, school, curriculum, history, and philosophy. (Cross-listed with TED 4370).

**TED 8390 CLASSROOM MANAGEMENT IN PRACTICE (3 credits)**

This course will provide graduate students with a survey of general classroom management methods for classrooms. Candidates will enhance their understanding of three basic components of effective pedagogy: 1) proactive classroom management, 2) high-impact instructional strategies that impact student engagement and learning, 3) behavior management techniques that incorporate practice, feedback, research, and reflection.

**Prerequisite(s)/Corequisite(s):** Graduate standing

**TED 8410 IMPROVEMENT OF INSTRUCTION: SPECIAL TOPICS (3 credits)**

This course provides an in-depth study of instructional theory, research, and methodology designed to extend teachers' professional knowledge base and enhance their pedagogical skills. When offered, a course may be limited to improvement of instruction in a selected subject area. (Cross-listed with STEM 8410).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8420 TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION (3 credits)**

This course is designed for the graduate candidate in the Department of Teacher Education whose study program emphasis is in the area of science education. The course will describe and analyze past and present trends in science education, including curricula, teaching-learning strategies, the laboratory and instructional materials. The course focus will be K-12 and as such is meant to serve both elementary and secondary graduate candidates. (Cross-listed with STEM 8420).

**TED 8430 SCHOOL CURRICULUM PLANNING (3 credits)**

This course is designed to provide advanced degree candidates with an understanding of the theory, principles, and practices utilized in curriculum planning in American schools. This course focuses on the principles and practices of effective curriculum planning and teachers' part in these processes as curriculum developers. (Cross-listed with STEM 8430).

**TED 8470 TEACHING THE LANGUAGE ARTS (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching reading, writing, listening, and speaking. Candidates will learn about research supported appropriate language arts instruction strategies and assessments. This course will inform graduate students as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**TED 8480 FOUNDATIONS OF BILINGUAL EDUCATION (3 credits)**

This course is designed to give future and current teachers a thorough understanding of the theoretical, political, historical, and practical foundations of bilingual/multicultural education in the United States. As dedicated practitioners, reflective scholars, and responsible citizens, graduate students will have knowledge of factors that contribute to effective multilingual and multicultural learning environments that promote individual and societal bilingualism. Advanced Spanish language proficiency required.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8490 SPANISH LANGUAGE ARTS (3 credits)**

This course is designed to reinforce first and second language acquisition theory as it relates to dual immersion settings. Best practices for developing and reinforcing bilingualism and biliteracy are presented and used for planning and delivering instruction. Spanish fluency is required for the course.

**Prerequisite(s)/Corequisite(s):** Graduate status required for graduate students pursuing the bilingual education endorsement and concentration (does not lead to a Nebraska Department of Education teaching endorsement). Advanced Spanish language proficiency required.

**TED 8510 AEROSPACE EDUCATION WORKSHOP (3 credits)**

This course will focus on aviation and space education and its impact on society. It will seek to communicate knowledge, impart skill, and develop attitudes relative to the scientific, engineering and technical as well as the social, economic and political aspects of aviation and space flight efforts. (Cross-listed with AVN 8510, STEM 8510).

**Prerequisite(s)/Corequisite(s):** Graduate standing.

**TED 8520 SCHOOL LIBRARY CAPSTONE (3 credits)**

Candidates will gain direct experience and an understanding of the theories, concepts and activities integral to public services, technical services, and the administration in a 21st Century library and information agency at an assigned field site. Candidates will demonstrate the ability to plan, develop, and implement programming and services for patrons and diverse learners in their schools and communities.

**Prerequisite(s)/Corequisite(s):** There are no course prereqs for the Capstone Practicum but candidates must be in the final 2 semesters of their library media program & must complete an application for the Practicum the semester prior to their practicum. Not open to non-degree grads.

**TED 8530 INSTRUCTIONAL DESIGN STRATEGIES FOR STEAM EDUCATORS (3 credits)**

This course is designed to provide graduate candidates with the opportunity to enhance interdisciplinary instructional strategies, curricular understanding, and lesson preparation in the areas of science, technology, engineering, the arts, and mathematics (STEAM) through analysis and reflective practices in STEAM. This course provides hands-on experiences that model STEAM integration techniques, including how to effectively engage with community agencies and partners to bring STEAM into the classroom. This course emphasizes not only the technical aspects of STEAM, but also the creativity and innovation that arts integration can add to enhance STEM curriculum. Teacher professionals will be provided with tools, resources, and strategies to help them explore and enhance current, new, or supplemental curriculum activities that will enhance STEAM learning, student engagement, and motivation. (Cross-listed with STEM 8530).

**Prerequisite(s)/Corequisite(s):** This course includes both teacher education and STEAM related topics and therefore fits into both TED and STEM program coursework.

**TED 8540 DIGITAL CITIZENSHIP (3 credits)**

The course explores key concepts of Digital Citizenship pertaining to digital law, digital ethics, digital interaction, digital literacy, and cyber-security. The course addresses an educator's role as technology leader in both policy and practice to establish a responsible and robust digital learning community in P-12 schools.

**Prerequisite(s)/Corequisite(s):** Graduate Standing/Status

**TED 8550 TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING (3 credits)**

Technology for Creativity and Critical Thinking investigates the use of visual media tools in P-12 digital learning environments. This course provides candidates an opportunity to develop leadership skills and dispositions relevant to advocacy initiatives addressing policy and best practice in the use of technology in P-12 schools.

**TED 8560 TECHNOLOGY FOR DIVERSE LEARNERS (3 credits)**

This course will engage candidates that facilitate the use of instructional technology, pedagogy, and strategies to better meet the needs of diverse learners. Candidates will explore categories of diverse learners relevant and specific to their own organizations and learning environments to ensure candidates can effectively research and implement assistive technology, instructional technology, and applications to enhance learning opportunities for children and youth.

**TED 8570 INTERNET IN THE LEARNING PROCESS (3 credits)**

This course is designed to help educators actively explore instructional implementations of Internet use appropriate for use in K-12 classrooms, successful diffusion of Internet innovations in educational environments, and emerging multicultural "breaking down the walls of the classroom" concepts available to educators through Internet use.

**TED 8580 ONLINE TEACHING AND LEARNING (3 credits)**

Online Teaching and Learning is a course for education professionals that investigates the use of online tools for planning, preparing and assessing student learning in a digital environment. The course will prepare candidates to provide leadership for digital initiatives within learning organizations. The course encourages educators to explore methods of virtual lesson delivery and online assessment through direct instruction and online study.

**Prerequisite(s)/Corequisite(s):** Graduate Admissions status

**TED 8590 TEACHING AND LEARNING IN DIGITAL ENVIRONMENTS (3 credits)**

This course is an introduction to future-ready information and instructional technologies for use with children and youth. Course will cover a diverse array of technical literacies that serve as content and skill goals for today's children and youth in P-12 schools and other learning organizations.

**TED 8610 TEACHING OF WRITING THROUGHOUT THE CURRICULUM (3 credits)**

This course is designed to enhance candidates' knowledge of best practices in teaching writing. Candidates will learn about research supported appropriate writing instruction strategies and assessments. Candidates will be writing extensively throughout the course as they examine the varied ways writing genres extend throughout the curriculum. This course will inform candidates as dedicated practitioners, reflective scholars, and responsible citizens who can meet the challenges of their professions in a changing world.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8620 ADVANCED SUPPORT OF INSTRUCTIONAL TECHNOLOGY ENVIRONMENTS (3 credits)**

This course is designed for P-12 educators who wish to become better advocates of technology integration or become technology coordinators or school technicians. Course enrollees will evaluate and implement advanced strategies to keep technology up to date, effectively use technology, and properly manage technology in a school setting.

**TED 8650 CHILDREN'S LITERATURE AND EDUCATION (3 credits)**

Candidates in this graduate course will explore story, poetry, drama, and informational materials for elementary students with an emphasis on methods for including literature in school curricula with an awareness of diverse children's lives, discourses, and understandings. Examines current issues, recent materials, and the theoretical and research base of this field to develop meaningful and creative learning, literacy, and library experiences for children.

**TED 8660 YOUNG ADULT LITERATURE (3 credits)**

This course extends candidates' knowledge of literature for young adults. The course addresses current trends in the genre and engages candidates in activities that support pedagogies in basic, visual, information and cultural literacies.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8695 LITERACY AND LEARNING (3 credits)**

This course examines ways in which reading and writing can facilitate student learning in content areas studies (e.g., science, social studies, physical education, art, music, and math). The main focus is on teaching practices that engage students and contribute to their learning, integrating their background knowledge and cultural experiences with content area literacy. (Cross-listed with TED 3690).

**TED 8700 ELEMENTARY EDUCATION CAPSTONE COURSE (3 credits)**

This course is designed as a required, final capstone course for Elementary Education graduate students to be taken in the last nine hours of the Master of Science program. A grade of B or better must be received in TED 8700 to show satisfactory completion of the course and for program completion.

**Prerequisite(s)/Corequisite(s):** Permission of the Elementary Education Program Chair. Not open to non-degree graduate students.

**TED 8710 RESEARCH AND INQUIRY (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to reference resources and services in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of effective search strategies and efficient use of both print and digital resources, design and promote information literacy instruction that is developmentally appropriate, and understand the legal and ethical responsibilities integral to positive and proactive reference services for patrons and diverse learners.

**TED 8720 INTRODUCTION TO INSTRUCTIONAL COACHING IN PK-12 EDUCATION (3 credits)**

This course examines the prominent coaching models used in PK-12 schools (i.e. teacher-centered coaching, student-centered coaching, cognitive coaching, transformational coaching). Candidates completing this course will be able to: develop an understanding of best practices in coaching, create a common lexicon for the role of an instructional coach, engage in the coaching cycle, and create a personal vision for their work as a coach. Candidates will engage in a field based experience to apply their learning.

**Prerequisite(s)/Corequisite(s):** Graduate Status

**TED 8726 SPECIAL LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the major types of 21st Century special libraries and information agencies. Candidates will demonstrate an understanding of social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special libraries and information agencies. (Cross-listed with TED 4720).

**TED 8740 ORGANIZATION OF INFORMATION (3 credits)**

This course addresses current theory and best practice in descriptive and subject cataloging and classification of information resources that align with school library standards and guidelines. Candidates will demonstrate the ability to integrate the legal and ethical standards of their discipline in ensuring access to information and ideas for a diverse array of learners in schools and communities.

**TED 8746 ORGANIZATION OF INFORMATION (3 credits)**

Candidates will demonstrate a basic understanding of the theories, concepts and activities of descriptive and subject cataloging and classification procedures of information resources in 21st Century libraries and information agencies.

**TED 8760 MANAGING COLLECTIONS IN LIBRARIES AND INFORMATION AGENCIES (3 credits)**

Candidates will demonstrate an understanding of the theories, concepts and activities integral to proactive collection management in 21st Century libraries and information agencies. Candidates will demonstrate an understanding of community analysis, collection analysis, and the ability to conduct critical evaluations of a diverse array of information resources.

**TED 8770 INTEGRATING TECHNOLOGY INTO INSTRUCTIONAL DESIGN (3 credits)**

The purpose of this course is to introduce participants to effective methods for the integration of educational media into instructional design and provides participants (1) knowledge of broad instructional design theories and models with a concentration on constructivism, (2) experience in designing instruction that effectively integrates technology into the teaching-learning process, and (3) experience in producing instructional media. The course is intended to provide fundamentals in the selection, evaluation, production, application and utilization of educational media. This course is designed for in-service library media or instructional technology specialists as well as regular classroom teachers.

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8800 MULTICULTURAL LITERATURE FOR CHILDREN AND YOUTH (3 credits)**

This is designed as a graduate-level course dealing with utilization of literary materials representing authors and content from multiple perspectives, particularly authors whose cultural and ethnic backgrounds differ from the mainstream.

**TED 8810 STEM IN EARLY CHILDHOOD EDUCATION: CURRICULUM AND RESEARCH (3 credits)**

This course will explore theoretical and foundational pedagogical strategies in early childhood education used to deliver integrative STEM education in the preK-12 setting. In order to understand the research and practice of STEM disciplines in preK-12, it is necessary to examine the social, cultural, political, and functional aspects that influence them. Candidates will investigate the nature of STEM education, Early Childhood Education (ECE) pedagogy and perspectives of learning, content knowledge and dispositions for educators of STEM topics, and issues of access and equity for STEM education through literature, discussion, and practice. This course includes a community outreach component in which candidates will use qualitative methods to observe class topics in public settings. (Cross-listed with STEM 8810)

**Prerequisite(s)/Corequisite(s):** Graduate status

**TED 8816 PRINCIPLES AND PHILOSOPHY OF INTEGRATING CAREER AND ACADEMIC EDUCATION (3 credits)**

This course presents the philosophies and principles/practices underlying how schools can better prepare students for the workplaces of the future with emphasis on the integration of career education within broader academic preparation. The roles and responsibilities of teachers, counselors, and administrators in implementing integrated approaches will be examined. (Cross-listed with TED 4810).

**TED 8820 CAPSTONE IN STEM EDUCATION (3 credits)**

This course will prepare graduate students for the integration, articulation, and differentiation of curriculum and instruction in and between the STEM core areas of Science, Technology, Engineering, and Mathematics. Special emphasis will be on using the STEM core content to help provide applications and context to existing science and mathematics curriculum and instruction and on providing leadership in developing curriculum for mathematics and science dependent courses in engineering and technology.

**Prerequisite(s)/Corequisite(s):** The student must be enrolled in one of the following concentrations: STEM, mathematics, science, technology; and be enrolled in the last six hours of their program of study. Not open to non-degree graduate students.

**TED 8830 LEADERSHIP AND MANAGEMENT IN SCHOOL LIBRARIES (3 credits)**

The course explores best practice for effective leadership and management of 21st Century school libraries. Candidates will gain a comprehensive knowledge of the theories, policies and processes involved in directing a school library in support of the personal and academic success of P-12 students. Candidates will explore and employ ethical codes of conduct in their profession to ensure school libraries meet the needs of their diverse array of patrons.

**TED 8840 ENGINEERING EDUCATION EXTERNSHIP (3 credits)**

This graduate course will address the best practice of effective teaching and learning in Engineering Education through professional collaboration between K-12 STEM (Science, Technology, Engineering, and Mathematics) teachers and practicing engineering professionals. K-12 STEM teachers, as graduate students in the course, will learn about and address real-world applications and career opportunities in STEM education through the externship. K-12 STEM teachers will research and develop authentic, experiential learning opportunities and projects for the classroom through course supports associated with lecture, discussion, and partnerships with practicing engineering professionals. The externship will be integral to the K-12 STEM teachers' experiences and work in this course, as the course models effective professional collaboration founded on experience, knowledge, and skills to achieve a curriculum enhancement goal. (Cross-listed with STEM 8840).

**Prerequisite(s)/Corequisite(s):** Graduate status. Not open to non-degree graduate students.

**TED 8850 PROFESSIONAL COLLABORATION (3 credits)**

This course is designed to prepare candidates to work in collaboration with other professionals and parents to create a learning environment that enhances the potential for academic success and improvement of instructional practices. The focus will be on collaborative problem solving. (Cross-listed with SPED 8980).

**Prerequisite(s)/Corequisite(s):** Admission to Graduate College.

**TED 8856 COORDINATION TECHNIQUES IN WORK-BASED LEARNING (3 credits)**

This course reviews responsibilities and techniques of coordination for the work-based learning teacher-coordinator and/or work-based learning coordinator, with special emphasis on administration of the part-time cooperative program and analysis of the laws and regulations governing this program. (Cross-listed with TED 4850).

**TED 8860 INVENTION & INNOVATION IN ENGINEERING EDUCATION (3 credits)**

This course will address emerging trends in STEM education for in-service K-12 STEM teachers with a focus on the use of engineering education practices in teaching and learning content. STEM teachers will receive applicable, hands-on, classroom-ready experiences through lecture, professional instruction, and projects that will emphasize product design and creation through the Engineering Design Process. The Engineering Design Process will be central to the candidates' experiences in this course and will be used by the candidates to develop curriculum utilizing emerging trends to supplement current course content and standards. Interdisciplinary planning will be central to the course. (Cross-listed with STEM 8860).

**Prerequisite(s)/Corequisite(s):** Graduate status is required.

**TED 8880 LEADERSHIP IN EARLY CHILDHOOD EDUCATION (3 credits)**

This course seeks to prepare candidates with leadership skills in the early childhood field that will empower them to initiate and implement changes in programs serving young children and families. Candidates will explore and apply frameworks of leadership and analyze policy, governance, and power structures that can impact change. Candidates will also learn effective advocacy skills to positively influence policies and practices in program and governance structures. Lastly, candidates will examine approaches for developing new leaders in early childhood education through reflective supervision and mentorship.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 8900 SECONDARY EDUCATION GRADUATE CAPSTONE (3 credits)**

The Secondary Education Graduate Capstone course provides candidates with an opportunity to apply the knowledge, skills, and dispositions acquired during their program to content specific synthesis activities in their respective disciplines. Candidates will demonstrate their ability to integrate information from program coursework in the design, development and presentation of a final capstone project related to teaching and learning in 21st Century educational environments.

**Prerequisite(s)/Corequisite(s):** 30 credit hours towards degree completion; Permission required by Program Advisor. Not open to non-degree graduate students.

**TED 8970 INDEPENDENT STUDY (1-3 credits)**

This is a specially designed course taken under the supervision of a graduate faculty member to accommodate the student who has identified a focus of study not currently available in the departmental offerings and who has demonstrated capability for working independently.

**Prerequisite(s)/Corequisite(s):** Permission of Department and Graduate Faculty member.

**TED 8980 PRACTICUM: VARIOUS CONTENT AREAS (1-6 credits)**

This course is designed to provide school professionals with a guided, supervised, field experience that will develop and enhance the knowledge, skills, and dispositions requisite of a successful educational practitioner.

**Prerequisite(s)/Corequisite(s):** Prerequisites for the course will vary, depending on the content/discipline area. See syllabus for specific discipline area.

**TED 8990 THESIS (1-6 credits)**

This course is an independent research project completed under the direction of a thesis advisor and required of all candidates pursuing a Master of Science with Thesis option.

**Prerequisite(s)/Corequisite(s):** Completion of Selective Retention and approval of advisor. Not open to non-degree graduate students.

**TED 9100 THEORIES, MODELS, AND PRACTICES OF LITERACY (3 credits)**

This course develops a framework about the theories, models, practices, processes, and related research associated with literacy. The content looks across grade levels and student populations, and across social and cultural contexts in an examination of factors that impact theories and processes of literacy.

**Prerequisite(s)/Corequisite(s):** Graduate status.

**TED 9110 PRINCIPLES AND PRACTICES FOR TEACHING READERS (3 credits)**

This graduate course for both elementary and secondary teachers is open to any candidate who has graduate standing in education. The purpose of the course is to develop a broad understanding of the reading process as well as materials and instructional strategies that support students who are emerging, developing, and maturing as readers in all areas of the curriculum.

**TED 9130 ASSESSMENTS AND INTERVENTIONS - ELEMENTARY (3 credits)**

This course is designed for graduate candidates enrolled in the Literacy Masters or Reading Specialist endorsement program. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches that support reading development. This knowledge is applied through a practicum experience with elementary students in which candidates integrate knowledge and practices related to assessment and evaluation of readers' strengths and needs.

**TED 9140 ASSESSMENT AND INTERVENTION - SECONDARY (3 credits)**

This course is designed for graduate candidates in literacy endorsement and Master's programs. The purpose of this course is to develop an understanding of theory and research as it relates to assessment and evaluation and instructional approaches as they relate to reading difficulties among middle and high school students. Included in this course is knowledge about the role and responsibility of a literacy leader as it relates to coaching, mentoring, supervision, and evaluation of a reading program. Application of this information is demonstrated through a practicum experience with middle and high school students.

**Prerequisite(s)/Corequisite(s):** TED 9100; TED 9110 concurrent with, or prior to TED 9140.

**TED 9180 LITERACY RESEARCH SEMINAR (3 credits)**

This course will develop advanced degree candidates' understanding and ability to critically examine current literacy research through work with (1) scientific methods of quantitative and qualitative research (2) discussion of historical trends in literacy research, (3) designs, methods, and tools of research, and (4) reviewing and critically examining current research studies in literacy. These examinations will be conducted from the perspectives of knowledge about literacy processes, classroom practice, and influence of previous research results. Teacher candidates will apply these issues in an action research project they design.

**TED 9190 LITERACY GRADUATE CAPSTONE (3 credits)**

This course is designed to help Literacy Masters students synthesize the knowledge gained from the program in order to serve as literacy leaders within the complex organizations of classrooms, schools, and school districts. In this course students will integrate their learning across the program in order to organize their future activities in teaching, leadership, advocacy, and engagement opportunities in ways that honor the interrelationships among classroom, school, sociocultural and economic contexts. They will prepare to engage with all literacy education stakeholders in cutting edge, innovative ways that advance both the learning of PK-12 students and the literacy education field.

**Prerequisite(s)/Corequisite(s):** This course is designed as a capstone event. Accordingly, students must have no more than 6 additional remaining credit hours of coursework. Permit to enroll required.

**TED 9200 CRITICAL PEDAGOGY: TEACHING FOR SOCIAL JUSTICE (3 credits)**

This course examines ways in which ideology, power, and culture intersect in P-12 educational settings. Undemocratic, inequitable, and oppressive structures are identified. Possibilities for democratic, equitable transformations are proposed.

**Prerequisite(s)/Corequisite(s):** Graduate status

## Theatre (THEA)

**THEA 8015 ADVANCED PROJECTS IN THEATRE: INDEPENDENT STUDY (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 3010).

**Prerequisite(s)/Corequisite(s):** THEA 1000 Theatre Practicum, THEA 1700 Script Analysis

**THEA 8026 ADVANCED PROJECTS IN THEATRE (1-3 credits)**

Special projects in theatre supplementing regular courses; individual research projects; combined study and practicum. (Cross-listed with THEA 4020)

**Prerequisite(s)/Corequisite(s):** 9 hours of theatre in the general area to be studied and permission of the instructor.

**THEA 8130 GLOBAL CITIZENSHIP IN THE ARTS (3 credits)**

This course is about artistic excellence married to ethical practices and responsible world citizenship. Students will analyze and evaluate how to use art to address community issues and discover a road map that allows for authentic, consistent and sustainable commitment to the community and its needs.

**THEA 8316 ADVANCED ACTING: POST REALISM (3 credits)**

Advanced work in the technical skills of voice, speech, movement and textual analysis needed for post-realist material. (Cross-listed with THEA 4310)

**Prerequisite(s)/Corequisite(s):** THEA 1700, THEA 2300, THEA 1300, THEA 3300 or graduate with an undergraduate major or minor in theatre or permission of instructor.

**THEA 8326 ADVANCED ACTING: GREEKS TO RESTORATION (3 credits)**

The fundamental theories and practices of major styles of acting from ancient Greece to the Restoration, including interpretation of outstanding dramatic literature. (Cross-listed with THEA 4320)

**Prerequisite(s)/Corequisite(s):** THEA 1700, THEA 2300, THEA 1300, THEA 3300 or graduate with an undergraduate major or minor in theatre or permission of instructor.

**THEA 8336 ADVANCED ACTING: ENSEMBLE PLAY PRODUCTION (3 credits)**

In-depth exploration of a play or playwright's work to connect acting class with performance. Special emphasis on creating a working process that allows the ensemble to emerge. The class will culminate in public performance. (Cross-listed with THEA 4330)

**Prerequisite(s)/Corequisite(s):** THEA 1700, THEA 2300, THEA 1300, THEA 3300 or graduate with an undergraduate major or minor in theatre or permission of instructor.

**THEA 8346 ADVANCED ACTING: AUDITIONING (3 credits)**

An acting class designed to develop auditioning skills and material as well as cultivate a working knowledge of the business of acting. (Cross-listed with THEA 4340)

**Prerequisite(s)/Corequisite(s):** THEA 2310 or THEA 1300 and THEA 2320 or THEA 3300 and Junior standing. Graduate with an undergraduate major or minor in theatre or permission of the instructor.

**THEA 8435 DIRECTING I (3 credits)**

Directing I examines the development of the role of director in Western Theatre; provides practice in the directing process including script analysis, dramaturgical research, staging visual composition, collaboration with designers and performers; considers alternative approaches to directing and encourages students to begin to develop a personal directing style. (Cross-listed with THEA 3400)

**Prerequisite(s)/Corequisite(s):** Graduate standing with an undergraduate major or minor in theatre or permission of the instructor.

**THEA 8446 DIRECTING II (3 credits)**

A practicum in play selection, analysis, casting, rehearsing and performing. (Cross-listed with THEA 4400).

**Prerequisite(s)/Corequisite(s):** Graduate standing with an undergraduate major or minor in theatre or permission of the instructor.

**THEA 8506 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical storytelling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 4500).

**Prerequisite(s)/Corequisite(s):** THEA 1500/THEA 1510 and THEA 1700 or Graduate Standing with previous undergraduate experience or permission of instructor.

**THEA 8516 CHALLENGES IN PRODUCTION DESIGN (3 credits)**

Evaluation and exploration of the world of theatrical story telling using line, texture, contrast, theme, metaphor and symbolism. Students will work collaboratively as they foster their individual artistic talents, and recognize the impact of design on society through story telling. (Cross-listed with THEA 4510)

**Prerequisite(s)/Corequisite(s):** Graduate Standing or by permission of Instructor

**THEA 8556 PERIOD STYLES IN DRESS AND DECOR (3 credits)**

An historical survey course introducing students to the major periods and iconic styles and trends in western architecture, dress and interior decor of the past 2000 years; and to the social, cultural and technological influences on those trends, particularly as they relate to theatrical and production design. (Cross-listed with THEA 4550).

**Prerequisite(s)/Corequisite(s):** THEA 1700 and THEA 3700/THEA 3770, THEA 3710/THEA 3760, THEA 4710 or THEA 4720 or by permission of instructor.

**THEA 8615 COLLABORATIVE DESIGN STUDIES (3 credits)**

Collaborative Design Studies explores the integration and process of theatrical production including scenery, lighting, costume, projection and sound. It chronicles their individual and collective impact on storytelling. While developing the skills of the Scenographer, students will work collaboratively as they foster their individual artistic design talents, and recognize the impact of design on society through storytelling. (Cross-listed with THEA 3500).

**Prerequisite(s)/Corequisite(s):** Graduate Standing or Permission of Instructor

**THEA 8616 SCENE DESIGN (3 credits)**

Principles of composition, perspective and color for the stage; the designer's approach to the play, production of ground plans, elevations, sketches and models. (Cross-listed with THEA 4610)

**Prerequisite(s)/Corequisite(s):** Graduate with an undergraduate major or minor in theatre or permission of the instructor.

**THEA 8665 STAGE AND TV LIGHTING (3 credits)**

Characteristics and control of light and color and their application to the theatre and television; elementary electricity; lens systems; reflectors; lamps; control systems; automation. (Cross-listed with THEA 3660).

**Prerequisite(s)/Corequisite(s):** Graduate status or permission of instructor.

**THEA 8755 THEATRE AND SOCIAL JUSTICE (3 credits)**

This service-learning course will combine both research and practice in theatre that involves social change. Students will study the history of such theatre, with special focus on developments in the 20th century. All research will be accompanied by several community-based projects whereby students will create theatre with specific populations (schools, community centers, health centers, senior homes, etc.). (Cross-listed with THEA 3720).

**Prerequisite(s)/Corequisite(s):** Graduate in theatre. Graduate outside theatre with sufficient background in theatre and sociology political science requires permission of the instructor.

## Urban Studies (UBNS)

**UBNS 8000 SEMINAR IN URBAN STUDIES (3 credits)**

This course provides an interdisciplinary overview of the forces influencing and influenced by urbanization and urbanism. (Cross-listed with GEOG 8830)

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8020 RACE, ETHNICITY, AND AMERICAN URBAN CULTURE (3 credits)**

This course explores two central themes, race and ethnicity, which have played a dominant role in the shaping of American society and American culture. (Cross-listed with BLST 8020).

**Prerequisite(s)/Corequisite(s):** BLST 1000, BLST 1100, or permission by the instructor.

**UBNS 8060 INTRODUCTION TO URBAN PLANNING (3 credits)**

This course is an introduction to the development of urban planning as it has shaped and reacted to major trends in U.S. history. It provides students with major themes and traditions in the field of planning and includes planning practice, planning procedures and methods and contemporary issues in the field.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8200 COMMUNITY ORGANIZING AND DEVELOPMENT (3 credits)**

This course focuses on various theories and applications of organizing communities and neighborhoods to effect change. Of particular interest is the role of engaging citizens in improving their communities.

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8500 URBAN POLICY (3 credits)**

Seminar on urban policies and policymaking. Attention is given to various current urban issues and the policy options surrounding them. Policy theories, policy processes, and the institutions of policymaking in cities are covered. Topics of focus include policies related to policing, economic development, land use, transportation, education, poverty, housing, and ordinances.

**Prerequisite(s)/Corequisite(s):** Graduate student standing, but open to non-degree seeking students with Bachelor's degree; open to certificate students

**UBNS 8820 COMPARATIVE URBAN STUDIES (3 credits)**

Emphasis is upon contrasting the cities of the developed and developing areas of the world

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

**UBNS 8940 DIRECTED RESEARCH IN URBAN STUDIES (3 credits)**

The course is intended for advanced graduate students in urban studies or geography. It is especially suited for those in-career students who have had their internships waived and who might profit more by in-depth research on a problem of urban studies rather than additional classroom courses. (Cross-listed with GEOG 8840).

**Prerequisite(s)/Corequisite(s):** Completed 9 graduate hours in Urban Studies. Permission from the School. For Geography students, GEOG 8126 (Urban Geography) or permission from the School.

## Women's and Gender Studies (WGST)

**WGST 8066 HISTORY OF WOMEN IN AMERICA FROM 1875 - 1992 (3 credits)**

This course examines the history of women in the United States from 1875 to 1992. Topics include law, work, sexuality and reproduction, immigration, civil rights, political participation and party politics, and changes to the American gender system, including family structure and employment. (Cross-listed with HIST 4060, WGST 4060, and HIST 8066).

**Prerequisite(s)/Corequisite(s):** Graduate standing

**WGST 8105 LGBT POLITICS (3 credits)**

This course introduces students to the political struggle for Lesbian, Gay, Bisexual, and Transgender (LGBT) equal rights in the United States using a model of political empowerment, which may be applied for all minority or identity groups and social movements, generating operationalized measures of progress toward the loci of political power. (Cross-listed with PSCI 3100, PSCI 8105, WGST 3100)

**WGST 8135 WOMEN AND POLITICS (3 credits)**

This course introduces students to women's political participation, including holding elective office, socialization, the feminist movement and its opposition, and public policies with particular impact on women. The focus is on contemporary perspectives on women in American political ideas and behavior. (Cross-listed with PSCI 3130, PSCI 8135, WGST 3130)

**WGST 8156 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (3 credits)**

An advanced seminar focused on links among geography, gender and work, emphasizing leadership and entrepreneurship. The course considers theory and method in addition to empirical work. The nature of space, of gender, and of work, are examined. Topics include the gendering of work, the geography of entrepreneurship, gender and leadership. (Cross-listed with WGST 4150, ENTR 4150, ENTR 8156, GEOG 4150 and GEOG 8156).

**Prerequisite(s)/Corequisite(s):** Junior, senior, or graduate standing, or permission of instructor.

**WGST 8235 GENDER AND GLOBAL POLITICS (3 credits)**

This seminar introduces students to gender politics in comparative and international politics. (Cross-listed with PSCI 3230, PSCI 8235, WGST 3230)

## Writer's Workshop (WRWS)

**WRWS 8000 FORM AND THEORY (3 credits)**

This course is an advanced study of historical and contemporary theories, forms, and techniques in one or more literary genres, which may include poetry, fiction, nonfiction, drama, and screenwriting. Specific topics of study may change from term to term, and students may repeat the course under a new topic. Consult current class schedule.

**WRWS 8106 FICTION STUDIO (4 credits)**

An advanced course in fiction writing. Emphasis on refining the techniques of developing short fiction or the novel.

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor.

**WRWS 8116 ADVANCED FICTION STUDIO II (4 credits)**

An advanced course in fiction in which students write and edit the most fully-developed short stories and/or novel sections of their college career, as well as read, analyze, and discuss assigned texts. Students examine the techniques of fiction writing, use the vocabulary and perspective they have gained so far to discuss their and others' work. They draw upon aspects of the self, the senses, imagination and memory to produce texts unique to their own voice and experience. (Cross-listed with WRWS 4100, WRWS 4110)

**Prerequisite(s)/Corequisite(s):** WRWS 3100 or permission of instructor. Not open to non-degree graduate students.

**WRWS 8206 ADVANCED POETRY STUDIO I (4 credits)**

An advanced course in poetry writing. Emphasis on refining poetic technique. (Cross-listed with WRWS 4200)

**Prerequisite(s)/Corequisite(s):** WRWS 3200 or WRWS 4210 or permission of instructor. Not open to non-degree graduate students.

**WRWS 8216 POETRY STUDIO (4 credits)**

A graduate workshop in poetry writing with emphasis on such elements of craft as rhythm, imagery, lineation, diction, and metaphor. The course presumes the student is familiar with principles and practice of Twentieth Century poetry in English.

**Prerequisite(s)/Corequisite(s):** Graduate standing and permission of instructor based on writing sample.

**WRWS 8606 ADVANCED SCREENWRITING STUDIO I (4 credits)**

This class will focus on the craft of screenwriting: plot, format, substance, style, scene development, film structure (both independent and main stream), three dimensional characters, and precise, professional dialogue. The student will complete a feature-length screenplay over course of the semester. There will be lectures and assigned reading. Once a month the student will view the current independent offering at Film Streams. This class will guide the student in completing a work portfolio, querying agents, applying to internships, and preparing for a career in film and television. (Cross-listed with WRWS 4600).

**Prerequisite(s)/Corequisite(s):** Not open to non-degree graduate students.

# INDEX

## A

About UNO .....	14
About UNO .....	942
Academic Appeals .....	960
Academic Calendar .....	28
Academic Calendar .....	953
Academic Focus Areas .....	69
Academic Integrity Policy .....	32
Academic Integrity Policy .....	963
Academic Program Requirements .....	954
Academic Support Services .....	63
Academic Support Services .....	980
Accounting .....	371
Accounting (ACCT) .....	746
Accounting (ACCT) .....	1372
Accounting Concentration .....	374
Accounting, MACC .....	986
Accreditation .....	15
Accreditation .....	943
Achievement-Centered Education Electives .....	633
Additional Campus Services and Support .....	66
Additional Campus Services and Support .....	982
Admission Decisions .....	22
Admission Fees .....	21
Admission Requirements .....	17
Admissions .....	17
Admissions .....	945
Advanced Writing Certificate .....	1174
Aerospace Studies (AERO) .....	747
Ancient Mediterranean Studies Minor .....	74
Ancient Mediterranean Studies Minor .....	1368
Anthropology (ANTH) .....	748
Anthropology (ANTH) .....	1374
Anthropology Minor .....	338
Application Deadline Dates .....	17
Application Process .....	17
Applied Behavior Analysis Certificate .....	1307
Applied Behavior Analysis, MS .....	1306
Architectural Engineering (AREN) .....	749
Architectural Engineering (AREN) .....	1374

Architectural Engineering, Bachelor of Science .....	600
Architecture (ARCH) .....	751
Art and Art History .....	470
Art (ART) .....	752
Art (ART) .....	1376
Art History, Bachelor of Arts .....	476
Art History Minor .....	479
Art History Minor .....	1369
Art (PK-12) Endorsement .....	558
Artificial Intelligence Certificate .....	1077
Artificial Intelligence Concentration .....	649
Arts and Sciences Minors .....	74
Athletic Training (ATHT) .....	1377
Athletic Training, MA .....	990
Aviation .....	687
Aviation (AVN) .....	758
Aviation (AVN) .....	1378
Aviation, Bachelor of Science .....	693

## B

Bachelor of Multidisciplinary Studies .....	706
Bachelor of Science in Business Administration (BSBA) Degree .....	348
Banking and Financial Markets Concentration .....	383
Bioinformatics .....	75
Bioinformatics, Bachelor of Science (College of Arts and Sciences) .....	77
Bioinformatics, Bachelor of Science (College of Information Science & Technology) .....	668
Bioinformatics (BIOI) .....	761
Bioinformatics (BIOI) .....	1380
Bioinformatics Minor .....	672
Biology .....	79
Biology (7-12) Endorsement .....	559
Biology, Bachelor of Arts .....	86
Biology, Bachelor of Science .....	88
Biology, Bachelor of Science with a Concentration in Education .....	91
Biology (BIOL) .....	762
Biology (BIOL) .....	1380
Biology Minor .....	94
Biology, MS .....	993
Biomechanics .....	515
Biomechanics and Kinesiology (BMKI) .....	1387
Biomechanics and Kinesiology, PhD .....	1179
Biomechanics, Bachelor of Science .....	517

Biomechanics (BMCH) .....	768	<b>C</b>	
Biomechanics (BMCH) .....	1385	Catalog Disclaimers .....	14
Biomechanics Minor .....	519	Catalog Disclaimers .....	941
Biomechanics, MS .....	1000	Catalog Introduction .....	14
Biomedical Informatics .....	1003	Catalog Introduction .....	941
Biomedical Informatics (BMI) .....	1386	Catalog Purpose .....	14
Biomedical Informatics, MS .....	1004	Catalog Purpose .....	941
Biomedical Informatics, PhD .....	1007	Chemical Engineering (CHME) .....	773
Biomedical Science Certificate .....	999	Chemical Engineering (CHME) .....	1398
Black Studies .....	94	Chemistry .....	100
Black Studies, Bachelor of Science .....	98	Chemistry (7-12) Endorsement .....	561
Black Studies (BLST) .....	769	Chemistry, Bachelor of Arts .....	104
Black Studies (BLST) .....	1389	Chemistry, Bachelor of Science .....	106
Black Studies Minor .....	100	Chemistry, Bachelor of Science with a Concentration in Chemistry Education .....	108
Black Studies Minor .....	1369	Chemistry, Bachelor of Science with a Concentration in Medicinal Chemistry .....	111
BSBA as a Second Bachelor's Degree .....	366	Chemistry (CHEM) .....	774
BSSW Program .....	737	Chemistry (CHEM) .....	1399
Business Administration .....	1010	Chemistry Minor .....	113
Business Administration (BSAD) .....	773	Chicano/Latino Studies Minor .....	217
Business Administration (BSAD) .....	1391	Chinese (CHIN) .....	777
Business Administration, MBA .....	1018	Civil Engineering, Bachelor of Science .....	603
Business Administration, MBA and Economics, MS (MBA/ECON) .....	1040	Civil Engineering (CIVE) .....	778
Business Administration, MBA and Management Information Systems, MS (MBA/MIS) .....	1036	Civil Engineering (CIVE) .....	1401
Business Administration, MBA and Management Information Systems, MS (MBA/MIS) .....	1036	Coaching (7-12) Endorsement .....	583
Business Administration, MBA and Public Health, MPH (MBA/MPH) ....	1045	College of Arts and Sciences .....	69
Business Administration, MBA and UNMC Doctor of Physical Therapy ..	1050	College of Business Administration (CBA) .....	345
Business Administration, MBA and UNMC Master of Perfusion Science .	1053	College of Communication, Fine Arts and Media .....	409
Business Administration, MBA and UNMC Master of Physician Assistant Studies .....	1055	College of Education .....	511
Business Administration, MBA and UNMC Nursing (MBA/MSN) .....	1051	College of Engineering .....	595
Business Administration, MBA and UNMC PharmD (MBA/PharmD) .....	1048	College of Information Science & Technology .....	635
Business Administration Minor .....	1369	College of Information Science & Technology (CIST) .....	780
Business Administration-Executive MBA .....	1027	College of Information Science & Technology (CIST) .....	1400
Business Analytics Concentration .....	384	College of Public Affairs and Community Service .....	684
Business Analytics Minor for Non-Business Majors .....	369	Communication .....	1059
Business Finance Concentration .....	386	Communication Certificate .....	1064
Business for Bioscientists Certificate .....	999	Communication (COMM) .....	1404
Business for Bioscientists Certificate .....	999	Communication Disorders .....	593
Business for Non-Business Majors Minor .....	369	Communication Disorders (CDIS) .....	781
Business in Health Administration Certificate .....	1057	Communication Disorders (CDIS) .....	1405
Business, Marketing, Information Technology (BMIT) (6-12) Endorsement	560	Communication, Fine Arts, & Media (CFAM) .....	786
		Communication, MA .....	1063

Communication Networks Certificate .....	1078	Criminology & Criminal Justice Minor .....	704
Communication Studies, Bachelor of Arts .....	421	Criminology and Criminal Justice .....	696
Communication Studies, Bachelor of Science .....	423	Criminology and Criminal Justice .....	1090
Communication Studies (CMST) .....	783	Criminology and Criminal Justice (CRCJ) .....	795
Communication Studies (CMST) .....	1407	Criminology and Criminal Justice (CRCJ) .....	1422
Communication Studies Minor .....	425	Criminology and Criminal Justice, MA .....	1093
Community & Regional Planning (CRP) .....	786	Criminology and Criminal Justice Minor .....	1369
Community & Regional Planning (CRP) .....	1408	Criminology and Criminal Justice, MS .....	1094
Community Engagement .....	15	Criminology and Criminal Justice, PhD .....	1097
Community Engagement .....	943	Critical and Creative Thinking (CACT) .....	1425
Community Engagement Opportunities .....	57	Critical and Creative Thinking, MA .....	1102
Community Engagement Opportunities .....	976	Cross-Sector Collaborative Leadership Minor .....	742
Computer and Electronics Engineering (CEEN) Track .....	648	Cybersecurity, Bachelor of Science .....	673
Computer Engineering, Bachelor of Science .....	615	Cybersecurity Certificate .....	1110
Computer Networking and Communications Track .....	648	Cybersecurity (CYBR) .....	798
Computer Science .....	639	Cybersecurity (CYBR) .....	1428
Computer Science .....	1067	Cybersecurity Minor .....	678
Computer Science, Bachelor of Science .....	644	Cybersecurity, MS .....	1106
Computer Science (CSCI) .....	787	<b>D</b>	
Computer Science (CSCI) .....	1409	Data Analytics Certificate .....	1256
Computer Science Education Certificate .....	1082	Data Management Certificate .....	660
Computer Science Education, MS .....	1080	Data Management Certificate .....	1258
Computer Science Minor .....	650	Data Science, MS .....	1112
Computer Science, MS .....	1073	Deaf/Hard of Hearing (7-12) Endorsement .....	581
Computer Science Teacher Education (CSTE) .....	1415	Design (DSGN) .....	800
Construction .....	626	Discrimination and Sexual Harassment Policies .....	46
Construction Engineering, Bachelor of Science .....	629	Discrimination and Sexual Harassment Policies .....	968
Construction Engineering (CONE) .....	791	Distribution Requirements .....	56
Construction Engineering (CONE) .....	1415	Diversity Requirements .....	56
Construction Management, Bachelor of Science .....	631	Division of Continuing Studies .....	705
Construction Management (CNST) .....	792	Doctoral Programs .....	956
Construction Management (CNST) .....	1416	<b>E</b>	
Cooperative Education (COOP) .....	794	Economic Education Certificate .....	1149
Counseling (COUN) .....	794	Economics .....	114
Counseling (COUN) .....	1418	Economics .....	376
Counseling, MS .....	1083	Economics .....	1140
Course Information .....	27	Economics, Bachelor of Arts .....	117
Course Information .....	951	Economics, Bachelor of Science .....	118
Courses A-Z .....	744	Economics Concentration .....	379
Creative Writing, Bachelor of Fine Arts .....	508	Economics (ECON) .....	801
Creative Writing Minor .....	511	Economics (ECON) .....	1430
Criminology & Criminal Justice, Bachelor of Science .....	702	Economics, MA .....	1143

Economics Minor .....	120	Enrollment .....	948
Economics Minor .....	1369	Enterprise Resource Planning (ERP) Systems Minor .....	660
Economics, MS .....	1145	Entrepreneurialship (ENTR) .....	819
Education - Deaf/Hard of Hearing Program .....	593	Entrepreneurship Concentration .....	405
Education - Early Childhood Inclusive, Bachelor of Science .....	541	Entrepreneurship (ENTR) .....	1446
Education - Elementary Education, Bachelor of Science .....	544	Entrepreneurship for Non-Business Majors Minor .....	369
Education - Library Science, Bachelor of Science .....	552	Environmental Engineering (ENVE) .....	1446
Education - Secondary Education, Bachelor of Science .....	553	Environmental Engineering Minor .....	623
Education - Special Education, Bachelor of Science .....	589	Environmental Science, Bachelor of Science with a Concentration in Analytical Sciences .....	138
Educational Administration & Supervision, EdS .....	1154	Environmental Science, Bachelor of Science with a Concentration in Earth Sciences .....	140
Educational Administration, EdD .....	1155	Environmental Science, Bachelor of Science with a Concentration in Geography and Planning .....	143
Educational Leadership .....	1149	Environmental Science, Bachelor of Science with a Concentration in Life Science .....	145
Educational Leadership (EDL) .....	1432	Environmental Science Minor .....	147
Educational Leadership, MS .....	1153	Environmental Studies .....	135
Educational Professional Sequence (EDUC) .....	803	Environmental Studies (ENVN) .....	820
Electrical & Computer Engineering .....	609	Environmental Studies (ENVN) .....	1446
Electrical and Computer Engineering (ECEN) .....	803	Ethics Minor .....	284
Electrical and Computer Engineering (ECEN) .....	1435	Executive Master of Science/Information Technology (EMIT) .....	1447
Electrical Engineering, Bachelor of Science .....	617	Exploratory (EXPL) .....	822
Elementary Education, MS .....	1156	<b>F</b>	
Emergency Management and Disaster Science .....	720	Family Education Rights and Privacy Act (FERPA) .....	16
Emergency Management (BSEM), Bachelor of Science .....	724	Family Education Rights and Privacy Act (FERPA) .....	944
Emergency Management (EMGT) .....	809	Federal Financial Aid Policies .....	49
Emergency Management (EMGT) .....	1440	Federal Financial Aid Policies .....	970
Emergency Management Minor .....	729	Finance and Banking (FNBK) .....	822
Engineering (ENGR) .....	810	Finance, Banking and Real Estate .....	381
Engineering (ENGR) .....	1440	Financing Your Education .....	49
Engineering Leadership Minor .....	620	Financing your Education .....	970
Engineering Mechanics (EMEC) .....	812	Fire Service Management (FSMT) .....	823
Engineering Mechanics (EMEC) .....	1441	Fire Service Management Minor .....	729
English .....	120	Food Science & Technology (FSCI) .....	824
English .....	1169	Foreign Language & Literature (FLNG) .....	824
English as a Second Language (7-12) Endorsement .....	583	Foreign Language & Literature (FLNG) .....	1447
English, Bachelor of Arts .....	126	Foreign Language and Literature, Bachelor of Arts .....	157
English (ENGL) .....	812	Foreign Languages and Literature .....	149
English (ENGL) .....	1441	Freedom of Expression .....	16
English, MA .....	1173	Freedom of Expression .....	944
English Minor .....	135	French (FREN) .....	824
English Minor .....	1369	French (FREN) .....	1448
Enrollment .....	23	French Minor .....	161
Enrollment .....	23		
Enrollment .....	948		

French Minor .....	1369	Government Certificate .....	1289
Frequently Asked Questions .....	23	Grades .....	30
Fundamental Academic Skills .....	55	Grades .....	958
<b>G</b>		Grades & Quality of Work Standards .....	958
Game Programming Concentration .....	649	Graduate .....	940
General Education Curriculum .....	55	Graduate .....	940
General Science .....	162	Graduate Assistantships .....	973
General Science, Bachelor of Science .....	162	Graduate Certificates .....	1368
Geographic Information Science Certificate .....	1189	Graduate College .....	942
Geography .....	166	Graduate Courses A-Z .....	1371
Geography .....	1184	Graduate Degree Programs, Certificates & Minors .....	985
Geography, Bachelor of Arts .....	171	Graduate Minors .....	1368
Geography, Bachelor of Science .....	173	Graduate Programs A-Z .....	940
Geography (GEOG) .....	826	Graduation .....	47
Geography (GEOG) .....	1449	Graduation .....	969
Geography, MA .....	1187	<b>H</b>	
Geography Minor .....	176	Health & Kinesiology (HEKI) .....	834
Geography Minor .....	1370	Health & Kinesiology (HEKI) .....	1454
Geology .....	176	Health and Kinesiology .....	519
Geology, Bachelor of Arts .....	179	Health and Kinesiology .....	1195
Geology, Bachelor of Science .....	183	Health and Kinesiology, MS .....	1201
Geology (GEOL) .....	829	History .....	187
Geology (GEOL) .....	1451	History .....	1202
Geology Minor .....	187	History, Bachelor of Arts .....	191
German (GERM) .....	831	History, Bachelor of Science .....	193
German (GERM) .....	1452	History Certificate .....	1207
German Minor .....	161	History (HIST) .....	835
German Minor .....	1370	History (HIST) .....	1454
Gerontology .....	730	History, MA .....	1205
Gerontology .....	1190	History Minor .....	194
Gerontology, Bachelor of Science .....	734	History Minor .....	1370
Gerontology Certificate .....	736	Holocaust and Genocide Studies Minor .....	194
Gerontology Certificate .....	1194	Honors Program (HONR) .....	838
Gerontology (GERO) .....	832	Horticulture (HORT) .....	839
Gerontology (GERO) .....	1452	Human Performance Minor .....	533
Gerontology, MA .....	1193	Human Resource Management Concentration .....	398
Gerontology Minor .....	737	Human Resources and Training Certificate .....	1065
Gerontology Minor .....	1370	Human Rights Studies Minor .....	195
Gerontology, PhD .....	1192	Humanities (HUMN) .....	839
Global Information Operations Certificate .....	1288	<b>I</b>	
Goodrich Program (GDRH) .....	834	Industrial/Organizational Psychology, MS .....	1303
Goodrich Scholarship Program .....	744	Information Assurance Certificate .....	1259

Information Assurance Concentration .....	650	Kinesiology (KINS) .....	847
Information Systems & Quantitative Analysis (ISQA) .....	841	Kinesiology (KINS) .....	1464
Information Systems & Quantitative Analysis (ISQA) .....	1457	Kodaly Certificate .....	1279
Information Systems & Quantitative Analysis (ISQA) Track .....	648	<b>L</b>	
Information Systems and Quantitative Analysis .....	651	Language Arts/English (7-12) Endorsement .....	563
Information Systems Engineering Track .....	648	Language Teaching, MA .....	1228
Information Technology .....	1207	Latin (LATN) .....	852
Information Technology Administration Certificate .....	661	Latino/Latin American Studies, Bachelor of Arts .....	214
Information Technology, Executive MS .....	1208	Latino/Latin American Studies (LLS) .....	211
Information Technology (IT) Innovation, Bachelor of Science .....	679	Latino/Latin American Studies (LLS) .....	852
Information Technology, PhD .....	1209	Latino/Latin American Studies (LLS) .....	1466
Information Technology (PK-12) Endorsement .....	583	Law and Society (LAWS) .....	854
Intelligence and National Security Certificate .....	1291	Leadership and Public Policy Minor .....	308
Interdisciplinary Informatics (Si2) .....	661	Legal Studies Concentration .....	389
Interdisciplinary Studies .....	196	LGBTQ/Sexuality Studies Minor .....	344
Interdisciplinary Studies, Bachelor of Arts .....	197	Literacy, MS .....	1233
Interdisciplinary Studies, Bachelor of Science .....	200	Literature and Culture Certificate .....	1176
Interdisciplinary Studies (INDS) .....	843	Logistics & Supply Chain Management Concentration .....	399
International Applicants .....	21	Logistics & Supply Chain Management for Non-Business Majors Minor ..	370
International Business Concentration .....	367	<b>M</b>	
International Studies .....	203	Management .....	393
International Studies, Bachelor of Arts .....	205	Management Concentration .....	396
International Studies (INST) .....	843	Management Information Systems .....	1240
International Studies (INST) .....	1461	Management Information Systems, Bachelor of Science .....	655
International Studies Minor .....	210	Management Information Systems Minor .....	659
Internet and Intranet Software Application Development Track .....	648	Management Information Systems Minor .....	1370
Internet Technologies (iT) Concentration for Computer Science Majors ...	650	Management Information Systems, MS .....	1244
Investment Science and Portfolio Management Concentration .....	388	Management (MGMT) .....	855
Islamic Studies Minor .....	211	Managing Juvenile and Adult Populations Certificate .....	1101
IT Innovation (ITIN) .....	839	Managing Juvenile and Adult Populations Certificate .....	1101
IT Innovation (ITIN) .....	1461	Marketing .....	401
IT Innovation Minor .....	684	Marketing Concentration .....	406
IT Innovation, MS .....	1225	Marketing for Non-Business Majors Minor .....	369
<b>J</b>		Marketing (MKT) .....	857
Japanese (JAPN) .....	843	Master of Fine Arts Writing (MFAW) .....	1467
Journalism and Media Communication, Bachelor of Arts .....	426	Master's, EdS, and Certificate Programs .....	954
Journalism and Media Communication, Bachelor of Science .....	430	Materials Engineering (MATL) .....	859
Journalism and Media Communication (JMC) .....	844	Materials Engineering (MATL) .....	1467
Journalism and Media Communication (JMC) .....	1462	Mathematics .....	219
Journalism and Media Communication Minor .....	435	Mathematics .....	1263
<b>K</b>		Mathematics (6-12) Endorsement .....	568
Kinesiology, Bachelor of Science in Education .....	531	Mathematics, Bachelor of Arts .....	225

Mathematics, Bachelor of Science .....	238
Mathematics for Teachers (MTCH) .....	864
Mathematics for Teachers (MTCH) .....	1471
Mathematics, MA .....	1266
Mathematics, MAT .....	1269
Mathematics (MATH) .....	860
Mathematics (MATH) .....	1467
Mathematics (MATH) Track .....	648
Mathematics Minor .....	252
Mathematics Minor .....	1370
Mathematics, MS .....	1270
Mechanical Engineering (MECH) .....	865
Mechanical Engineering (MECH) .....	1471
Medical Humanities .....	253
Medical Humanities, Bachelor of Arts .....	254
Medical Humanities, Bachelor of Science .....	257
Medical Humanities (MEDH) .....	870
Medical Humanities Minor .....	259
Medieval/Renaissance Studies Minor .....	261
Medieval/Renaissance Studies Minor .....	1370
Metropolitan University Mission .....	14
Metropolitan University Mission .....	943
Middle Level (5-9) Endorsement .....	569
Military Science (MILS) .....	871
Minors for Non-Business Majors .....	368
Molecular and Biomedical Biology .....	262
Molecular and Biomedical Biology, Bachelor of Science .....	263
Molecular and Biomedical Biology, Minor .....	267
Multidisciplinary Studies (MLTI) .....	872
Music, Bachelor of Arts .....	446
Music Education, Bachelor of Music, K-12 Certification .....	461
Music, MM .....	1274
Music (MUS) .....	872
Music (MUS) .....	1473
Music (P-12) Endorsement .....	572
Music Performance, Bachelor of Music .....	453
<b>N</b>	
Native American Studies Minor .....	267
Native American Studies Minor .....	1371
Native American Studies (NAMS) .....	883
Natural Sciences (NSCI) .....	883
Natural Sciences (NSCI) .....	1477

Neuroscience .....	268
Neuroscience, Bachelor of Science .....	270
Neuroscience (NEUR) .....	885
Neuroscience (NEUR) .....	1477
Nonprofit Management Certificate .....	1323
Nonprofit Management Minor .....	743

## O

Office of Financial Support and Scholarships .....	49
Office of Financial Support and Scholarships .....	970

## P

Pharmaceutical Sciences, Bachelor of Science .....	273
Philosophy .....	274
Philosophy, Bachelor of Arts .....	278
Philosophy, Bachelor of Arts Concentration in Ethics, Law and Social-Political Philosophy .....	282
Philosophy, Bachelor of Arts Concentration in Philosophy of Brains, Minds and Machines .....	280
Philosophy Minor .....	284
Philosophy (PHIL) .....	886
Philosophy (PHIL) .....	1477
Physical Education (7-12) and Health (7-12) Endorsement .....	575
Physical Education Activities (PEA) .....	890
Physical Education (P-6, 7-12) Endorsement .....	573
Physics .....	285
Physics (7-12) Endorsement .....	572
Physics, Bachelor of Arts .....	288
Physics, Bachelor of Science .....	290
Physics, Bachelor of Science with a Concentration in Biomedical Physics .....	292
Physics, Bachelor of Science with a Concentration in Physics Education .....	294
Physics Minor .....	296
Physics (PHYS) .....	891
Physics (PHYS) .....	1477
Political Science .....	297
Political Science .....	1280
Political Science, Bachelor of Arts .....	303
Political Science, Bachelor of Science .....	305
Political Science Minor .....	308
Political Science Minor .....	1371
Political Science, MS .....	1284
Political Science (PSCI) .....	894
Political Science (PSCI) .....	1479
Pre-Agricultural Engineering .....	623
Pre-Biological Systems Engineering .....	624

Pre-Engineering .....	623	Religion (RELI) .....	1494
Pre-Mechanical Engineering .....	625	Religious Studies .....	321
Project Management Certificate .....	1260	Religious Studies Minor .....	1371
Psychology .....	308	Residency for Tuition Purposes .....	54
Psychology .....	1292	Residency for Tuition Purposes .....	975
Psychology, Bachelor of Arts .....	312	Robotics Engineering Minor .....	625
Psychology, Bachelor of Science .....	316	Russian (RUSS) .....	910
Psychology, MA .....	1298	Russian (RUSS) .....	1495
Psychology Minor .....	320	<b>S</b>	
Psychology, PhD .....	1301	Sales Concentration .....	408
Psychology (PSYC) .....	899	Sales Minor for Non-Business Majors .....	370
Psychology (PSYC) .....	1482	School of Communication .....	412
Public Administration .....	1308	School of Music .....	435
Public Administration Minor .....	743	School of the Arts .....	470
Public Administration, MPA .....	1312	School Psychology, EdS .....	1304
Public Administration, MPA and Management Information Systems, MS (MPA/MIS) .....	1254	School Psychology, MS .....	1305
Public Administration, MPA and Management Information Systems, MS (MPA/MIS) .....	1254	Science (7-12) Endorsement .....	576
Public Administration, MPA and Social Work, MSW (MPA/MSW) .....	1317	Science, Tech, Engr, and Math (STEM) .....	910
Public Administration, MPA and Social Work, MSW (MPA/MSW) .....	1317	Science, Tech, Engr, and Math (STEM) .....	1495
Public Administration (PA) .....	902	Screenwriting Minor .....	511
Public Administration (PA) .....	1488	Secondary Education, MS .....	1323
Public Administration, PhD .....	1315	Secondary English (7-12) with Additional Subject Endorsement .....	565
Public Health & Behavior (PHHB) .....	904	Secondary English (7-12) with ESL Supplemental Endorsement .....	564
Public Health & Behavior (PHHB) .....	1492	Secondary English (7-12) with Inclusive Practices Endorsement .....	565
Public Health, Bachelor of Science .....	529	Secondary Mathematics Specialist Certificate .....	1274
Public Health Minor .....	533	Social Science (7-12) Endorsement .....	578
Public Management Certificate .....	1322	Social Sciences (SSCI) .....	911
Public Safety .....	68	Social Work .....	1337
Public Safety .....	984	Social Work, Bachelor of Science .....	740
<b>Q</b>		Social Work, MSW .....	1341
Quality of Work Standards .....	959	Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) .....	1099
<b>R</b>		Social Work, MSW and Criminology and Criminal Justice, MS (MSW/CRCJ) .....	1099
Real Estate & Land Use Economics (RELU) .....	905	Social Work, MSW and Public Health, MPH (MSW/MPH) .....	1347
Real Estate and Land Use Economics Concentration .....	391	Social Work (SOWK) .....	911
Real Estate and Land Use Economics, Minor .....	370	Social Work (SOWK) .....	1497
Real Estate and Land Use Economics Program Certificate .....	393	Sociology & Anthropology .....	326
Recreation-Leisure Study (RLS) .....	906	Sociology, Bachelor of Arts .....	332
Recreation-Leisure Study (RLS) .....	1494	Sociology, Bachelor of Science .....	335
Religion, Bachelor of Arts .....	325	Sociology, MA .....	1350
Religion Minor .....	326	Sociology Minor .....	338
Religion (RELI) .....	907	Sociology (SOC) .....	913

Sociology (SOC) .....	1500
Software Engineering Certificate .....	1078
Software Engineering Track .....	647
Spanish Certificate .....	1232
Spanish Minor .....	162
Spanish Minor .....	1371
Spanish (SPAN) .....	917
Spanish (SPAN) .....	1504
Special Education (7-12) Endorsement .....	582
Special Education & Communication Disorders (SPED) .....	920
Special Education & Communication Disorders (SPED) .....	1505
Special Education and Communication Disorders .....	583
Special Education, MS .....	1355
Speech-Language Pathology, MS .....	1361
Sports Medicine Minor .....	533
State Authorization/Governance Financial Reporting .....	16
State Authorization/Governance Financial Reporting .....	944
Statement of Student Rights and Responsibilities .....	32
Statement of Student Rights and Responsibilities .....	963
Statistics (STAT) .....	924
Statistics (STAT) .....	1507
Student Code of Conduct .....	35
Student Code of Conduct .....	966
Student Right to Know/Consumer Information .....	16
Student Right to Know/Consumer Information .....	944
Student Success .....	60
Student Success .....	977
Student Success and Academic Support Services .....	60
Student Success and Academic Support Services .....	977
Studio Art, Bachelor of Arts .....	480
Studio Art, Bachelor of Fine Arts .....	488
Studio Art K12 Certification/Bachelor of Arts in Fine Arts Two or Three Dimensional Dual Degree, BFA .....	499
Studio Art Minor .....	496
Studio Art with K-12 Certification, Bachelor of Arts .....	496
Supply Chain Management Certificate .....	1058
Supply Chain Management (SCMT) .....	925
Sustainability Minor .....	148
Sustainability (SUST) .....	926
Systems Analysis and Design Certificate .....	1262
Systems and Architecture Certificate .....	1079
Systems Development Certificate .....	660

## T

Teacher Education .....	534
Teacher Education (TED) .....	927
Teacher Education (TED) .....	1508
Teaching English to Speakers of Other Languages Certificate .....	1177
Teaching English to Speakers of Other Languages (TESOL) Certificate ....	134
Technical Communication Certificate .....	1178
Testing Center .....	64
Testing Center .....	980
Theatre .....	499
Theatre, Bachelor of Arts .....	502
Theatre Minor .....	506
Theatre (THEA) .....	931
Theatre (THEA) .....	1514
Transfer Credit .....	29
Tribal Management and Emergency Services Certificate .....	730
Tribal Management and Emergency Services Minor .....	730
Tuition and Fees .....	52
Tuition and Fees .....	52
Tuition and Fees .....	973
Tuition and Fees .....	973

## U

Undergraduate .....	12
Undergraduate .....	12
Undergraduate Programs A-Z .....	12
University Leadership .....	15
University Leadership .....	943
University Seminar (US) .....	934
University Structure .....	15
University Structure .....	943
Universitywide Learning Communities .....	58
UNO Real Estate Certificate .....	393
Urban Studies, MS .....	1364
Urban Studies (UBNS) .....	934
Urban Studies (UBNS) .....	1515

## V

Victimology and Victim Services Minor .....	704
Visual Communication and Culture Minor .....	435

## W

Women's and Gender Studies .....	338
Women's and Gender Studies, Bachelor of Arts .....	341

Women's and Gender Studies Minor .....	344
Women's and Gender Studies (WGST) .....	934
Women's and Gender Studies (WGST) .....	1516
Worksite Wellness Minor .....	533
World Language - French (7-12) Endorsement .....	565
World Language - German (7-12) Endorsement .....	567
World Language - Spanish (7-12) Endorsement .....	579
Writer's Workshop (WRWS) .....	936
Writer's Workshop (WRWS) .....	1516
Writer's Workshop: Creative Writing .....	506
Writing, MFA .....	1366