General Academic Catalog (1970-1971)

University of Nebraska at Omaha

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   Director, Summer Sessions

THE GRADUATE COLLEGE

Elton S. Carter, Ph.D.
   Dean and Chairman of the Graduate College

*New Deans of the colleges to be named July 1, 1970.
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The University of Nebraska at Omaha became a part of the state college system on July 1, 1968, but its history as an educational institution covers more than a half century.

In 1908, through the efforts of a group of far-sighted citizens, the University of Omaha was incorporated as a co-educational, non-sectarian college. The first college term opened in September, 1909, under the leadership of Dr. Daniel E. Jenkins. The original campus was located at 24th and Pratt Streets.

The University grew rapidly in these early years. Its physical plant was developed through the acquisition of additional properties. The John Jacobs Memorial Gymnasium, a gift of Mrs. M. O. Maul, and Joslyn Hall, a gift of Mrs. George A. Joslyn, were the major buildings.

The movement to make the University a municipal institution began in 1929. In that year the Legislature of Nebraska passed an act authorizing cities of the metropolitan class to establish and maintain municipal universities.

The citizens of Omaha voted on May 6, 1930 to establish the Municipal University of Omaha. In the summer of 1930, the Omaha Board of Education selected the first University Board of Regents, which was inducted into office on July 1, 1930. In January, 1931, the new Board of Regents took over the old University of Omaha and its properties.

In November, 1936, the University received a grant from the Public Works Administration. This grant, together with accrued building funds, financed in 1937-38, the erection of a modern educational structure of Georgian style on the permanent 52-acre site south of Dodge Street at 60th.

The University continued to grow. Important advances were made in faculty personnel, curricular reforms, administrative organization, scientific laboratories, and in library facilities during the presidencies of Dr. W. E. Sealock, 1931-35, Dr. Rowland Haynes, 1935-48, Dr. Milo Bail, 1948-65, Dr. Leland E. Traywick, 1965-66, and Dr. Kirk E. Naylor who took office June 5, 1967. The University now has five undergraduate colleges, plus a Graduate College.

In 1949, the $750,000 Fieldhouse, stadium and playing fields were completed providing facilities in all sports. In June, 1951, an Air Force ROTC unit was established. The $850,000 Gene Eppley Library was completed in 1955.

In 1959, the Milo Bail Student Center Building and the Engineering Classroom Building were completed for use in an expanded educational program.

In 1962 and 1964 two wings totaling $575,942 were completed on the Engineering Building and two $580,000 wings on the Gene Eppley Library were completed in 1963. Construction on the $3 million Science Building was started in September 1968, and ground was broken for the $1.5 million education building in November 1969.

In April, 1967, the Legislature of Nebraska passed a bill authorizing the merger of the University of Omaha with the University of Nebraska. Omaha voters approved the merger by a nearly 4 to 1 majority on December 12, 1967, and the University of Nebraska at Omaha was established effective July 1, 1968.
THE UNIVERSITY AT A GLANCE

... To earn a living
And live a cultured life
Not as two processes
But as one...

The primary purposes of the University of Nebraska at Omaha are first, to maintain a faculty of dynamic teacher-scholars of high character and competence who will inspire able and willing students to achieve to the maximum of their abilities; and second, to provide classroom, laboratory, and library facilities adequately equipped to produce an environment conducive to learning of the highest order.

By contemporary standards the University of Nebraska at Omaha is not a large institution. Composed of a student body of 11,000 (6,500 day—4,500 evening), the University attempts to treat each student as an individual; his background, his problems, and his aspirations all receive constant attention. Ample opportunity is provided for specialized study in terms of interest, talent, and ultimate vocational objective. Thus, the University is concerned that its graduates be good citizens who earn a better living and live a richer, fuller life.

A university may well be judged by the success of its graduates. For a half century since its founding in 1908, the University has furnished Omaha, the state of Nebraska, and the nation with men and women of sound intellectual training and strong character.

The University of Nebraska at Omaha has six colleges—the College of Arts and Sciences, the College of Education, the College of Business Administration, the College of Engineering and Technology, the College of Continuing Studies and the Graduate College. Each conducts day and evening classes to meet the multiple needs and demands of the community.

The University, as a further service to the community, designs training courses for thousands of business and industrial employees; supplies in-service training for teachers; conducts television classes for University credit on KMTV and WOW-TV; and sponsors a wide variety of conferences, workshops, lectures, and concerts to enrich the regular academic program.
ACCREDITED STANDING

The University of Nebraska at Omaha is fully accredited by the North Central Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education, American Association of Collegiate Schools of Business, and is a member of the National Commission of Accrediting (not an accrediting agency), the American Association of Colleges for Teacher Education, the Association of Urban Universities, the Association of American Colleges, the National University Extension Association, the American Association of University Women, the Council of Graduate Schools in the United States, the Midwest Conference on Graduate Study and Research, the Association of University Evening Colleges, the Adult Education Association of the United States, Association of Governing Boards, the approved list of the International Reading Association, and the American Council on Education. Its courses are accepted, for purposes of teacher certification, by the Nebraska State Department of Public Instruction.

Course credits from the University of Nebraska at Omaha are accepted by other colleges and universities which are members of the North Central Association and by other regional accrediting agencies.
OFFICIAL CALENDAR
1970 - 71

FIRST SEMESTER 1970-71

August 14  Last day for submitting all admission credentials for admission to first semester.
Sept.  8-11  Regular registration and changes.
Sept.  14  Official beginning of first semester at 0730. (Day and evening classes begin.)
Sept.  14  Late registration begins.
Sept.  18  Last day up to 1600 for registering for a day class, or adding a day class to a schedule, (or changing a day class from “audit” to “credit.”)
Sept.  19  0900 to 1200—Last day for registering for an evening class, or adding an evening class to a schedule (or changing an evening class from “audit” to “credit.”)
Oct.  3   Parents’ Day.
Oct.  8   Founders Day.
Oct. 16   Homecoming. No day classes after 1230. (Evening classes meet as usual.)
Oct. 17   Homecoming Football Game.
Oct. 28   Six-week reports on first-semester Freshmen due in Academic Deans Offices by 1600.
Oct. 31   Band Day.
Nov. 6   Last day a class may be dropped in order to receive a “W”; last day for changing a class from “credit” to “audit”; last day for making up an “incomplete” incurred in spring semester or summer sessions.
Nov. 24  (Tuesday) Thanksgiving recess begins at 2140.
Nov. 30   Classes resume at 0730.
Dec. 7   Last day for filing applications for degrees to be conferred Jan. 30, 1971.
Dec. 18   Christmas Convocation.
Dec. 19   Christmas vacation begins at noon.
Jan. 4, ’71  Classes resume at 0730.
Jan. 1   Last day for submitting all admission credentials for admission to second semester.
Jan. 18   “Dead” Day. No day classes nor student activities. (Evening classes meet as usual.)
Jan. 19-26  Final Examinations.
Jan. 28   All grades due in Registrar’s Office by 1530.
Jan. 30   Mid-year Commencement (Saturday).
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<th>Event</th>
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<td>January 27-29</td>
<td>Regular registration and changes.</td>
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<tr>
<td>Febr. 1</td>
<td>Official beginning of second semester at 0730. (Day and evening classes begin.)</td>
</tr>
<tr>
<td>Febr. 1</td>
<td>Late registration begins.</td>
</tr>
<tr>
<td>Febr. 5</td>
<td>Last day, up to 1600, for registering for a day class or adding a day class to a schedule, (or changing a day class from “audit” to “credit.”)</td>
</tr>
<tr>
<td>Febr. 6</td>
<td>0900 to 1200. Last day for registering for an evening class, or adding an evening class to a schedule, (or changing an evening class from “audit” to “credit.”)</td>
</tr>
<tr>
<td>March 26</td>
<td>Last day a class may be dropped in order to receive a “W”; last day for changing a class from “credit” to “audit”; last day for making up an “incomplete” incurred in the fall semester.</td>
</tr>
<tr>
<td>April 3</td>
<td>Spring vacation begins at Noon.</td>
</tr>
<tr>
<td>April 12</td>
<td>Classes resume at 0730.</td>
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<tr>
<td>April 13</td>
<td>Last day for filing applications for degrees to be conferred June 5, 1971.</td>
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<tr>
<td>May 14</td>
<td>Ma-ie-Day—Student Holiday. No day classes. (Evening classes meet as usual.)</td>
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<tr>
<td>May 14</td>
<td>Last day for submitting all admission credentials for admission to first summer session.</td>
</tr>
<tr>
<td>May 24</td>
<td>“Dead” day. No day classes nor student activities. (Evening classes meet as usual.)</td>
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<td>May 25-June 2</td>
<td>Final examinations.</td>
</tr>
<tr>
<td>May 28</td>
<td>Alumni Achievement Day.</td>
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<tr>
<td>May 31</td>
<td>Legal holiday. (University closed—day and evening.)</td>
</tr>
<tr>
<td>June 3</td>
<td>All grades due in Registrar’s Office by 1530.</td>
</tr>
<tr>
<td>June 5</td>
<td>Sixty-second Commencement. Saturday.</td>
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<td>June 11-12</td>
<td>Regular Registration.</td>
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<td>June 14-July 16</td>
<td>First Session.</td>
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<tr>
<td>June 14-Aug. 5</td>
<td>Evening Session.</td>
</tr>
<tr>
<td>June 19</td>
<td>Last day for submitting all admission credentials for admission to second summer session.</td>
</tr>
<tr>
<td>July 5</td>
<td>Holiday (University closed—day and evening.)</td>
</tr>
<tr>
<td>July 23</td>
<td>Last day for filing applications for degrees to be conferred Aug. 31, 1971.</td>
</tr>
<tr>
<td>July 19-Aug. 20</td>
<td>Second Session.</td>
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</table>
ADMISSION TO THE UNIVERSITY

I. PROCEDURES FOR SECURING ADMISSION

1. Obtain an application blank and a medical history questionnaire from the Admissions Director, Adm. Room 144. The blank will be mailed upon request.

2. Return properly completed application blank and medical form to the Admissions Office. Two official copies of your high school record (transcript) must either accompany the application or be sent by your high school principal. Students who are transfers from other colleges are required to have official transcripts and evidence of honorable dismissal sent to the Admissions Director from each institution attended. All credentials become the property of the University and are not returned to the individual student.

3. All credentials must be on file in the Admissions Office at least one month prior to the official beginning of the semester or session for which you are applying (see University Calendar).

4. Report for Guidance and Placement Examinations (not entrance examinations) according to scheduled time of administration. Transfer students report unless notified of acceptance with a minimum of 58 semester hours. The fee for the examination taken at a regularly scheduled time is $5.00, payable in advance.

5. Attend New Student Day Activities.

6. Complete registration for classes on scheduled date (see University Calendar).

II. REQUIREMENTS FOR ADMISSION

1. A graduate of any accredited high school is eligible to apply for freshman standing. The colleges require presentation of credit in certain subjects as indicated:

- COLLEGE OF CONTINUING STUDIES: No specific requirements
- COLLEGE OF ARTS AND SCIENCES: A satisfactory score on the School and College Ability Tests.
- COLLEGE OF ENGINEERING AND TECHNOLOGY: Each engineering curriculum requires:
  - English: 3 units
  - Algebra: 1-1½ units
  - Geometry: 1-1½ units
  - Science: 1 unit
    (above freshman year)
- COLLEGE OF BUSINESS ADMINISTRATION: Algebra—1 unit. Deficiency may be removed after registration.
- COLLEGE OF EDUCATION: A satisfactory score on the School and College Ability Tests.
2. Graduates of non-accredited high schools may be admitted provisionally. Such students must acquire regular standing, through successful course work, within their first semester of residence.

3. Persons at least 18 years of age who do not fulfill the admissions requirements for freshman standing, but who present equivalent academic training (satisfactory General Educational Development Test scores etc.) or who have otherwise acquired adequate preparation for collegiate courses may be admitted to the college of his or her choice. According to Nebraska State Law, the class that he or she was enrolled in at the time of withdrawal must have been graduated for at least one year to be eligible for admission.

4. A transient or non-degree student desiring to enroll in school or an adult student who has attended another institution may be admitted upon signing a statement that he is “eligible to return” and “in good standing” at his former institution. It is the student’s responsibility to see that a verifying transcript or statement of good standing is received by the Admissions Office by the end of the eighth week for the fall or spring semesters and at the end of the second week for the summer session for which he is enrolled.

III. ADVANCED STANDING

1. Credits submitted by transcript from other colleges and universities will be properly evaluated for admission to any one of the five colleges by the Director of Admissions. Evaluations are forwarded to the Dean of the College and the Registrar. All credentials must be on file in the Admissions Office at least one month prior to the official beginning of the semester or session for which you are applying.

A fee of $5.00 must be paid by the applicant for evaluation.

All inquiries and correspondence relating to the admission of students should be addressed to:

Director of Admissions
THE UNIVERSITY OF NEBRASKA AT OMAHA
P.O. Box 688
Omaha, Nebraska 68101
ACADEMIC STANDING

COURSE CREDIT

Course credit is determined by the number of hours per week a class is in session, with some exceptions such as laboratory, physical education, band and choir. A course scheduled to meet three times per week for a semester merits, therefore, three semester hours credit.

STUDENT STUDY LOAD

1. A normal student load is 12 to 17 credit hours.
2. To be classified as a full-time student, the student must carry a minimum load of 12 credit hours.
3. Permission to carry fewer than 12 credit hours or more than 17 credit hours must be secured from the student's academic Dean.
4. Any student granted permission to carry fewer than 12 credit hours shall be considered a part-time student in the College in which he is enrolled.
   In no case shall a student carry more than 21 hours in any one semester. This regulation applies to total or equivalent credits for courses taken in some other institution, in night school, audit courses, non-credit courses, or certificate courses, in addition to credits attained in residence.
5. A student shall not carry 18 semester hours of work unless he has maintained an average of "B" in a regular 15-hour load during the preceding semester. Application for permission to register for 18 hours or more should be made first to the academic counselor and then to the academic Dean.
   This regulation applies to total or equivalent credits for courses taken in some other institution, in night school, audit courses, non-credit courses, or certificate courses, in addition to credits obtained in residence.
6. Entering freshmen shall be limited to 16 hours except as otherwise required for specific programs, such as engineering and pre-medicine.
7. The credit hour load for which the student is registered at the end of the eighth week shall be considered as his total credit hour load or total credit hours attempted for the semester.

CLASSIFICATION, GRADES, QUALITY POINTS, AND PROMOTION

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

<table>
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<th>Academic Classification</th>
<th>Range in Semester Hours</th>
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<tr>
<td>Freshman</td>
<td>0 through 26</td>
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<tr>
<td>Sophomore</td>
<td>27 through 57</td>
</tr>
<tr>
<td>Junior</td>
<td>58 through 90</td>
</tr>
<tr>
<td>Senior</td>
<td>91 through 124</td>
</tr>
</tbody>
</table>
Grades are determined by the daily record of the student and the record made on quizzes, mid-semester and semester examinations. The weight attached to each of these factors is determined solely by the instructor of the course.

The grading system is as follows:

Passing grades are A, B, C, and D, the last being the lowest, F indicates failure and results in loss of credit. Each hour of credit carries quality points computed according to the following schedule:

- For each semester hour of A, 4 quality points
- For each semester hour of B, 3 quality points
- For each semester hour of C, 2 quality points
- For each semester hour of D, 1 quality point
- For each semester hour of F, 0 quality points

In the Graduate College “S” represents a satisfactory grade on a thesis.

In addition to the above, the grade, “Inc.” (incomplete) carrying “0” quality points is given under the following provisions:

INC.—A student may be reported incomplete if some minor portion of the work remains unfinished, provided the student’s standing in the course is not below “D”. **An incomplete must be made up during the first 8 weeks of the next regular semester.** After this time an “Inc.” is computed as a failure. The grade average is not affected until the incomplete has been removed or allowed to lapse.

**Students receiving the grade “Inc.” will be held responsible for understanding the regulations governing removal of “Inc.”**

To be eligible for a degree or an associate title, a student must present a scholastic average of 2.0 grade average or better. In the case of transfer students with 58 or more hours, a 2.0 grade average or better must also be achieved in work taken at the University of Nebraska at Omaha.

All grades reported by the faculty to the Registrar at the end of each semester become a part of the student’s permanent record and are included in the computation of his quality points earned and his grade point average.

**WITHDRAWAL FROM THE UNIVERSITY**

A student who wishes to drop all classes and withdraw from the University proceeds as follows:

1. Obtain withdrawal slip from the Registrar’s Office or his counselor.
2. Confer with his counselor and obtain his signature on the withdrawal card.
3. Confer with his Academic Dean and obtain his signature on the withdrawal card.
4. Report to the Office of the Dean of Student Personnel and turn in his activity card.

Refunds will be based on the official schedule found elsewhere in this catalog.
DROP—When a student finds it necessary to drop a course, he should see his counselor immediately. If a student drops out of a class during the first eight weeks of a semester, his record will be marked “W”.

A student may not drop a course with any grade other than “F” after the eighth week of the semester.

EXAMINATIONS

All examinations must be taken at the scheduled time; otherwise a late fee is charged. Special examination fees may be found elsewhere in the catalog.

ACADEMIC PROBATION

Academic probation is a status invoked whenever the academic performance of the student gives indication that he has fallen below the rate of progress expected of his classification. It is a period during which the student is given an opportunity to determine for himself whether he should continue his present college program relatively unchanged. Whenever any student completes a semester with a cumulative grade average which falls below the standard for “normal progress” shown in the following table, he will be placed on academic probation by the Committee on Academic Standards.

<table>
<thead>
<tr>
<th>Hours Attempted</th>
<th>Accumulative Average</th>
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<tr>
<td>12 - 16</td>
<td>1.2</td>
</tr>
<tr>
<td>17 - 26</td>
<td>1.4</td>
</tr>
<tr>
<td>27 - 42</td>
<td>1.6</td>
</tr>
<tr>
<td>43 - 57</td>
<td>1.8</td>
</tr>
<tr>
<td>58 and over</td>
<td>2.0</td>
</tr>
</tbody>
</table>

To be restored to good standing, a student must raise his cumulative point average to the required minimum for his academic classification.

A student whose grades may be affected because of incompletes, may be restored to good standing immediately upon completion of his incompletes providing his resulting cumulative average meets the requirements for his particular classification.

ACADEMIC SUSPENSION

For students failing to meet the requirements for restoration to good standing after one semester on probation, extension of probation or suspension shall be by action of the Committee on Academic Standards.

Application for reinstatement of suspended students from this University or admission of students suspended from any other university or college shall be submitted to the Director of Admissions on the form selected by that official at least one month prior to the official beginning of the semester or term for which he is applying (refer to academic calendar).
The Director of Admissions will submit such applications which have been approved by the appropriate academic dean to the Faculty Committee on Academic standards for final action.

The Committee on Academic Standards denies admission to any suspended student who has been out of school less than one calendar year. Credit hours earned while under academic suspension from any other college or university will not be accepted by the University of Nebraska at Omaha.

**CLASS ATTENDANCE**

Students are required to attend all meetings of classes for which they are registered, and no student may be excused from any of the assigned class work. It may be assumed that irregular attendance will be reflected in lower course grades; moreover, absence reports are regularly sent to the Academic Deans and to the Dean of Student Personnel, who will take appropriate disciplinary action. In case of an unavoidable absence it is the student's responsibility to contact his instructor promptly and arrange to make up any work missed.

**EXTRA-CURRICULAR ACTIVITIES**

A student on academic probation may not participate in any form of organized extra-curricular activity, including any form of intercollegiate competition or public appearance, except in those activities in which public appearance or representation is essential to the earning of credit. This exclusion from extra-curricular activities for academic reasons is enforced not as a punishment; it is to give the student time to restore himself to good standing.

**GENERAL ACADEMIC REGULATIONS**

**The Academic Year**—Two semesters of approximately 16 weeks each constitute the academic year. The unit of instruction is the semester hour, which signifies one recitation a week throughout the semester, or equivalent.

**Late Registration**—Registration in any course for credit toward any degree, or any change of registration involving the addition of a course, is not permitted after the end of the first week of any semester or after the end of the second day of the summer session.

**Credit**—Not more credit than the amount stated in the catalog is permitted in any course. To receive credit all work must be done under the supervision of a member of the faculty.

**Audit Students.** A student may audit a regular credit course with the consent of his Dean. An audit student may not participate in recitation, turn in papers, nor take examinations. He does not receive academic credit. An audit student may not change to credit registration after the first week of a course. (A credit student may change to audit registration during the first eight weeks of a semester, or during the first half of a class if it runs longer or shorter than a semester.)
Examinations—During the semester, examinations and quizzes are arranged by the faculty. Grades for those students who are not doing satisfactory work are reported by instructors to the Academic Deans. The last week of the semester is devoted to final examinations. Each examination is scheduled for two hours.

Students who are on scholarships or who wish to be eligible for activities must make up incomplete grades within two weeks of the last final examination. Unless these are made up, the student cannot be certified as being eligible.

GRANTING OF PLACEMENT AND CREDIT BY EXAMINATION

1. Examinations may be offered for placement, examination credit, or both at the discretion of the department or departments concerned.

2. A student may obtain up to a maximum of six hours of examination credit in divisional survey courses. Eligibility for credit by examination in divisional survey areas will be reduced by the amount of any academic credit earned in that area.

3. Thirty hours is the maximum number of credits that may be earned by examination.

4. The University will accept credit earned by examination at other accredited institutions of higher learning, but in no case will it accept more than the maximum number of thirty hours set out in item 3, above. The University will not accept examination credits from an agency which is not a fully accredited institution of higher learning. All credit by examination administered by agencies or institutions other than U.N.O. must be applied for within the first year of enrollment at this university.

5. Credit earned by examination may not constitute any part of the terminal residency requirements.* Credit will not be granted as substitute credit for college courses which have been failed at university level. Neither will it be granted to raise a grade earned in any course. (*See residency requirements in this catalog.)

6. Examinations taken for credit or placement may not be repeated.

7. A reasonable fee* will be charged to administer and/or evaluate an examination for credit or placement. The credit earned by examination will be recorded as "passed" on the transcripts, and this credit will not be used in calculating grade point average. (*See fee schedule in this catalog.)

8. A department giving a student credit by examination shall be responsible for reporting the grade to the Registrar. The time lapse shall not be greater than the semester following the time the examination was given.

9. Within these parameters, the department or departments concerned retain responsibility in all matters, including:
(1) Determination of whether or not placement or examination credit should be offered in their areas.
(2) Selection or preparation of examinations to be given for placement or examination credit.
(3) Determination of the level of proficiency required for earning placement or examination credit.
(4) Determination of the time, sequence, and level of examinations and amount of credit in departmental courses.

For further information concerning the granting of placement or credit by examination, contact the particular department or the office of the Director of Testing.

GRADUATION

APPLICATION FOR DEGREES—Application for all degrees and associate titles must be filed in the Office of the Registrar early in the semester and not later than the date listed in the University Calendar.

ATTENDANCE AT COMMENCEMENT—Candidates for degrees are required to attend the commencement exercises in academic costume. Anyone finding it necessary to have his degree conferred in absentia must petition his academic Dean three weeks prior to the commencement exercises and pay the required fee.

CANDIDACY FOR A SECOND BACCALAUREATE DEGREE—A student who has met the requirements for a baccalaureate degree must complete a minimum of 30 additional semester hours at the University of Nebraska at Omaha for a second baccalaureate degree. A plan of study for the additional hours, approved by the department head and Dean(s) primarily concerned, must be filed in the Office of the Registrar by the completion of the fifteenth additional hour. Two baccalaureate degrees may be awarded simultaneously when the student becomes eligible to receive them.

UNIVERSITY CREDIT COURSES

All credit courses offered by the University may be applied toward any degree or certificate granted, except as stated under each department.

All courses offered for credit, whether scheduled for the regular academic year, the evening classes, or summer sessions, are listed by departments. General introductory courses are listed first.

The system of course numbers is arranged to indicate the level of instruction.

The first figure in each number designates the group to which a course belongs:

100-99—Courses open primarily to freshmen
200-99—Courses open primarily to sophomores
300-99—Courses open primarily to juniors
400-99—Courses open primarily to seniors
500—Courses open only to graduate students

Registration in courses more than one group removed from a student's class standing is permitted only in music, speech, mathematics, physical education, and beginning foreign languages, except in special cases by permission of the Deans of the Colleges.
DEGREES WITH HONORS

The Baccalaureate Degrees with honors are awarded as follows:

(a) to all graduates whose scholastic average for their entire university career is 3.62 or above, but below 3.75; the degree cum laude;

(b) to all graduates whose scholastic average for their entire university career is 3.75 or above, but below 3.87; the degree magna cum laude.

(c) to all graduates whose scholastic average for their entire university career is 3.87 or above; the degree summa cum laude.

In order to qualify for degrees with honors, transfer students must achieve the required quality point average, not only for all University of Nebraska at Omaha courses, but also for all courses taken at other colleges and universities.

THE STATUTORY REQUIREMENTS FOR RESIDENCY

Section 85-502. A person shall not be deemed to have established a domicile in this state, for the purpose of Sections 85-101 to 85-504, unless:

(1) Such person is of legal age and shall have actually resided in this state continuously for four months with the intention of making this state his or her permanent residence;

(2) The parents, parent, or guardian having custody of a minor registering in a state educational institution shall have actually resided in this state continuously for four months, with the intention of such parents, parent, or guardian to make this state their, his, or her permanent residence;

(3) An emancipated minor, who shall have actually resided in this state continuously for four months, with the intention of making this state his or her permanent residence, and shall not have lived with nor been supported by his or her parents, or either of them, for two years or more prior to such registration;

(4) Such person is a woman and a nonresident of this state prior to her marriage, and marries a man who has actually resided in this state continuously for four months, and the intention of her husband is to make this state his permanent residence;

(5) Such person, if an alien, shall have his or her first United States naturalization papers, and shall have actually resided in this state continuously for four months, with the intention to make this state his or her permanent residence;

(6) Such person who has attained a degree from the University of Nebraska or one of the Nebraska state colleges while under a residence status, but who after graduation loses his residence status, may return to The University of Nebraska or one of the Nebraska state colleges for the purpose of taking graduate work or for the purpose of matriculating in one of the professional colleges and in such regard may be permitted to reestablish a residence in Nebraska during the period of study at the
school if the requisite intention to make this state his permanent residence in fact exists; or

(7) Such person is a dependent of a staff member of the University of Nebraska or one of the Nebraska state colleges who joins the staff immediately prior to the beginning of a term from an out-of-state location.

No person shall be deemed to have established a residence in this state during the time of attendance at such state institution as a student, nor while in attendance at any institution of learning in his state, except in the case of a minor who qualifies as provided in this section.

CLASSIFICATION OF RESIDENT AND NONRESIDENT STUDENTS

A student's right to classification as a resident for purposes of registration in a state educational institution must be determined under the provisions of Nebraska Revised Statutes of 1943, Sec. 85-502 (R.S. Supp., 1965).

Each semester, as students complete their registrations, they are required to certify to the accuracy of the personal information asked for on the registration form, including resident or nonresident status.

Students are nonresidents if any of the following is true:

1. Their parents live in another state.
2. Their parents have resided in Nebraska and now have moved out of the state. (They and their children become nonresidents even though property may still be owned in Nebraska.)
3. Their parents are in the Armed Forces from a home in another state, even though they may now live in Nebraska.
4. The student recently has lived and been employed in another state although originally from Nebraska.
5. The student's first enrollment in the University was as a nonresident. (Ordinarily it is not possible to become a Nebraska resident while attending the University or any other collegiate institution.)

Any student who has been classified as a nonresident who believes he can qualify as a resident should contact the registrar's office.

TUITION AND FEES

Student fees are payable in full at the time of registration. Registration is not complete until cleared by the cashier. The university reserves the right to change the amount of tuition and fees at any time, or to assess breakage, deposit, lost property, fines, parking fees, books, supplies, food charges, or service fees not specifically listed in this schedule.

The average fees per semester are approximately $250.00 for residents of Nebraska, and $450.00 for non-residents.

Students in need of loans, deferred payments, or other financial assistance must consult the Student Aid Officer in Adm. room 240, at least two weeks prior to the start of classes.
INSTRUCTION

Tuition, per semester credit hour:

Undergraduate, Graduate or Audit

- Resident of Nebraska ........................................... $15.00
- Non-resident ...................................................... 28.00

Applied Music: Voice and all instruments except pipe organ
(Fee may be waived by the Head of the Music Department)

- One semester credit hour—additional fee .................. 40.00
- Two semester credit hours (same instrument) additional fee .. 60.00
- Non-credit 16 Lessons .......................................... 50.00
  - 8 lessons ....................................................... 35.00
- TV Classroom (per 3 hour course—includes materials) ........ 60.00

Conference, non-credit course and contract course fees are determined for each offering on an individual basis.

GENERAL FEES

Full-time students (12 credit hours or more) per semester ........ $30.00
Part-time students (less than 12 hours) per semester ................ 15.00
Summer Sessions (per session) .................................... 15.00

General fees are assessed to every student each semester, except that summer sessions students who complete registration for both sessions at the initial registration period will be assessed the fee only once. Included in this fee are charges for registration, health service, library, and student center as well as materials and supplies furnished by the University for instruction.

A portion of the general fee has been earmarked by the Board of Regents for the support of the Student Activities. The President and the Director of Business and Finance of the University, with the advice and recommendations of the Student Activities Committee, will establish budget authorization and administer expenditure practices in accordance with Regents' policies which apply to all funds collected by the University in the name of the Board of Regents of the University of Nebraska.

The full-time fee of $30.00 also entitles the student to a regular student activities card covering athletics, publications and general student activities. Part-time students may obtain a regular student activities card by paying the full-time fee of $30.00.

GRADUATION FEES

Graduate College .................................................. $15.00
Baccalaureate Degree .............................................. 12.50
Associate Title ..................................................... 7.50
Degree in absentia—additional .................................... 5.00
OTHER FEES, CHARGES AND DEPOSITS

Matriculation and Change of College ........................................... $10.00

Payable upon initial enrollment and upon each subsequent change of college.

Late Registration (Day or Evening Classes) ..................................... 3.00

Deferred Payments (if approved by Student Aid Officer) ..................... 5.00

Change of Schedule—per change .................................................. 5.00

Transcript Evaluation (transfer students and graduate college) ............. 5.00

Transcript of Academic Record—per copy ....................................... 1.00

Teacher Placement Registration .................................................. 6.00

Thesis Binding (3 copies) ....................................................... 15.00

Thesis Binding (additional copies) ............................................... 5.00

Bad Check (insufficient or no-fund check) minimum .......................... 5.50

Insufficient fund or no-fund checks are considered to be deferred payments. Late registration fee may also be assessed if applicable.

Replacement of Student Activity Card—Full Time (with approval) .......... 5.00

Replacement of Student Activity Card—Part Time (with approval) ........ 1.00

A.F.R.O.T.C. Activity Fee—per semester ...................................... 2.00

A.F.R.O.T.C. Uniform Deposit (refundable) .................................. 15.00

Key Deposit (if authorized) (refundable) ...................................... .50

Pre-registration Deposit ......................................................... 30.00

Tests and Examinations:

The Pre-Registration deposit allows the student to register in the Spring for the next Fall semester. The deposit will apply toward tuition for completed registrations for the Fall term only. The deposit will be refunded in full if application for such refund is made by the last Friday in June, after which the deposit will be forfeited.

Credit by Examination (p. 13) .................................................. 20.00

Guidance and Placement—at scheduled times (p. 20) ......................... 5.00

Guidance and Placement—out of schedule (p. 20) ............................ 10.00

Special Examination (p. 11) ..................................................... 5.00

Vocational Testing and Counseling: (p. 21-22)

Fees for these services depend upon tests administered and extent of counseling. Inquire in Adm. Room 213 for charges.

REFUND SCHEDULE—TUITION AND GENERAL FEE

Refunds are computed from the date application is received by the Registrar, NOT from date of withdrawal from classes. Refund slips issued by the Registrar and given to students are void and not redeemable, unless presented to the Cashier (Adm. Room 150) within 30 days after date of issue.

A student must file notice of withdrawal from class, accompanied by written approval of the adviser and the Dean of Student Personnel, with the Registrar immediately upon dropping any course.

Students paying tuition and fees on a deferred payment basis or under any other loan, granted by the University, who withdraw before the account is paid in full are not relieved from payment of the balance due.
Withdrawal before classes start .................................................. 100%
Withdrawal during 1st or 2nd week ........................................... 75%
Withdrawal during 3rd or 4th week ........................................... 50%
Withdrawal during 4th through the 8th week .............................. 25%
Withdrawal after 8th week ...................................................... 0%

SUMMER SESSION (5 Week Session)
Withdrawal before classes start .................................................. 100%
Withdrawal during 1st three days ............................................. 75%
Withdrawal during remainder of the 1st week .............................. 50%
Withdrawal during 2nd week ..................................................... 25%
Withdrawal after 2nd week ...................................................... 0%

CREDIT COURSES (8 Week Session)
Withdrawal before classes start .................................................. 100%
Withdrawal during 1st week ....................................................... 75%
Withdrawal during 2nd week ....................................................... 50%
Withdrawal during 3rd week ....................................................... 25%
Withdrawal after 3rd week ...................................................... 0%

NON-CREDIT AND SPECIAL COURSES (10 Weeks or More)
Withdrawal before classes start .................................................. 100%
Withdrawal during 1st week ....................................................... 50%
Withdrawal during 2nd week ....................................................... 25%
Withdrawal after 2nd week ...................................................... 0%

(Less than 10 Weeks)
Withdrawal before classes start .................................................. 100%
Withdrawal before 2nd class ...................................................... 50%
Withdrawal after 2nd class ...................................................... 0%

GUIDANCE SERVICES
Testing
The University believes that academic programs can be most efficiently planned in terms of the interests, aptitudes, and objectives of the individual student; therefore, an extensive counseling system has been developed.

All new students who have not reached junior standing are required to take a series of guidance examinations.

Each student is assigned to an academic counselor who will, through interpretation of the examination results and by personal interview, advise the student on the courses for which he should register. It is desirable to take these examinations as early as possible in advance of the opening of the school year. One full day is required. The date scheduled
for such guidance examinations will be stated in the letter of acceptance for admission to the University, which the student receives from the Admissions Office. A student may not complete his registration or attend classes until these guidance examinations have been completed.

Guidance and Placement Tests

After a student has been admitted to the University he is required to take a group of Guidance and Placement Tests. These tests are available to all students who enter the University and are required of students who matriculate to the University as freshmen or transfer from another university at the freshman or sophomore level. The results of these tests are used to help each student determine in which and how many courses he should probably enroll while at the University. They are given on specified dates on a group basis and require about seven hours to complete. They may be taken on an individual basis at different times if the student is willing to pay the individual testing fee for this service.

Competitive Examination for Regents Scholarships

The Regents of the University of Nebraska at Omaha annually award 40 scholarships to graduates of high schools in Nebraska on the basis of competitive examinations administered by the Academic Testing and Counseling Department. These scholarships provide the remission of resident tuition for the freshman year and are renewable upon maintenance of a superior grade record.

A student who elects to take the competitive scholarship examinations may substitute the results of these tests for the required Guidance and Placement Examinations.

Advanced Placement Program with High Schools

The Advanced Placement Program is based on the belief that many students are capable of completing college level courses while still in high school. With this belief in mind, the College Entrance Examination Board assists high schools in planning such courses and provides examinations for them. Scores from these examinations may be forwarded to the university or college which the student wishes to enter.

Upon recommendation of the appropriate Department Chairman the Curriculum Committee of the College of Liberal Arts and Sciences may grant exemptions from the 125-hour requirement for graduation to a maximum of twenty-four hours provided that the student has achieved satisfactory scores on the Advanced Placement Examinations of the College Entrance Examination Board or shows other evidence of advanced work.

Since all examination scores sent to this University are directed to the Department of Guidance and Counseling, any student wishing to ask for such consideration by the appropriate department head should contact the Guidance Department in order that the department head may be notified of his scores.
Advanced Placement within a Department

Various departments within the University are offering the opportunity for advanced placement in courses within their departments. Placement tests are currently being offered in the departments of mathematics and foreign language. Many other departments are contemplating using placement tests.

Students with less than 1 year of high school language should be enrolled in 111 sections and will not take the Placement Tests. All students who have had as much as 1 year and less than 4 years of the study of French, German or Spanish in high school and who wish to continue this language in college are required to take the Placement Tests through the Office of Academic Testing and Counseling. If the student does not take the tests at the regular Spring testing period, he must make individual arrangements with the Office to take the tests before registering.

Vocational and Educational Guidance Test Battery

While there is no one test or group of tests which will magically reveal exactly the occupation for which one is best suited, a battery of psychological tests may be helpful to clarify interests and to indicate aptitudes for certain broad fields of work. The vocational test battery offered by this department includes tests of five major types—intelligence, interest, achievement, aptitude, and personality—on the belief
that each of these factors is significant in understanding oneself and in making educational and vocational plans.

Any full time student may avail himself of the opportunity to take these tests at no cost. Prospective students may take the battery of tests on a fee basis. Qualified counselors are available to all students for explanation and interpretation of these tests.

Examinations for Admission to Graduate or Professional Schools

The Academic Counseling and Testing Department also administers special examinations required of those wishing to enter professional or graduate school. The following are among these types of examinations which are administered by this department: the Graduate Record Examination, Miller Analogies Test, National League of Nursing, Pre-Nursing and Guidance Examinations, National League of Nursing Graduate Nurse Examination, and the Law School Admission Test.

Those wishing to take these examinations may contact the Academic Testing and Counseling Department for information and applications for these tests.

UNIVERSITY DIVISION

The University Division, established in the 1962-63 academic year, provides a setting in which the student who has not yet made a definite choice as to major or occupation is free to take an exploratory program of studies. In addition to offering him the opportunity to choose from among the broad range of courses offered in all the colleges in the University, the University Division attempts to assist the undecided student by employing a staff of full time professional counselors to aid him in finding suitable goals.

Enrollment in this Division may also be advantageous to some other students besides those who have not yet decided on a major. Any student who was not eligible for acceptance to another college within the University because of low high school grades or scores on the guidance and placement examinations may be enrolled in the University Division in order to give him the chance to prove his academic competence. While working to become eligible for admission to the college of his choice, the student is free to take much the same course work from the college to which he aspires as he would if he were actually enrolled in that college. By enrolling in the University Division, however, he has the advantage of receiving special attention and assistance from the counseling staff in establishing good study habits and finding a sense of purpose and direction to his studies, so that his chances of success in his college program may be increased.

Procedure for Transferring from University Division

A student who enrolls in the University Division because he has not yet been accepted by the college he wishes to enter may generally prove his academic competence and thereby become eligible for admission to that college by completing at least one semester with a grade point aver-
age of 2.0. As soon as the student is eligible for admission to the college of his choice, he may transfer from the University Division.

The student who has entered the University Division because he has not yet chosen a major and wishes to take advantage of the chance to take an exploratory program and the counseling service available through this Division may transfer as soon as he has made a decision as to the academic and career program he wishes to pursue.

Since the University Division is seen as a means for assisting the student to choose and enter an appropriate college, it is expected that by the time he has achieved junior standing he will have chosen and transferred to another college.

Requirements

The only required course in the University Division is a one credit orientation course designed to acquaint the student with the various colleges in the University, vocational opportunities open to him, methods of effective study, and with university life in general. The student is urged, however, to follow programs which will fulfill general requirements of the schools which he feels he may wish to enter along with the exploratory program, so that when he is ready to transfer he will not be as likely to lose a great deal of time in making up requirements.

THE COUNSELING CENTER

Counseling services are maintained at UNO to assist students in emotional, intellectual, and social development, in harmony with the purposes of the University as a whole. Students may come to the Counseling Center to talk with a counselor anytime it is convenient for them.

Classes and studies are not an isolated part of a student's life. His education is greatly influenced by the problems and concern of everyday living. The staff within the Counseling Center serves to help the student meet these situations in ways which allow him to gain the full benefits of his educational experience. Concerns of academic, social, and personal nature, financial worries, family problems, and vocational indecision are just some of the types of concerns that are often discussed with a counselor. The student can expect that his privacy will be respected; whatever he discusses with his counselor will be treated in confidence.

The main concern of the Counseling Center is the student. The counselor's aim is to help him understand himself in relation to the world he lives in. He can learn to make more realistic decisions, increase his self-reliance, and discuss the things that concern him in a free, permissive atmosphere. This experience results in the student knowing himself better, becoming more comfortable with himself, and being more effective in his total life experience.

Several services comprise the Counseling Center program.

Individual counseling provides a private situation in which a student can discuss anything he wishes with a counselor. He may see the counselor only once or twice; or he may carry on a counseling relationship for an extended period of time.
Group counseling allows 8 to 10 students and a group facilitator to share their feelings with one another, discuss common concerns, get more direct personal information about their impact on others and try out new types of behavior in the safe environment of a group.

Individual testing in the areas of aptitudes, intelligence, achievement, interests, and personality is available to students to help them in making educational, vocational, and personal decisions. The tests can be taken at the student's convenience, and the results discussed with and interpreted by a trained member of the Counseling Center staff.

Occupational and Educational planning of the student can be assisted by the information kept in the Counseling Center. The student has access to such categories of information as educational opportunities in various fields, opportunities, trends, and qualifications for various careers, and training opportunities in many fields. Information of an academic, social, and personal nature is also available.

Quite frequently students are unsure of where to turn for assistance in specific problems. The Counseling Center can also act as a referral source to other services, such as the Reading Clinic, Student Aid, and others which might help the student if he were aware of their availability. Contact with referral sources outside the University is also maintained for those students who might profit from them. Thus, if a student does not know exactly where to go for some special assistance, the Center can help him with information.

It is the aim of the Counseling Center to have someone available to which the student can bring any concern or concerns which he feels he would like to discuss in privacy, or seek help in handling. The services are available to all students who wish to use them.
THE GENE EPPLEY LIBRARY

The Gene Eppley Library, a gift of Eugene C. Eppley of Omaha, is a modern Georgian two-story building housing the library and the Adult Education Conference Center. Designed to reflect the principles of functional planning, the library offers an invitation to reading through its open shelf collections and integrated reading areas. Each student may select his own type of study facility—from an individual carrell to an easy chair in the popular reading lounge.

The library numbers over 220,000 volumes and 125,000 documents chosen through the co-operative efforts of the faculty and library staff to provide for the curricular and recreational reading interests of students. Over 1,500 American and foreign periodicals are received regularly and extensive back files are maintained through binding and microfilms. As a United States government document depository, the library makes available complete files of the major government publications. The extensive pamphlet collection is particularly strong in the field of vocational materials.

The open-shelf arrangement of the general book collection gives students the opportunity to select their own materials and invites browsing in all subject fields. Reference librarians provide library instruction through orientation lectures and assist students in using the library for information and research. Librarians serve as reader-consultants in guiding students in selecting reading materials and developing reading programs.

Special services in the library include the Education Curriculum Laboratory with its collections of text books and curriculum materials, research rooms for faculty, and seminar rooms for advanced classes. A classroom and laboratory house the materials for library science and a sample collection of literature for elementary and high school. The Eppley Adult Education Conference Center with its auditorium, conference rooms, and lounge offers opportunities for workshops, conferences, and informal groups to work in close cooperation with library materials.

The Audio-Visual Department of the library makes available the newer media of communication including educational films, film-strips, and recordings. Its facilities include listening rooms, a classroom, a preview room, and a tape recording laboratory. Instruction in the use of audio-visual materials is a requirement for all students in the College of Education.
THE COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences offers work toward the degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science, as well as pre-professional programs for students planning to enter such fields as medicine, law, and theology. The College is organized into 17 departments, grouped under the three large divisions of the Humanities, the Social Sciences, and the Natural Sciences.

The Lower Division of the College, comprising the first two years of work, offers a program of general education with emphasis on breadth rather than depth. Subjects required or recommended for freshmen and sophomores include English, foreign languages, and basic courses in each of the three subject divisions. A somewhat less flexible program is prescribed for some pre-professional students.

The last two years of the liberal arts program, while essentially a continuation of the Lower Division work, provide for specialization in one or two subject areas. At present, academic majors are available in the following fields: art, biology, chemistry, economics, English, foreign languages and literatures, geography, history, journalism, mathematics, music, philosophy, physics, political science, psychology, sociology, speech, and urban studies.

The pre-professional programs of study are determined largely by the requirements of the graduate or professional schools which students intend to enter. If arranged carefully, they provide a sufficient variety of courses so that their objectives are virtually the same as those of the four-year course leading to the degree of Bachelor of Arts.

THE COLLEGE OF EDUCATION

PAUL C. KENNEDY, Dean

The professional education of teachers was introduced as a function of the University of Omaha in 1911. The work was conducted by a small Department of Education. From 1948 to 1950 the faculty was enlarged in order that services to the teaching profession might be more adequately provided, and in 1950 the College of Education was established. It is composed of the following departments: Business Education; Elementary Education; Educational Foundations; Guidance; Health, Physical Education and Recreation for Men; Health, Physical Education and Recreation for Women; Home Economics; Library Science; School Administration; Secondary Education; and Special Education.

The purposes of the College of Education are threefold: (1) to provide for the education of students who are preparing to teach; (2) to contribute to the professional growth and development of educators who wish to improve their skills and understandings, (3) to provide educational services to organized agencies that are cooperating with the schools and to personnel in other types of education institutions.

According to their individual interests and aptitudes, students may prepare in one or more of the following areas: Business Education, Ele-
mentary Education, Guidance, Health and Physical Education for Men, Health and Physical Education for Women, Library Science, Recreation Education, School Administration, Secondary Education, and Special Education (Teaching the Deaf, Teaching the Hearing Handicapped, Teaching the Educable Mentally Retarded, Teaching the Trainable Mentally Retarded, Speech Therapy, Reading Specialist).

The specific objectives of the College of Education are:

(1) to prepare candidates for the profession of teaching:
   who possess capacity for and appreciation of scholarship;
   who possess sound physical, mental, and social health;
   who understand and support the American public school system;
   who express themselves clearly, concisely, and meaningfully in speaking and writing;
   who consider teaching a professional experience;
   who possess sound academic and professional qualifications for teaching in their chosen field;

(2) to provide services to individuals and organizations that strive to improve teacher competence;
   that endeavor to raise standards of teacher education;
   that desire to improve educational programs;
   that encourage an appreciation of the American public school system;

(3) to promote research and innovation for the improvement of teacher education.

THE COLLEGE OF BUSINESS ADMINISTRATION
GEORGE G. HEATHER, Dean

The curricula in the College of Business Administration provide young men and women with a variety of areas of study for professional specialization.

Each curriculum allows the student ample freedom to select individual courses in other colleges of the University to satisfy his general or cultural interests so that with his specialization he will achieve a well-balanced education.

The College of Business Administration is a member of the American Association of Collegiate Schools of Business, which is the accrediting organization for collegiate schools of business.

THE COLLEGE OF ENGINEERING AND TECHNOLOGY

The College of Engineering and Technology offers Bachelor of Science degrees in Civil Engineering, General Engineering, Industrial Engineering and Industrial Technology. In addition, well planned two-year programs lead to Associate titles in engineering technology. The College embraces the departments of Civil Engineering, Industrial and General Engineering, Industrial Technology, and Nursing, plus the Technical Institute.
The metropolitan area of Omaha contains the greatest industrial and commercial center between Chicago and Denver, between Minneapolis-St. Paul and Kansas City. It also contains a major concentration of hospitals and health agencies. The current explosion in technology creates a major demand for professionally trained engineers, engineering technicians, and nurses. The College maintains close contact with leading engineers and with local industries to assure that instruction provides a strong scientific base, a thorough understanding of professional problems, and a well rounded education.

The professional engineering programs are so designed that the first two years are essentially common, making it possible in most cases for students to transfer from one program to another without loss of time. The last two years of these programs provide the specialized courses required for each field; while curricula list specific courses to be taken, each student is treated as an individual and permitted to make reasonable substitutions upon approval of the counselor, the department head, and the dean.

COLLEGE OF CONTINUING STUDIES

WM. T. UTLEY, Dean

It is now obvious that one's education is never complete. The pace of change in all facets of our society requires/demands that each of us be in a constant state of development—of re-education. This continuing pursuit may be "formal" in the sense of working for academic credit, or "informal," in which the acquisition of knowledge is the goal.

Serving the adult community in this twin quest is the role of the College of Continuing Studies. The program of the College is broad and varied, providing for the intellectual development, vocational and professional growth, cultural enrichment, and enlightenment on problems of the community, the nation and the world.

Established in 1931 as the Extension Department, it has grown to full college status, acquiring—along the way—national recognition through its innovations in higher adult education. Here was developed the Tele-Lecture conference technique. Its TV Classroom, begun in 1952, is the nation’s oldest college credit series co-sponsored with a commercial station. The degree completion program for military personnel, known internationally as the Bootstrap program, is the largest in the country. And, its degree designed for adults was a pioneer venture that is now increasingly copied and adapted.

AIR FORCE ROTC

The Department of Aerospace Studies is a regular instructional department of the University of Nebraska at Omaha and functions according to the rules and policies of the University and those of USAF. The Air Force ROTC program, under the recently enacted Vitalization Act, is designed to develop the skills and attitudes vital to the career professional Air Force officer. Upon successful completion of the Air Force ROTC program and graduation from the University, cadets are commissioned Second Lieutenants, USAF Reserve. Instruction includes a two-year basic
course (General Military Course-GMC) and a two-year advanced course (Professional Officer Course-POC). GMC training is a prerequisite for entry into advanced POC. This may be accomplished by completing either the college GMC program or a six-week “Field Training (FT)” program at an Air Force Base. Applicants for the six-week FT must arrange for such training prior to completing their sophomore year. A limited number of Financial Assistance Grants are available to outstanding sophomore, junior, and senior cadets. For complete information on the Air Force ROTC program contact the Professor of Aerospace Studies (PAS).

**FOOD SERVICE**

**MILO BAIL STUDENT CENTER**

The Student Center features game rooms, bookstore, lounges, offices, student meeting rooms, conference rooms, ballroom, cafeteria, faculty dining room, snack bar, vending operation, and private dining rooms.
The purpose of the University Food Service is to provide wholesome, nutritious food to the members of the University community at the lowest possible cost.

The University Food Service is not a public eating establishment. Food Service is maintained for the students, faculty and persons academically related or affiliated with the University of Nebraska at Omaha. Students and Faculty may bring guests occasionally, but the practice is not encouraged. Activity Cards may be checked periodically by supervisors and cashiers.

The Director of Food Services will be happy to plan your special events menus with you.

All food is dispensed on a strictly cash basis. No one may defer payment for meals. Food may not be brought into the Food Service area by organizations for special events.

URBAN AFFAIRS CENTER

The Urban Affairs Center serves a four-fold purpose—research, community information, education, consultation—in the city of Omaha and its metropolitan environs. Extensive library resources pertaining to all phases of urban life will be available at the Center. It will serve as a clearing house for information and as a diagnostician, interpreter, and therapist of urban phenomena. The Center, in addition to serving interested students and citizens, will also assist public officials, as well as officials of private and voluntary organizations involved with urban problems.

BOOKSTORE

MILO BAIL STUDENT CENTER

Textbooks and supplies necessary for classes taught by the University of Nebraska at Omaha are sold in the Book Store to University of Nebraska at Omaha students and faculty only. Clerks may require identification cards at any time, and the Book Store Manager may refuse to sell merchandise which he has reason to believe is going to non-students or non-faculty members of the University of Nebraska at Omaha. All sales in the Book Store are on a strictly cash basis. No books or supplies may be charged unless payment for same has been guaranteed by scholarship funds or a governmental agency. Charge authorizations must originate with the University cashier.

COMPUTER CENTER

ADMINISTRATION BUILDING, ROOM 231

The Computer Center contains an NCR RMC MARK II Computer and an IBM 1620 Computer. Services available to faculty and students include data preparation and compilation and execution of program. As modern computational techniques become an integral part of many fields of study, the Center is used to introduce the student to these techniques. Faculty members and graduate students use the computers as a research tool.
PLACEMENT SERVICE
ADMINISTRATION BUILDING, ROOM 238

All students desiring employment should register in the Placement Office, Room 238. The Placement Office helps students and graduates get full-time, part-time or summer jobs. Seniors and juniors will find available dozens of brochures describing job openings in all types of American business. Senior interviews are arranged with companies which recruit college graduates. Approved Personal Data Sheets are supplied registered seniors without charge.

The Placement Office makes an active effort to obtain employment for all students desiring jobs. It cannot, however, guarantee to secure employment for every student.

ATHLETICS
FIELDHOUSE

The University of Nebraska at Omaha has gained an enviable reputation for the quality and character of its athletic teams and currently is a member of the Central Intercollegiate Conference. National recognition and honors have been received in all sports and steady progress in intercollegiate athletics has been evident during the past decade.

Full schedules of contests with other colleges and universities are sponsored each year in football, basketball, baseball, track, tennis, golf, cross country and wrestling. Each sport has competent coaches, excellent equipment, outstanding facilities, and appropriate medical care for members of the University sponsored teams. The opportunity to participate on a team is open to all bona fide students who have the desire.
Intercollegiate athletics are directed and controlled in the same man-
ner as all other academic and extracurricular activities. All athletic poli-
cies conform to the basic policy of the University. These are determined
by the Board of Regents and the responsibility for administration is dele-
gated to the President of the University. The specific administration of
the program is conducted by the Director of Athletics. A Faculty Com-
mittee on Athletics advises in the administration of the program which is
designed primarily for the students of the University and its normal
constituency.

The athletic program is co-ordinated with the physical education and
intramural programs including similar principles, aims, and objectives.

**INTRAMURALS FOR MEN AND WOMEN**

"A sport for everyone and everyone in a sport."

Intramural activities are offered for both men and women, giving
students an opportunity for fun, relaxation, and physical development.
To be eligible, a student must be registered for six hours and possess a
day school activity card. The program of sports makes it possible for
students to play games in which they are interested. Men's intramural
sports are archery, cross country, flag-football, volleyball, basketball,
bowling, swimming, billiards, curling, wrestling, tennis, table tennis,
track, softball, golf, and badminton. Women's sports include volleyball,
softball, tennis, table tennis, golf, mixed volleyball, archery, basketball,
track and field, riflery, bowling, orchesis, and badminton.

**READING LABORATORY**

ENGINEERING BUILDING, ROOM 151

Students who desire to improve their reading and study skills may do
so by enrolling in the reading improvement courses in the Reading Lab-
oratory, under the supervision of the Department of English. Each en-
rollee is required to attend a specified number of class lectures and lab-
oratory sessions. The Reading Laboratory offers the latest in instructional
materials and techniques.

**ALUMNI ASSOCIATION**

MILO BAIL STUDENT CENTER

This organization has as its goals the preservation of college friend-
ships and the advancement of the University of Nebraska at Omaha.

Through the Association's by-laws membership is awarded to persons
holding college degrees or honorary and associate titles from the Univer-
sity, as well as to former students who have attended at least two years
and who express an interest in the organization.

Five officers and a 16-member Board of Directors govern the Associa-
tion. To conduct the work of the Association, a full-time executive-secret-
tary and an assistant are employed by the University. The office staff
keeps up-to-date records on both graduates and former students; special
mailings and the regular Alumni Newsletter go to more than 18,000
alumni.
The Association has its offices—reception room-lounge, executive office and workroom—in the new Student Center. The offices were furnished through contributions to the Alumni Building Fund.

To take the place of membership dues, the Association established an annual Fund Drive in 1953. Yearly receipts are now over $25,000 a year and maintain the Association's many scholarships as well as buying equipment and teaching aids for the University and supplying lobby furnishings in the Gene Eppley Library and in the Milo Bail Student Center.

Social events for alumni include Achievement Day, which honors a distinguished alumnus or faculty member, and Homecoming. In addition, lecture programs are offered, free of charge, through the Institute of World Affairs. The Association in the past few years has spread nationwide, with active chapters in many cities.

**CLINICAL SERVICES DIVISION**

**ADMINISTRATION BUILDING, ROOM 109**

The Clinical Services Division of the Department of Special Education is designed as a training facility to provide practical experience for advanced students in Speech and Hearing, Teaching the Deaf, Teaching the Mentally Retarded, and Remedial Reading. In addition it offers opportunities to develop and evaluate new methods and techniques for the education or rehabilitation of handicapped children and adults.

Diagnostic services and remedial programs are available without charge to individuals in the Omaha area. The Clinical Services Division maintains currently used electronic equipment, tests, and materials for a variety of communication and learning disorders; one-way vision facilities allow for observation of individual and group therapy. These facilities are frequently used by other disciplines within the University for instruction and clinical research.

**SCHOLARSHIPS, AWARDS AND LOANS**

**WILLIAM J. GERBRACHT, Chairman**

**GENERAL INFORMATION**

Students who are children of veterans who died or were totally disabled as a result of service in World War I, World War II, or the Korean conflict should contact the Director of Veterans Affairs, State Capitol Building, to determine their eligibility for free tuition under the laws of the State of Nebraska.

Students from foreign countries and students who are non-residents of the State of Nebraska are usually not eligible for scholarships, fellowships, or grants during their first year on the campus.

**REGENTS' SCHOLARSHIPS**

The Regents of the University have provided one hundred eighty Regents Scholarships which are awarded on the basis of competitive examinations to high school graduates. These scholarships provide the remission of resident tuition for the freshman year, and are renewable upon maintenance of a superior grade record.
UNIVERSITY HONOR SCHOLARSHIPS
There are twenty-four University Honor Scholarships available to sophomores, juniors and seniors. These scholarships are awarded strictly on the basis of scholastic achievement (no application is necessary). These scholarships provide the remission of resident tuition.

UNIVERSITY TUITION GRANTS
A limited number of University Tuition Grants are available to regularly enrolled resident students at the University. The purpose of this grant is to give financial assistance to students who have indicated by previous academic performance that they can profit by a college education but need some financial assistance in order to continue their program of study. Application can be made to the Committee on Scholarships, Awards and Loans.

AIR FORCE ROTC COLLEGE SCHOLARSHIP PROGRAM
A limited number of Air Force ROTC College Scholarships are available to sophomores, juniors and seniors enrolled in the four-year AFROTC program. For complete information on the AFROTC program and these scholarships contact the Professor of Aerospace Studies (PAS).

OTHER SCHOLARSHIPS, GRANTS, AND AWARDS
There are a number of other scholarships and awards which have been made available by the University, organizations, and individuals. Since conditions governing each scholarship or award vary, students interested should inquire at the Office of the Dean of Student Personnel, Room 240, Administration Building, for information.

FOR ENTERING FRESHMEN
Ak-Sar-Ben
Alumni
Blumkin Foundation
Frederick Kayser
Gem Stores
Hinky-Dinky
Omaha Firemans Benefit
Regents

FOR SOPHOMORES AND JUNIORS
Building Owners and Managers Association Award (Real Estate, Junior)
Chi Omega Alumnae of Omaha Scholarship (Sophomore Girl)
George B. Lake Memorial Awards (American History)
Omaha Public Power District (Engineering or Business)
Omaha Real Estate Board Scholarship (Junior)

FOR JUNIORS AND SENIORS
A. A. Allwine Scholarship in Real Estate
Alumni Liberal Arts Award
Fred J. Armbrust Scholarship
Associated Nebraska Industrial Editors (Journalism)
Building Owners and Managers Association of Omaha Real Estate Law Award
Harry A. Burke Memorial Scholarship
Chriss-McKay Memorial Scholarship (Accounting)
Data Processing Management Scholarship (Business)
Distributive Education Clubs of America
Eastern Nebraska Chapter #111, Society of Residential Appraisers
Real Estate Award in Urban Land Uses (Senior)
Estate Appraisers Scholarship (Senior)
Gilbert M. Hitchcock Scholarship (Physical Science)
Wilbur R. Irwin (Accounting)
Jenkins Memorial Scholarship, University Alumni Association (Senior)
Peter Kiewit Civil Engineering Scholarship
Peter Kiewit General Engineering Scholarship
Robert H. Kooper Scholarship in Business
Dr. C. Glenn Lewis Scholarship in Real Estate
Glenn L. Martin Scholarship
National Secretaries Association Scholarships
Nebraska Chapter #23 of the American Institute of Real Estate Appraisers Scholarship (Senior)
Nebraska Mortgage Bankers Real Estate Finance Scholarship
Nebraska Real Estate Association Scholarship (Senior)
Nebraska Society of Certified Public Accountants Scholarship (Senior)
Omaha Association of Insurance Agents
Omaha Chapter #12 of the Institute of Real Estate Management Award (Senior)
Omaha Civic Music Association
Omaha Real Estate Board Scholarship
Stanton Salisbury Memorial Scholarship
Walter H. Panko, Jr., Memorial Scholarship of Omaha Press Club (Journalism)
Wilfred Payne Scholarship
Pen and Sword Scholarship
Martin M. Staenberg Memorial Scholarship (Real Estate)
United-Mutual of Omaha Scholarship (Real Estate)
Urban Land Uses Award
General Albert C. Wedemeyer Scholarship (Political Science)
Western Electric Fund (Engineering)
Women's Physical Education Award
Zeta Delta Chapter, Chi Omega (Social Science, Senior Women)

FOR ALL CLASSES
American G. I. Forum Auxiliary
Arthur Brandeis Scholarships in Retailing
Brewer-Nelson Memorial Scholarship
Kevin O'Connor Scholarship
Paul T. Crossman Memorial Scholarship
Leo Daly Art Scholarship
James A. Douglas Scholarship
Fraternal Order of Eagles
Friends of Music
Eileen Gorr Memorial (Education)
Rowland Haynes Memorial Scholarship
Hinky-Dinky Scholarships in Food Distribution
John Fitzgerald Kennedy Memorial Scholarship
Pat Kennedy Memorial Scholarship
Peter Kiewit Engineering Scholarship
N. Murray Longworth Memorial Scholarship
Mengedoht-Hatz Scholarship (Art)
Mrs. John F. Merriam (Art)
Emma S. Metz Music Scholarship
Hymie and Ella Milder Scholarships
Louis I. Pentzien Engineering Scholarship
Presser Foundation (Music)
W. H. Schmoller Music Award
Mrs. Rose Schnieder Memorial Scholarship
Sylvia Siporin Memorial Scholarship
Society of American Military Engineers
Mary R. Stoddard Scholarship
Fannie D. Wakely (Humanities)

STUDENT TUITION LOAN FUNDS

Limited loans are available from the Altrusa Club, Alumni Association, Administrative Management Society Loan Fund, the Lions Club, Ak-Sar-Ben, Faye L. Hickey, Insurance Women of Omaha, the Alpha Kappa Delta, Sigma Gamma Rho, Phi Delta Gamma (Graduate Women), and the National Defense Education Act of 1958. The College of Continuing Studies has a small loan fund for use of adult students. Information regarding loans may be obtained from the Dean of Student Personnel Office, Room 240, Administration Building.
STUDENT ACTIVITIES
MILo BAIL STUDENT CENTER BUILDING

The University recognizes the value of a well-rounded program for student development and encourages students to participate in co-curricular activities. Students who have the time will be interested in the programs of the fraternities, sororities, special interest clubs, student publications, intramural, and intercollegiate activities.

A more complete description of these opportunities may be found in the Student Handbook.

In general, eligibility requirements for participation in extracurricular student activities provide that a person must be a regularly enrolled full-time student in good standing; that is, not on academic or disciplinary probation. However, since some groups maintain higher requirements, it is advisable to inquire at the Office of the Dean of Student Personnel about the eligibility requirements for any particular group or activity.

ORGANIZATIONS

Governing Bodies
Student Senate
Panhellenic Council
Interfraternity Council

Scholastic Honor Societies
Alpha Lambda Delta (freshman women), founded at the University of Illinois, 1924
Beta Gamma Sigma (junior and senior men and women, College of Business Administration), founded at the University of Wisconsin, 1907
Phi Eta Sigma (freshman men), founded at the University of Illinois, 1923
Phi Kappa Phi (all-university, upper-class men and women), founded at the Universities of Maine, Tennessee, and Pennsylvania State, 1897

Leadership Honor Societies
Omicron Delta Kappa (junior and senior men), founded at the University of Omaha, 1950
Waokiya (senior women), founded at the University of Omaha, 1950

Honorary Clubs
Alpha Psi Omega (dramatics)
Alpha Kappa Delta (sociology)
Beta Alpha Psi (accounting)
Delta Omicron (music, women)
Gamma Pi Sigma (chemistry)
Pi Alpha Theta (history)
Phi Mu Alpha Sinfonia (music, men)
Pi Gamma Mu (social science)
Pi Kappa Delta (forensic)
Kappa Delta Pi, Eta Omega Chapter (education, men and women)
Sigma Tau Delta
Gamma Theta Upsilon (geography)

**Religious Clubs**

- Campus Christian Fellowship
- Christian Science Organization
- Newman Club

**Service Clubs**

- Interpep Council
- Society of Pen and Sword (Bootstrapper Program)

**Professional Fraternities**

- Delta Sigma Pi (business administration, men) Gamma Eta Chapter, 1949
- University Chapter of Rho Epsilon (real estate), 1955
- Phi Chi Theta (business administration, women)
- Phi Epsilon Kappa (P.E. Majors and Minors)

**Athletic Clubs**

- "O" Club (honorary, men)
- Women's Recreation Association

**Social Clubs**

- Independent Student Association, 1935

**Sororities**

- Alpha Xi Delta, Gamma Delta Chapter, 1950
- Gamma Phi Beta, 1969
- Chi Omega, Zeta Delta Chapter, 1949
- Sigma Kappa, Beta Omega Chapter, 1950
- Zeta Tau Alpha, Gamma Mu Chapter, 1950

**Fraternities**

- Alpha Epsilon Pi, Upsilon Omicron Chapter, 1961
- Lambda Chi Alpha, Iota Delta Zeta Chapter, 1952
- Pi Kappa Alpha, Delta Chi Chapter, 1952
- Sigma Phi Epsilon, Nebraska Beta Chapter, 1951
- Tau Kappa Epsilon, Epsilon Epsilon Chapter, 1956
- Theta Chi, Delta Zeta Chapter, 1950

**Student Publications**

- Gateway (newspaper)
- Tomahawk (yearbook)
- Student Directory
- Grain of Sand (literary magazine)
Special Interest Groups

American Institute of Industrial Engineers
American Marketing Association, Student Chapter
American Society of Civil Engineers
Angel's Flight
Arnold Air Society, Earl S. Hoag Squadron, 1952
  National Headquarters, 1954-55
Art Club
Band, marching and concert
Biology Club
Choirs
Circle "K"
Debate
Home Economics Club
Indiannes
Institute of Electric and Electronic Engineers
International Relations Club
International Students Organization
Ipmauoes
Music Educators National Conference, Chapter 437
University Amateur Radio Club
University Black Knights Chess Club
University Riding and Jumping Club
University Rifle Club
Orchis
Orchestra
Philosophy Club
Pre-Med Club
Press Club
Psi Chi
Ski Club
Sociology Club
Society of American Military Engineers
Student Affiliate, American Chemical Society
Student Education Association
University Math Metrics
University Players
Young Democrats
Young Republicans

IDENTIFICATION AND ACTIVITIES CARD

Each student who enrolls in twelve or more credit hours is required to pay a $30.00 general fee per semester. The payment of this fee entitles the student to a regular activity card, which must be carried at all times. This card admits the student, without further charge, to all University activities, athletic events, and social affairs which receive support from this fee. It also entitles the student to receive, without further charge, all student publications (except the Grain of Sand) issued during the year. Any student carrying less than twelve credit hours will pay a $15.00 general fee per semester.
The activities card serves as identification for service in the Food Service, Student Center, Bookstore, and Library. The student may be requested to show his activities card before being served in any of these facilities.

The activities card is given to the student at the time of registration, and is not valid until signed by the Financial Officer, indicating that fees are paid. Activities cards are non-transferable, and use by other than the student to whom issued is subject to disciplinary action. Lost cards may be replaced only with the approval of the Dean of Student Personnel, and upon payment of a duplicate card fee. **A charge of $5.00 will be made for duplicate cards.** If the student is suspended or withdraws, he must return his activities card to the office of the Dean of Student Personnel.

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**UNIVERSITY REGULATIONS**

The University and its various colleges, divisions, and departments reserve the right to change the rules controlling admission to, instruction in, and graduation from the University or its various divisions.

Such regulations are operative whenever the University authorities deem necessary and apply not only to prospective students but also to those currently enrolled in the University.

The University also reserves the right to withdraw courses, to reassign instructors, and to change tuition and fees at any time.
The Graduate College provides the opportunity, the faculty and the resources to meet the various needs of graduate students for more advanced and more specialized education than the undergraduate work upon which all graduate programs are founded.

The first Master's degree was awarded by a special vote of the Board of Regents of the "old" University of Omaha in June, 1931. Graduate work leading to the Master of Arts degree was authorized by the newly organized Municipal University, September, 1931, to be supervised by a Committee on Graduate Studies. In 1942, the Graduate Division was established. The degree of Master of Science in Education was approved in 1948. In 1954, the Committee on Graduate Studies became the Graduate Council and the Chairman became the Director of the Division. In 1960, the Board of Regents authorized a year of graduate study in Education beyond the Master's degree. In 1966, the Graduate Faculty replaced the Graduate Council.

Recognizing the growing importance of graduate education, the Board of Regents, in October, 1962, established the College of Graduate Studies as the sixth college of the University of Omaha. In 1966, the name was changed to The Graduate College.

The Graduate College at the University of Omaha was established to provide an opportunity for advanced study and independent investigation in a limited number of fields of learning for qualified students:

(1) To work toward these degrees: Master of Arts, Master of Science, Master of Business Administration, Specialist in Education.

(2) To earn graduate credit for the issuance or renewal of certificates for teachers and administrators.

(3) To provide for professional advancement and scholarly objectives. Consistent with these objectives, numerous opportunities are provided for advanced students to design and conduct original research or investigation to discover facts, methods or values. Working with the guidance of a major adviser, the student must exercise his own initiative to master and apply the principles of methodical study and evaluation, utilizing the existing literature in his chosen field of study. To enable the student to attain these objectives, the Graduate College provides workshops, institutes, seminars, research and special problems courses, and the supervision of theses or special projects.

Thus the Graduate College promotes the spirit of free investigation in the various fields of knowledge, and at the same time serves to unite the various branches of the University in the common task of advancing human knowledge and providing for society intelligent, capable leadership.

A student who is within three semester hours of having completed all requirements for the Bachelor's degree at the University of Nebraska at Omaha may be provisionally admitted to the Graduate College.

A detailed Graduate Bulletin is available from the Graduate College.
FACULTY
UNIVERSITY OF NEBRASKA AT OMAHA
1970-1971

ROBERT L. ACKERMAN ..................................................................................................... Education
Ed.D., University of Nebraska, 1966; Professor

JAMES C. AKERS ........................................................................................................ Education
Ed.D., Oklahoma State University, 1969; Assistant Professor

PAUL B. ACKERSON ........................................................................................................ Education
Ed.D., Oklahoma State University, 1965; Professor

FREDERICK W. ADRIAN ............................................................................................. History
Ph.D., Ohio State University, 1942; Professor

CLIFFORD ANDERBERG ......................................................................................... Philosophy
Ph.D., University of Wisconsin, 1953; Professor and Head of Department

JOHN R. ANSTEY ........................................................................................................ Management
M.B.A., University of Arkansas, 1967; Assistant Professor

WILLIAM L. ANTHES ................................................................................................. Economics
M.B.A., University of Missouri, 1966; Assistant Professor

AARON ARMFIELD ........................................................................................................ Education
Ed.D., Colorado State University, 1964; Associate Professor and Chair of Department of Special Education

DUANE ASCHENBRENNER ....................................................................................... Speech
M.A., Colorado State College, 1961; Assistant Professor; Director, Forensics

BRUCE P. BAKER II .................................................................................................... English
Ph.D., Texas Christian University, 1968; Associate Professor and Head of Department

LYLE E. BALL ............................................................................................................... Business Administration
Associate Professor of Business Administration
M.S., University of Illinois, 1950; J.D., University of North Dakota, 1956

GEORGE BARGER .......................................................................................................... Sociology
Ph.D., University of Missouri, 1964; Professor

NICHOLAS BARISS ....................................................................................................... Geography
Ph.D., Clark University, 1967; Professor

LARRY R. BASSI ......................................................................................................... Law Enforcement and Correction
M.A., Washington State University, 1966; Assistant Professor

BURWELL G. BEAMAN ......................................................................................... Accounting
M.S., Kansas State University, 1960; C.P.A.; Associate Professor

PAUL L. BECK ............................................................................................................... History
Ph.D., University of Nebraska, 1961; Professor

JOSEPH V. BENAK ..................................................................................................... Civil Engineering
Ph.D., University of Illinois, 1967; Associate Professor

ROBERT W. BENECKE ............................................................................................ Accounting
D.B.A., University of Colorado, 1966; Associate Professor

DONALD BENNING .................................................................................................. Physical Education for Men
M.S., University of Omaha, 1961; Assistant Professor, Coach

BARBARA BETHEL ...................................................................................................... Psychology
M.A., University of Nebraska at Omaha, 1970

HOLLIE BETHEL ........................................................................................................ Education
Ed.D., University of Colorado, 1957; Professor and Head of Department of Elementary Education
MAURICE BETTER .................................................. Economics  
M.B.A., U.C.L.A., 1959, M.S., University of Wisconsin, 1967; Assistant Professor

SYBIL BETTER .................................................. Sociology  
M.S., University of Wisconsin, 1968; Instructor

JOHN V. BLACKWELL .................................................. Art  
Ph.D., State University of Iowa, 1957; Professor and Head of Department

RICHARD H. BLAKE ........................................... Counseling and Guidance  
Ed.D., University of Missouri, 1966; Associate Professor,

GARY L. BLUM .................................................. Philosophy  
M.A., University of Notre Dame, 1965; Assistant Professor

EDWARD C. BOGARD .................................................. Technical Institute  
Registered Professional Engineer

JOHN L. BOHRER .................................................. Music  
M.A., University of Michigan, 1959; Assistant Professor

PAUL D. BORGE .................................................. Speech, Radio-TV  
M.A., University of Omaha, 1961; Assistant Professor; Head, Radio-TV  
Department; General Manager Channel 26

FRANK BOSILJEVAC ........................................... Civil Engineering  
M.S., New Mexico University, 1966; Instructor

M. JEAN BRESSLER .................................................. Education  
Ph.D., University of Nebraska, 1965; Associate Professor

BARBARA BRILHART .................................................. Education  
Ph.D., Pennsylvania State University, 1966; Assistant Professor

JOHN K. BRILHART .................................................. Speech  
Ph.D., Pennsylvania State University, 1962; Professor and Head of Department

NAN L. BRITT .................................................. History  
M.A., Emory University, 1966; Instructor

MERLE E. BROOKS .................................................. Biology  
Ph.D., University of Colorado, 1956; Professor

EVAN L. BROWN .................................................. Psychology  
Ph.D., University of Washington, 1969; Assistant Professor

JAMES H. BROWN .................................................. Industrial, General Engineering  
M.A., University of Minnesota, 1954, M.S., M.E., University of Nebraska, 1966;  
Registered Professional Engineer; Professor

WILLIAM M. BROWN .................................................. Marketing  
Ph.D., University of Pittsburgh, 1957; Professor

BARBARA E. BUCHALTER ........................................... Mathematics  
Ph.D., University of Arizona, 1968; Assistant Professor

SIDNEY A. BUCHANAN .................................................. Art  
M.A., New Mexico Highlands University, 1963; Assistant Professor

CHARLES M. BULL .................................................. Marketing  
Ph.D., University of Nebraska, 1962; The Frederick W. Kayser Professor of  
Marketing and Head of Department

DALE M. BUNSEN .................................................. Education  
Ed.D., University of Nebraska, 1968; Associate Professor

KENNETH BURKHOLDER ........................................... Education  
Ed.D., University of Nebraska, 1959; Professor

KARL H. D. BUSCH .................................................. Biology  
Ph.D., Ohio State University, 1940; Professor
LEE C. BUSH .................................................. Geography
M.A., University of Arizona, 1969; Instructor

ROBERT R. BUTLER ............................................. Counseling and Guidance
M.S., University of Nebraska at Omaha, 1963; Assistant Professor

H. CARL CAMP .................................................. Political Science
Ph.D., Washington University, 1965; Associate Professor

CLARK W. CAMPBELL ............................................ Accounting
M.A.S., University of Illinois, 1968; C.P.A., Instructor

AL F. CANIGLIA ................................................ Physical Education for Men
M.S., University of Nebraska, 1956; Assistant Professor, Football Coach

LLOYD R. CARDWELL ........................................... Physical Education for Men
B.S., University of Nebraska, 1953; Assistant Professor, Track Coach

J. RICHARD CARLSON ................................ .......... Speech
M.A., Northwestern University, 1954; Assistant Professor

JO ANN CARRIGAN ................................................ History
Ph.D., Louisiana State University, 1961; Associate Professor

JOHN CARROLL .................................................. English
M.A., University of New Mexico, 1967; Assistant Professor

ELTON S. CARTER ................................................ Speech
Ph.D., Northwestern University, 1950; Professor and Dean of Graduate College

JOHN B. CHAPMAN ............................................... Management
M.S.B.A., University of Denver, 1968; Instructor

BING CHEN ...................................................... Technical Institute
M.S.E.E., University of Nebraska, 1969, Assistant Professor

EDWIN L. CLARK ................................................ Speech
Ph.D., State University of Iowa, 1951; Professor; Director, University Theater

CONSTANCE L. CLAUSSEN ...................................... Physical Education for Women
M.A., Adams State College, 1963; Assistant Professor and Head of Department

WILLIAM T. CLUTE ............................................... Sociology
M.A., University of Maryland, 1965; Instructor

WALTER H. COMBS ............................................... Speech
M.A., Michigan State University, 1968; Instructor

DONALD R. CONNELL .......................................... Economics
M.S., Fort Hays State College, 1958; Assistant Professor

NILA CORKILL .................................................. Library Science
M.A., University of Denver, 1963; Instructor; Cataloger

HUGH P. COWDIN ................................................ Journalism
Ph.D., University of Iowa, 1968; Associate Professor and Head of Department

JAY W. COX ..................................................... Counseling & Guidance
M.A., University of Denver, 1959; Instructor and Director of Admissions

STEVEN G. COX ................................................ Counseling & Guidance
Ph.D., University of Iowa, 1968; Assistant Professor; Director of Testing

DANA L. CRAIG .................................................. Mathematics
M.A., University of Missouri, 1965; Instructor

EMMETT CRIBBS .................................................. English
M.A., University of Nebraska at Omaha, 1969; Instructor

DONALD C. CUSHENBERY ..................................... Education
Ed.D., University of Missouri, 1964; Professor
HARL DALSTROM ................................................................. History
Ph.D., University of Nebraska, 1965; Associate Professor

HAROLD L. DAVIS .............................................................. Industrial Technology
M.A., Colorado State College, 1958; Associate Professor

JOE L. DAVIS ................................................................. Counseling and Guidance
Ed.D., University of South Dakota, 1969; Assistant Professor

JEAN DAYTON ................................................................. Education
M.S., University of Nebraska at Omaha, 1969; Instructor

JUDITH DECKER .............................................................. Mathematics
M.A., University of Iowa, Iowa City, 1967; Instructor

KENNETH A. DEFFENBACHER ................................................. Psychology
Ph.D., 1968, University of Washington; Assistant Professor

WILLIAM DeGRAW ............................................................. Biology
M.S., Colorado State University, 1965; Assistant Professor

BARTHALOMEW DENNEHY ...................................................... Engineering
Ph.D., Texas A&M University, 1970; Associate Professor; Director, Continuing Engineering Studies

VOJISLAV DOSENOVICH ....................................................... Foreign Languages
B.D., Sarajevo, Yugoslavia, 1937; M.A., University of Omaha, 1953; Instructor

J. SCOTT DOWNING ............................................................. Mathematics
Ph.D., Michigan State University, 1969; Assistant Professor

LOISJEAN DRAKE .............................................................. Economics
M.A., University of Nebraska, 1968; Assistant Professor

RICHARD DUGGIN .............................................................. English
M.F.A., University of Iowa, 1963; Assistant Professor

JOSEPH G. DUNN ............................................................. Education
Ed.D., University of Missouri, 1955; Professor and Head of Department of Educational Foundations

DOROTHY DUSTIN .............................................................. English
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LAWRENCE E. EHLERS ......................................................... Civil Engineering
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GAIL E. ENQUIST .............................................................. Education
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J.D., State University of Iowa, 1963; Associate Professor

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LLOYD T. GWARTNEY ....................................................... Education
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M.S.L., Western Michigan University, 1968; Instructor and
Documents Librarian

NORMAN J. LUNA .......................................................... Foreign Languages
Ph.D., University of Colorado, 1969; Instructor
<table>
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<th>Name</th>
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<td>VERA LUNDAHL</td>
<td>Physical Education for Women</td>
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<td>STEELE R. LUNT</td>
<td>Biology</td>
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<td>Art</td>
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<td>JOHN P. MALONEY</td>
<td>Mathematics</td>
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<td>*BARBARA MANNING</td>
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<td>DONALD D. MANSON</td>
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<td>Journalism</td>
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<td>Library Science</td>
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<td>CARL L. MEYERS</td>
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<td>C. RAYMOND MILLIMET</td>
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<td>JOYCE MINTER</td>
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<td>Philosophy</td>
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<td>MARY MUDD</td>
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<td>DIANE M. MOORE</td>
<td>Foreign Languages</td>
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<td>Name</td>
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<td>ROBERT MOORE</td>
<td>M.A., University of Denver, 1964; Assistant Professor</td>
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<td>W. EARL MORRISON</td>
<td>Ph.D., East Texas State University, 1968; Associate Professor</td>
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<td>WOODROW L. MOST</td>
<td>Ph.D., Laval University, 1953; Professor and Head of Department</td>
</tr>
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<td>MARY MUDD</td>
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<td>R. CLARKE MULLEN</td>
<td>M.S., Julliard School of Music, 1959; Associate Professor</td>
</tr>
<tr>
<td>THOMAS MURRAY</td>
<td>M.S.C.E., Lehigh University, 1966; Instructor</td>
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<td>HARRY J. MYERS</td>
<td>M.S.E.E., University of Nebraska, 1967; Assistant Professor</td>
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<td>MARIAN P. NELSON</td>
<td>M.A., University of Omaha, 1967; Instructor</td>
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<td>MICHAEL C. NEWMAN</td>
<td>B.S.E.E., University of Nebraska, 1969; Instructor</td>
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<td>GLEN A. NEWKIRK</td>
<td>Ph.D., University of Denver, 1966; Associate Professor</td>
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<tr>
<td>M. GENE NEWPORT</td>
<td>Ph.D., University of Illinois, 1963; Professor</td>
</tr>
<tr>
<td>JOHN M. NEWTON</td>
<td>Ph.D., Ohio State University, 1955; Professor and Head of Department</td>
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<tr>
<td>DAVID LEE NICKLIN</td>
<td>M.A., University of Omaha, 1965; Instructor</td>
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<td>CARL E. NORDAHL</td>
<td>Ph.D., University of Iowa, 1969; Assistant Professor</td>
</tr>
<tr>
<td>JOHN R. NYE</td>
<td>Ph.D., Iowa State University, 1968; Assistant Professor; Director, Urban Affairs</td>
</tr>
<tr>
<td>B. GALE OLESON</td>
<td>Ph.D., University of Wyoming, 1958; Professor, Director, Counseling and Guidance</td>
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<tr>
<td>ROBERT C. O'REILLY</td>
<td>Ed.D., University of Kansas, 1962; Professor; Associate Dean, Graduate College; University Grants Coordinator</td>
</tr>
<tr>
<td>RICHARD F. ORTMAN</td>
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</tr>
<tr>
<td>RICHARD A. OVERFIELD</td>
<td>Ph.D., University of Maryland, 1968; Assistant Professor</td>
</tr>
<tr>
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<tr>
<td>RICHARD PARSONS</td>
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<tr>
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</tr>
<tr>
<td>HAROLD W. PAYNE</td>
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<td>D. T. PEDRINI</td>
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</table>
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M.S., University of Omaha, 1964; Instructor and Counselor

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M.A., University of Iowa, 1960; Assistant Professor

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M.S., Marquette University, 1964; Assistant Professor and Director, 
Computer Center
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C.A.P.E.S., Faculté des lettres, Paris France, 1965; Instructor

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KAREN THOMPSON .................................................. Foreign Languages  
M.A., University of Iowa, 1967; Instructor

 TOMMY THOMPSON ...................................................... History  
M.A., University of Arkansas, 1965; Instructor

 JACK C. TITUS ..................................................... Industrial, General Engineering

RAYMOND W. TRENHOLM .......................................... Music  
M.M., University of Michigan, 1942; Associate Professor  
M.S., Purdue University, 1964; Assistant Professor

A. STANLEY TRICKETT ............................................. History  
Ph.D., The Victoria University of Manchester, England, 1935;  
Professor and Head of Department

JOHN TUECKE ....................................................... Mathematics

 KEITH K. TURNER .................................................... Economics  
Ph.D., University of Nebraska, 1968; Associate Professor

MARGERY B. TURNER ................................................ English  
M.A., University of Omaha, 1961; Assistant Professor

WILLIAM T. UTLEY ................................................... Political Science  
M.A., University of Arkansas, 1936; Professor; Director,  
Public Affairs Institute; Dean, College of Continuing Studies

ANGELA VALLE ........................................................ Foreign Languages  
M.A., Michigan State University, 1969; Instructor

J. FREDERICK VESPER ............................................ Speech and Drama  
M.A., Pepperdine College, 1967; Instructor

PHILLIP E. VOGEL .................................................. Geography  
Ph.D., University of Nebraska, 1960; Professor

WAYNE F. WAGNER ................................................. Physical Education for Men  
M.S., University of Omaha, 1955; Assistant Professor, Athletic Trainer

THOMAS P. WALSH ................................................... English  
M.A., Oklahoma University, 1963; Assistant Professor

JOHN WANZENRIED ................................................ Speech  
M.A., Bowling Green University, 1966; Instructor

BLAINE E. WARD ...................................................... Education  
Ed.D., University of South Dakota, 1969; Assistant Professor

CHARLES WARDEN .................................................. Mathematics  
M.A., Central Missouri State College, 1956; Assistant Professor

RALPH M. WARDLE .................................................. English  
Ph.D., Harvard University, 1940; The Albert W. Jefferis Professor

DONALD C. WATCHORN ............................................. Physical Education for Men  
M.S., University of Omaha, 1961; Assistant Professor and Head of Department

FLOYD WATERMAN ................................................ Education  
Ed.D., Columbia University, 1965; Professor; Director, Center for Urban Education

ROBERT WELK ......................................................... Speech  
M.A., Kent State University, 1962; Assistant Professor

JANET WEST .......................................................... Economics  
M.A., Michigan State University, 1964; Instructor
WAYNE WHEELER ........................................ Sociology, Urban Studies
Ph.D., University of Missouri, 1959; Professor

RICHARD L. WICKOFF .......................................... Psychology
Ph.D., Oklahoma University, 1965; Associate Professor;

PAULINE WILCOX ................................................ Education
M.S., University of Omaha, 1966; Assistant Professor

L. D. WILLARD ............................................. Philosophy
M.S., University of Wisconsin, 1964; Assistant Professor

CHARLES E. WILSON ........................................ Education
Ed.D., University of Arkansas, 1969; Assistant Professor

MARY K. WISE ............................................. Physical Education for Women
M.P.E., University of Nebraska, 1968; Instructor

WARREN WITTEKIND ........................................ Journalism
B.S., University of Omaha, 1949; Instructor;
Executive Secretary Alumni Association

JAMES K. WOOD ............................................. Chemistry
M.S., Kansas State College, 1965; Instructor

JAMES M. WOOD ............................................. Education
Ph.D., University of Utah, 1966; Associate Professor

VIRGIL V. YELKIN ............................................. Physical Education for Men
M.S., University of Omaha, 1957; Associate Professor;
Director of Athletics; Baseball Coach

LUCILLE ZELINSKY ........................................ Sociology
M.S.W., Wayne University, Detroit, 1947; Assistant Professor

RAYMOND A. ZIEBARTH ................................... Education
Ph.D., University of Minnesota, 1963; Professor;
Head of Department of Secondary Education

JOHN P. ZIPAY ................................................ Geography
M.A., Southern Illinois University, 1966; Instructor

THEODORE M. ZORICH .................................... Civil Engineering
Ph.D., Colorado State University, 1966; Assistant Professor

* Leave of Absence
EMERITUS FACULTY

MARTIN BUSH ........................................................................................................................................... Music
F.A.G.O., Professor and Head of Department, 1933-1953

RODERIC B. CRANE ......................................................................................................................... Economics
M.B.A., University of Chicago, 1941; Professor and Head of Department, 1936-1964; The Frederick W. Kayser Professor of Economics, 1961-1967

HURFORD H. DAVISON ........................................................................................................................... Retailing
M.B.A., Harvard Graduate School of Business Administration, 1924; Professor and Head of Department, 1948-1963

RUSSEL C. DERBYSHIRE .......................................................................................................................... Zoology
Ph.D., Iowa State College, 1938; Assistant Professor, 1931-1961

NELL WARD DOAN ................................................................................................................................... Chemistry
Ph.D., University of Iowa, 1939; Professor and Head of Department, 1918-1955

JAMES M. EARL ........................................................................................................................................ Mathematics
Ph.D., University of Minnesota, 1928; Professor and Head of Department, 1931-1962

MILDRED GEARHART ............................................................................................................................... English
M.A., State University of Iowa, 1928; Associate Professor, 1931-1955

FRANK H. GORMAN ............................................................................................................................ Educational Administration
Ph.D., University of Missouri, 1931; L.H.D., University of Omaha, 1967; Professor; Dean of College of Education; Liaison Director, Child Study Service in cooperation with Omaha Public Schools, 1948-1967

CARL W. HELMSTADTER ..................................................................................................................... Accounting
Ph.D., State University of Iowa, 1938; LL.D., University of Omaha, 1966; Professor; Dean of College of Engineering and Technology, 1929-1966

ELIZABETH L. HILL ............................................................................................................................... Speech
M.Ed., University of Missouri, 1955; Associate Professor; Associate Dean of Student Personnel; 1956-1970

LETA F. HOLLEY ........................................................................................................................................ Business Education
Ed.D., University of Colorado, 1960; Professor and Head of Department; 1946-1970

FRANCIS HOLLIDAY ............................................................................................................................ Education
Ed.D., George Washington University, 1949; Professor and Head of Department, 1949-1958

GERTRUDE KINCAIDE .......................................................................................................................... Foreign Languages
M.A., University of Nebraska, 1929; Associate Professor and Head of Departments of Foreign Languages and Literature, 1943-1951

BERTHA KOCH ........................................................................................................................................ Art
Ph.D., Ohio State University, 1929; Professor and Head of Department, 1931-1958

C. GLENN LEWIS ........................................................................................................................................ Business Administration
J.D., State University of Iowa, 1927; M.B.A., Indiana University, 1956; Professor, Director, Real Estate Program; Omaha Real Estate Board Chair in Real Estate Professor; 1948-1968

ELLEN LORD ........................................................................................................................................... Library Science
B.A.L.S., University of Michigan, 1968; Professor; Librarian, 1938-1969

JOHN W. LUCAS ........................................................................................................................................ Business Administration
M.B.A., Ohio State University, 1935; LL.D., University of Omaha, 1968; Professor and Head of Department; Dean of College of Business Administration; 1948-1968

JAY B. McGR EGOR ................................................................................................................................ Education
Ph.D., University of Iowa, 1931; Professor; Dean of Student Personnel, 1952-1960

ANSON D. MARSTON ............................................................................................................................... Engineering
M.S.C.E., University of Wisconsin, 1926; E.E., Iowa State University, 1931; D.Sc., University of Omaha, 1965; Registered Professional Engineer; Professor and Head of Department; Dean of College of Engineering and Technology; 1960-1967
R. J. MAXWELL .................................................................Foreign Languages
M.A., University of Illinois, 1928; Associate Professor; 1929-1960

ROY W. NOLTE .................................................................Education
M.A., University of Missouri, 1935; Associate Professor; Supervisor, C.A.E. Military Education Program, 1952-1962

HEDVIG NYHOLM .................................................................English
M.A., Middlebury College, 1942; Associate Professor, 1946-1967

WILFRED PAYNE ..............................................................Philosophy
Ph.D., University of Wisconsin, 1930; LL.D., University of Omaha, 1963; Professor and Head of Department of Humanities, 1931-1963; Regents' Distinguished Professor, 1962-1963

HARRY RICE .................................................................Mathematics
M.S., University of Iowa, 1928; D.Sc., University of Omaha, 1968; Associate Professor, 1942-1967

ROY M. ROBBINS ..............................................................History
Ph.D., University of Wisconsin, 1929; Professor; 1954-1970

BENJAMIN STERN .............................................................Mathematics
M.S., California Institute of Technology, 1935; Instructor, 1956-1965

T. E. SULLENGER ..............................................................Sociology
Ph.D., University of Missouri, 1930; Professor and Head of Department, 1923-1958

LESLIE O. TAYLOR ............................................................Education
Ph.D., University of Minnesota, 1932; Associate Professor, 1944-1955

SARAH TIRRELL ..............................................................History
Ph.D., Columbia University, 1946; Assistant Professor, 1946-1958

WILLIAM H. THOMPSON ....................................................Psychology
Ph.D., Ohio State University, 1930; Professor and Head of Department of Philosophy and Psychology; Director, Child Study Services in cooperation with Omaha Public Schools; Dean of the College of Liberal Arts, 1931-1960

PHILIP H. VOGT .............................................................Sociology
M.S., Washington University, 1936; Professor; 1960-1968

S. V. WILLIAMS ............................................................Engineering
M.E., Carnegie Institute of Technology, 1927; Professor and Head of Department, 1953-1962
COLLEGE OF CONTINUING STUDIES

WILLIAM T. UTLEY, M.A. ................................................................. Dean
GEORGE G. THOMPSON, B.A. ......................................................... Assistant Dean
Division of Academic Studies
THOMAS E. MOORE, B.S. ............................................................... Assistant Dean
Division of Community Services
FRANKLIN J. RUSSELL, M.A. ......................................................... Director, Military Programs
DEAN A. FLING, M.A. ................................................................. Director, Adult Academic Programs
BARTHOLOMEW DENNEHY, Ph.D. .................................................. Director
Continuing Engineering Studies
JAMES R. ERIXON, B.A. ............................................................... Director, Conferences and Workshops
WILLIS P. ROKES, J.D., Ph.D., C.L.U., C.P.C.U. ................................ Director
Insurance Program
C. GLENN LEWIS, M.B.A., J.D. ..................................................... Director
Real Estate Certification Program
GAYLON L. KUCHEL, M.A. ............................................................... Chairman
Department of Law Enforcement and Corrections
PAUL D. BORGE, M.A. ................................................................. Director of Radio and T.V.
Manager, Channel 26-ETV
EDWIN KINNEY, B.C.E. ............................................................... Director, Technical Institute
E. WILLIAM SHACKLETTE, B.A. ................................................... Assistant Director, Military Programs
MICHAEL F. WEST, B.B.A. ............................................................ Counselor, Military Programs
EVERTS S. SIBBERNSEN, B.A. ...................................................... Program Coordinator
Division of Community Services

AIR FORCE ROTC DETACHMENT 470

COLONEL JAMES S. CONNELL ........................................................ Aerospace Studies
M.S., George Washington University, 1964; Professor
MAJOR DONALD H. KELLIHER ..................................................... Aerospace Studies
B.A., University of New Hampshire, 1954; Assistant Professor
MAJOR GRAHAM P. CROW .......................................................... Aerospace Studies
M.A., University of Iowa, 1958; Assistant Professor
CAPTAIN DONALD L. NAGLEY ...................................................... Aerospace Studies
B.A., Washington State University, 1963; Assistant Professor
TSGT. JIMMY D. BAUM ............................................................... Aerospace Studies
Sergeant Major
SSGT. LAWRENCE LEWIS .......................................................... Aerospace Studies
Administrative NCO
SSGT. CHARLES W. SIGERSON, JR. .............................................. Aerospace Studies
Personnel NCO
ADMINISTRATIVE STAFF
1970-1971

Philip Milo Bail, Ph.D., L.L.D. .................................................. President Emeritus
Paul D. Borge, M.A. .................................................. Director, Radio-TV Department
Ralph H. Bradley, B.S. .................................................. Director, Office of Information
Elton S. Carter, Ph.D. .................................................. Dean, The Graduate College
Ralph H. Bradley, B.S. .................................................. Chairman, Graduate Faculty
J. Jay Cox, M.A. .................................................. Director of Admissions
Steven G. Cox, Ph.D. .................................................. Director of Testing
Ruth Eichhorn, R.N. .................................................. University Nurse
Elton S. Carter, Ph.D. .................................................. Chairman, Graduate Faculty
Jay Cox, M.A. .................................................. Director, Office of Information
Dean A. Fling, M.A. .................................................. Director, Adult Academic Advisement
William Gerbracht, B.A. .................................................. Director, Student Aid
Fred S. Gerardi, B.A. .................................................. Director, Sports Information
Gordon D. Hansen, M.A. .................................................. Assistant Dean, College of Arts and Sciences
Masoud Hariri, M.B.A. .................................................. Assistant Director, Institutional Research
Robert D. Harper, Ph.D. .................................................. Dean, The College of Arts and Sciences
Yvonne Harsh, M.A. .................................................. Director, Placement
George G. Heather, Ph.D. .................................................. Dean, The College of Business Administration
James E. Helm .................................................. Assistant Director, Administrative Systems
Roger Hildreth, B.A. .................................................. Chief Accountant
Elizabeth L. Hill, M.Ed. .................................................. Associate Dean of Student Personnel
Carol Himes .................................................. Manager, Food Services
Harold Keefover, B.S. .................................................. Director of Business and Finance
Paul C. Kennedy, Ed.D. .................................................. Dean, The College of Education
Jerry A. Kilgore .................................................. Assistant Director, Programs Systems
Edwin E. Kinney, B.C.E. .................................................. Director, Technical Institute
Bernard L. Koenig .................................................. Manager, University Bookstore
LeRoy Kozeny, B.S. .................................................. Assistant Director of Business and Finance
John Allan Krecek, M.B.A. .................................................. Assistant Registrar
Robert Krenzer .................................................. Superintendent, Physical Plant
David Lund, B.G.S. .................................................. Purchasing Agent
Raymond B. Means, M.A. .................................................. Associate Librarian
Thomas E. Moore, B.S. .................................................. Assistant Dean, College of Continuing Studies,
John E. Pearson, A.B.A. .................................................. President
John R. Nye, Ph.D. .................................................. Acting Director, Center for Urban Affairs
James D. Ochsner, M.S. .................................................. Director of Business Services
B. Gale Oleson, Ph.D. .................................................. Director of Counseling
Robert C. O'Reilly, Ed.D. .................................................. Associate Dean, Graduate College
Kirk E. Naylor, Ed.D. .................................................. University Grants Coordinator
John E. Pearson, A.B.A. .................................................. Manager, Duplicating Services
Edwin G. Perkins .................................................. Assistant Superintendent, Physical Plant
Donald E. Peterson .................................................. Construction Supervisor
Larry R. Peterson, B.S. .................................................. Personnel Director
Donald J. Pflasterer, M.Ed. .................................................. Dean of Student Personnel
Ronald L. Pullen, M.S. ........................................... Director, Audio-Visual Department
Fred D. Ray, B.S. ............................................. Director, Student Center Operations and Activities Program
Kenneth R. Rhodus, M.S. ...................................... Director, University Division
Robert J. Robinson, M.S. ...................................... Director, Computer Center
Donald V. Roddy, M.S. ......................................... Assistant Director, Student Aid
Franklin J. Russell, M.A. ...................................... Director, Military Programs
E. William Shacklette, B.A. ................................... Assistant Director, Military Programs
Everts S. Sibbernsen, B.A. ...................................... Program Coordinator

Division of Community Services
Virgil Sharpe, B.A. .............................................. Registrar
Edward J. Smith, M.D. ......................................... University Physician
Hazel C. Spangler ............................................... Secretary to the President
George G. Thompson, B.A. Assistant Dean, College of Continuing Studies
Velma Titzell ..................................................... Cashier
William T. Utley, M.A. ........................................ Dean, The College of Continuing Studies
Harvey Vogler .................................................... Business Manager, Athletics
Anson D. Marston, M.S.C.E., D.Sc. ............................ Dean, College of Engineering & Technology
Warren Wittekind, B.S. ................................. Executive Secretary, Alumni Association
Virgil Yelkin, M.S. .............................................. Director, Athletics
THE COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences offers work toward the degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, and Bachelor of Music as well as pre-professional programs for students planning to enter such fields as medicine, law and theology. The College is organized into 17 departments, grouped under the three large divisions of the Humanities, the Social Sciences, and the Natural Sciences.

The Lower Division of the College, comprising the first two years of work, offers a program of general education with emphasis on breadth rather than depth. Subjects required or recommended for freshmen and sophomores include English, foreign languages, oral communication, mathematics, and basic courses in each of the three subject divisions. A somewhat less flexible program is prescribed for some pre-professional students.

The last two years of the liberal arts program, while essentially a continuation of the Lower Division work, provide for specialization in one or two subject areas. At present, academic majors are available in the following fields: art, biology, chemistry, economics, English, foreign languages and literatures, geography, history, journalism, mathematics, music, philosophy, physics, political science, psychology, science, sociology, speech, and urban studies.

The pre-professional programs of study are determined largely by the requirements of the graduate or professional schools which students intend to enter. If arranged carefully, they provide a sufficient variety of courses so that their objectives are virtually the same as those of the four-year course leading to the degree of Bachelor of Arts.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE

1. **Total hours.** Each candidate must present a total of at least 125 semester hours of college credit.

2. **Quality of work.** Each candidate for the degree must attain an average grade of at least “C” in all college work, including work transferred from other institutions. In his major field the candidate must attain at least a “C” grade in as many credit hours of work as the minimum number required for the major in the department concerned. All grades reported by the faculty to the Registrar become a part of the student’s permanent record and are included in the computation of his grade point average, even though some of these grades may be for work done in excess of the 125 hours required for graduation.

3. **Residence.** Thirty of the last 36 hours required for the degree must be registered for and carried at the University of Nebraska at Omaha.

4. **English.** The requirement in English is six semester hours of credit in courses to be determined by the Department of English.

5. **Foreign Language.** The candidate must present two years of college work in one foreign language or the equivalent thereof as deter-
mined by the Department of Foreign Languages and Literatures. An acceptable equivalent may consist of:
(a) One or one and one-half years of foreign language in high school, plus three semesters of college work in the same language.
(b) Two or two and one-half years of foreign language in high school, plus two semesters of college work in the same language.
(c) Three or three and one-half years of foreign language in high school, plus one semester of college work in the same language.
(d) Four years of work in the same foreign language in high school. All students who wish to continue in college a language begun in high school must take the placement tests before registration in a language section.

A student fulfilling the foreign language requirement through a combination of high school and college work must complete the language chosen through the fourth semester college course.

A student who presents more than 1 and less than 3 years of previous high school language study (or equivalent) and who places by the Placement Tests in an elementary (111) course will receive 2 rather than 4 hours credit toward graduation for that course only if in same language. A student who presents 3 or more years and places in a 111 or 112 course will receive 2 rather than 4 hours credit for both 111 and 112 courses. Succeeding courses will receive full credit. If the time lapse between the previous language study and the semester in which he will continue the language in college is 5 years or more, he will receive full credit for all language courses taken.

6. The Divisions. In general, the requirements in each of the three divisions—Humanities, Natural Sciences, and Social Sciences—is a minimum of 12 credit hours. The specific requirements for each division are as follows:

**Humanities:** (Art, English, foreign languages, journalism, music, philosophy, religion, and speech). The student must present a minimum of 12 hours, with no more than eight from any one subject field. It is specifically noted that the following courses may not be used to satisfy any part of the requirement in humanities: English 105, 109, 111, 112, 205, 217, 219, and 240; Speech 221, 223, 225, 231, 324, 331, 333, 351, 401, 402, 434, and 435; courses in foreign languages bearing numbers below 300, and foreign languages 313 and 335. It is also noted that in the departments of Art and Journalism only the following courses may be used: Art 205, 206, 315, 326, 327, 335, 445, 455, 465, and 475; Journalism 101, 301, 322, 410, 420, 440, 441, 443, 450, 490, and 491.

Each semester of the five-hour survey course in Humanities may be substituted for six hours of departmental courses.

**Natural Sciences:** (Biology, chemistry, physical geography, geology, and physics). The student must present a minimum of 12 semester hours to include at least one laboratory course from each of two of the following groups:
A. Chemistry, physics
B. Geology, physical geography
C. Biology, botany, zoology

Social Sciences: (Economics, geography [except physical geography and geology], history, political science, psychology, and sociology). The student must present a minimum of 12 hours, with no more than 8 from any one subject field.

NOTE: The major is not counted as part of the divisional requirements.

7. Oral Communication. The student must present one course in oral communication of at least 3 credit hours, which may be applied toward the humanities requirement.

8. Mathematics. A student must present three semester hours in an approved course in logic, mathematics, or computer science. The student may be exempted from this requirement by achieving a suitable examination score as determined by the Department of Mathematics.

9. Major Field. Each candidate must present a major including at least 18 credit hours of upper division work designated as appropriate by the faculty in one of the following fields: art, biology, chemistry, economics, English, French, geography, German, history, journalism, mathematics, music, philosophy, physics, political science, psychology, science, sociology, Spanish, speech, urban studies. A candidate meeting the requirements in each of two fields may present a double major in these fields.

10. Maximum hour limits. No candidate may count toward the Bachelor of Arts Degree a total of more than 44 credits in any one department of the College, including the department in which he presents his major.

11. Other limitations on credit granted: nine-hour rule. In general an Arts and Sciences student may apply toward his degree a total of nine semester hours or less in approved courses offered outside the College of Arts and Sciences (or its equivalent in another institution). The only exceptions to this limitation are the following: All credits in the Department of Air Science.
The first four credits in activity courses in physical education.
The courses in the College of Education required for the Nebraska Secondary School Certificate.
Courses necessary for a second major or teaching field, provided the student also completes a major in the College of Arts and Sciences.
Such courses as a department head may wish to recommend for inclusion in an Arts and Sciences major field (e.g. Photography for an Art major or accounting for an economics major).

12. Credits not acceptable. Credit in the following courses may not be applied toward the degrees offered by the College of Arts and Sciences: Chemistry 100, English 109, Mathematics 100, plus courses in other colleges of the University not approved by the Arts and Sciences faculty.
13. **Special provisions for professional students.** Students who have completed 96 semester hours of work at the University of Nebraska at Omaha shall be eligible for the degree of Bachelor of Arts after the satisfactory completion of a year's work in an approved professional college, provided that such students must have completed 12 hours of the upper division hours required in their major field and that the minimum requirements for graduation, except for the total number of hours, have been met. No more than one-sixth of the last 72 or more of the required 96 hours may be transferred from another institution.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE**

Candidates for the degree of Bachelor of Science (in those departments in which it is offered) must meet the basic requirements for the Bachelor of Arts degree, with the exception that they shall present not less than 60 hours credit in mathematics and the natural sciences, but not more than 44 hours in any one department. (Requirements for the degree Bachelor of Science in Public Administration are listed under the Department of Political Science.)

**REQUIREMENTS FOR THE BACHELOR OF FINE ARTS AND BACHELOR OF MUSIC DEGREES**

Candidates for the degrees of Bachelor of Fine Arts or Bachelor of Music must meet all the requirements for the Bachelor of Arts degree, with the following exceptions:

1. **Total hours.** Each candidate must present a total of at least 130 semester hours of credit, rather than 125 hours.

2. **Foreign Language.** The candidate must present one year of college work in a foreign language (or an equivalent approved by the Department of Foreign Languages and Literatures), instead of the two years required for the Bachelor of Arts degree.

3. **Natural Science.** The candidate may present Physics 101 and Biology 102 in lieu of the 12 hours required in the natural sciences or either of these courses in lieu of six hours.

4. The student need not present work in oral communication or in mathematics, logic, or computer science.

5. **Maximum hour limits.** A candidate for the Bachelor of Fine Arts or Bachelor of Music degree may present up to a maximum of 68 hours in his major field (art or music).

**BACHELOR OF ARTS WITH THE SECONDARY TEACHING CERTIFICATE**

Students who plan to teach can meet the requirements for the degree of Bachelor of Arts as well as the requirements for the Secondary Teaching Certificate. Students in the College of Arts and Sciences who are considering the possibility of teaching careers should consult the Dean of the College of Education about the subjects required for the teaching certificate.
PRE-LEGAL CURRICULUM

MR. TRICKETT, Adviser

Students who are preparing to attend a law school should anticipate at least three years of college work, although most law schools require the Bachelor of Arts, or similar degree, for admission.

No program of prescribed studies is outlined for pre-legal students. Rather, and in keeping with the suggestions of the Committee on Pre-Legal Education of the Association of American Law Schools, the academic program of each student is arranged in the way which will best assure the development of those basic skills and insights needed for the study of law. Copies of the summary statement of the Association of American Law Schools may be obtained from the Pre-Legal Advisor or the freshman counselors.

Under requirement 13 for the degree of Bachelor of Arts, students admitted to law school after three years of pre-legal work may complete the requirements for the B.A. degree after the first year in law school.

PRE-MEDICAL CURRICULUM

MR. MARQUARDT, Adviser

Pre-medical students must secure a minimum of 90 semester hours of college credit before making application to enter most medical colleges. Medical colleges ordinarily give preference to students who have received a baccalaureate degree. The pre-medical program must include 12 hours of English (of which one year must be composition), 16 hours in chemistry (must include two semesters of general or inorganic chemistry and a two-semester complete course in organic chemistry), 12 hours in biology, eight hours in a complete physics course which is commensurate with the student's mathematical background, and nine hours of mathematics, which should include calculus. The remainder of the 90 credit hours should be selected to meet the special interests of the student and the basic requirements for the Bachelor of Arts degree. Unless biology is chosen as a major, courses which will be encountered in the medical colleges should not be included.

Under requirement 13 for the degree of Bachelor of Arts, students who take three years of pre-medical work may complete the requirements for the B.A. degree after the first year in medical school. Such students must complete the two-year foreign language requirement, but they may offer six credit hours in philosophy and/or English literature instead of 12 credit hours in the Humanities. They may also present six credit hours in the Social Sciences instead of 12 credit hours.

For the convenience of the student, a general pre-medical program is listed below. The basic science requirements are included, but the large number of electives will allow such flexibility that the student may choose any one of several fields as a major.
SUGGESTED PRE-MEDICAL PROGRAM

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Math. 195 (Calculus I)</td>
<td>Math. 196 (Calculus II)</td>
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<tr>
<td>Chem. 110 (General)</td>
<td>Chem. 120 (General)</td>
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<td>English Composition</td>
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<td>Electives</td>
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<tr>
<td>First Semester</td>
<td>Second Semester</td>
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<tr>
<td>Math. 195 (Calculus I)</td>
<td>Math. 196 (Calculus II)</td>
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<td>Math. 196 (Calculus II)</td>
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<td>Math. 197 (Calculus III)</td>
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<td>Math. 210 (Linear Algebra)</td>
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<td>Eng. Comp.</td>
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<tr>
<td>Electives</td>
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**SECOND YEAR**

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<tbody>
<tr>
<td>Biology</td>
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**THIRD YEAR**

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**FOURTH YEAR**

BACCALAUREATE PROGRAM IN MEDICAL TECHNOLOGY

MR. BUSCH, Adviser

The University of Nebraska at Omaha and the University of Nebraska College of Medicine cooperate in a program leading to the degree Bachelor of Science in Medical Technology. Students enroll for the first three years of their program on the University of Nebraska at Omaha campus. Upon completion of required courses and maintenance of a 2.5 grade point average, they are admitted into their senior year on the Medical Center campus. Satisfactory completion of the year's program qualifies the student for the baccalaureate degree from the College of Medicine and makes him eligible to take the certifying examination given by the Registry of Medical Technologists of the American Society of Clinical Pathologists.

The curriculum at the University of Nebraska at Omaha is listed below. Further information may be obtained by contacting the Medical technology advisor on the UNO campus, or the medical technology teaching supervisor on the Medical Center campus.

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Completion of academic major and other requirements for Bachelor of Arts degree.

* Students with insufficient background in high school mathematics must precede calculus with college algebra and trigonometry (Math. 114).
SECOND YEAR

Chem. 102 Org. .................................. 5
Soc. Sci. .................................. 3
Biol. 275 P & A .................................. 5
Humanities .................................. 3

Psych. 213 Statistics .................................. 3
Speech 101 .................................. 3
Biol. 244 Microbiol. .................................. 4
Humanities .................................. 3
Elective .................................. 3


16

THIRD YEAR

Physics 102 .................................. 5
Chem. 202 Biochem. .................................. 5
Biol. 214 Genetics .................................. 4

Humanities .................................. 3
Soc. Sci. .................................. 3
Electives .................................. 9


14

PRE-NURSING PROGRAM
MISS PATACH, Adviser

The University of Nebraska at Omaha cooperates with the University of Nebraska School of Nursing at the University of Nebraska Medical Center Campus, in offering a pre-nursing curriculum which satisfies the first year's requirements in the Baccalaureate Program and in offering general courses for the Associate Degree Program.

PRE-BACCALAUREATE NURSING CURRICULUM

First Year

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<thead>
<tr>
<th>First Semester</th>
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<tr>
<td>*English 111 ..................</td>
<td>*English 112</td>
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<td>Psychology 101 ...............</td>
<td>Sociology 101</td>
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<td>Chemistry 101 ................</td>
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<td>Biology 102 ...................</td>
<td>Microbiology 244</td>
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<td></td>
<td>Nursing 100</td>
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Registered nurses of accredited Diploma or Associate Degree nursing programs may supplement or enrich their general education, deepen their concept of nursing and increase their competency so that they can become professional nurses in all health fields, including Public Health by completing the pre-nursing curriculum for the University of Nebraska plus other courses selected. See the University of Nebraska School of Nursing Catalog.

Upon satisfactory completion of all requirements the R.N. student will apply for admission to the Baccalaureate Program in the School of Nursing.

ASSOCIATE DEGREE PROGRAM

The Associate Degree Program in Nursing is a two year curriculum which combines general education courses taken at The University of Nebraska at Omaha with nursing courses taken at The University of Nebraska Medical Center Campus. The program is designed to prepare nurses for giving direct patient care in hospitals or similar institutions and it’s graduates are eligible to take examinations for licensing as registered nurses (R.N.). See The University of Nebraska School of Nursing Catalog for further information.

* Electives may be substituted if proficiency is established by examination. English 240 recommended.
The University of Nebraska at Omaha cooperates with the University of Nebraska Department of Radiology at the University of Nebraska Medical Center campus, in offering a pre-radiologic technologist curriculum which satisfies needed college hours for the Baccalaureate and the Associate Degree Programs.

**PRE-BACCALAUREATE CURRICULUM**

**FIRST YEAR**

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<tr>
<th>First Year</th>
<th>Second Semester</th>
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<tr>
<td><em>English 111 or Speech 101</em></td>
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<tr>
<td>Biology 102</td>
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<td>Physics 111</td>
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<td>Economics 201</td>
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**SECOND YEAR**

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<td>Management, 404</td>
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<td>Electronic Tech. 116</td>
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**ASSOCIATE DEGREE CURRICULUM**

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<td><em>English 111</em></td>
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<td>Psychology 101</td>
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Graduates of either degree are eligible for examination by the American Registry of Radiologic Technologists which grants the right to use the title “Registered Technologist” upon successful completion of the examination.

See the University of Nebraska Department of Radiology catalog for further information.

**GENERAL SCIENCE**

Advisers: PRIOR, MARQUARDT, McMILLAN

A major in general science consists of Chemistry 110-120, Physics 111-112 or 211-212, Mathematics 143-153 or Calculus I; Biology 102 and 145 or 175, Geology 117, plus 12-14 credit hours of advanced courses to attain a total of 42-44 hours of credit in the natural sciences.

A teaching field consists of Chemistry 110-120, Physics 111-112 or 211-212, Geology 117, Biology 102 and Biology 145 or 175.

*Electives may be substituted if proficiency is established by examination.

ADVANCED PLACEMENT

Upon recommendation of the appropriate Department Chairman the Curriculum Committee of the College of Arts and Sciences may grant exemptions from the 125-hour requirement for graduation to a maximum of 24 hours. Such recommendation will normally be based on a student's performance in the Advanced Placement Examination of the College Entrance Examination Board but may be based on other evidence of advanced work presented by the student. Department Chairmen may, at their discretion, accept students for advanced placement without credit or exemption from credit.

DEPARTMENTS OF INSTRUCTION

Key to symbols:
I—offered in the first semester of each year
II—offered in the second semester of each year
S—offered in the summer session

DIVISIONAL COURSE IN THE HUMANITIES

101-102 Introduction to the Humanities (I, II) 5 hours each
A functional survey of literature, philosophy, and the arts. During the first semester this survey reveals the ideals which gave meaning to life in the past; during the second semester it emphasizes the variety of ideals which motivate life today.

ART

PROFESSOR HILL (Head);
PROFESSORS BLACKWELL, MAJESKI
ASSISTANT PROFESSOR BUCHANAN, HIGBY, RATLIFF, KING
INSTRUCTOR GARTE

A major will lead to either the Bachelor of Arts or the Bachelor of Fine Arts degree.

The Bachelor of Arts Degree with a major in Art History requires a total of 42 hours. Art 205, 206, 475, 495 and fifteen elective hours in Art History are required. In addition, Art 201 and twelve elective hours in either Art History or Studio are required.

The Bachelor of Fine Arts Degree requires a total of 130 hours, with 66 hours in Art. Eighteen credit hours in the area of Art History and 48 hours in Studio. Freshman-Sophomore requirements are: Art 110, 111, 121, 122, 205, 206, 210, 211, 231, 241, 251, and 261. The junior-senior requirements are individually oriented in terms of the students interests and abilities.

Students who wish to teach Art in Public Schools are required to complete a departmental major of 66 hours in Art which include 9 hours in Art History, 9 hours in Art Education and 48 hours in Studio. The student must also complete the requirements for teacher certification.

Students may also become certified to teach in the Public Schools through the K-12 program administered through the College of Education only. This program requires a total of 57 hours, which includes 9 hours in Art History, 9 hours in Art Education, 30 hours in Studio, and 9 elective hours in either Art History or Studio.
HISTORY AND THEORY OF ART

201 Introduction to Art (I, II, S) 3 hours
A basic introduction to studio work with concentration in the major artistic techniques. Prereq: Non-Art Major.

205 Survey of Art History (I, II, S) 3 hours
A survey of the major developments in painting, sculpture, and architecture from Paleolithic cave paintings through the Middle Ages. Prereq: None.

206 Survey of Art History (I, II, S) 3 hours
A survey of the major developments in painting, sculpture, and architecture from the Renaissance to the 20th century. Prereq: None.

315 Primitive Art History (I, II, S) 3 hours
A study of the artistic products of primitive people past and present. The course includes African, Oceanic, and the Western Hemisphere. Prereq: 206 or Permission.

326 Art of India and South East Asia (I, II, S) 3 hours
A study of the art of India and cultures under its influence, with attention to philosophical and mythological background. Prereq: 206 or Permission.

327 Art of China and Japan (I, II, S) 3 hours
A study of the painting, sculpture and architecture of China and Japan, with emphasis on cultural and philosophical background. Prereq: 326 or Permission.

335 Ancient Art History (I, S) 3 hours
A study of the art of ancient civilizations from 3000 B.C. to about 300 A.D. The course includes ancient Egypt, the Mesopotamian peoples, Pre-Greek and Greek Cultures, Etruscan, and The Romans. Prereq: 206 or Permission.

445 Medieval Art History (I) 3 hours
A study of painting, sculpture, and architecture of the Western World from 300 A.D. to about 1500 A.D. Prereq: 206 or Permission.

455 Renaissance Art History (I, S) 3 hours
A study of painting, sculpture, and architecture in the 15th and 16th centuries in Italy and the Northern countries. Prereq: 206 or Permission.

465 Baroque and Rococo Art History (I) 3 hours
A study of painting, sculpture, and architecture in the Western World during the 17th and 18th centuries. Prereq: 206 or Permission.

475 Modern Art History (II) 3 hours
A study of the art of the Western World in the 19th and 20th centuries. The course includes all of the major developments in painting, sculpture, and architecture in Europe and America. Prereq: 206 or Permission.
495 **Senior Seminar**  
(II) 3 hours  
Individualized problems and discussion related to the history and theory of art. Prereq: Permission.

**ART EDUCATION**

330 **Art for the Elementary Teacher**  
(I, II) 3 hours  
An introduction to the theory and methods of teaching art in the elementary school. Prereq: Junior Standing.

336 **Arts and Crafts**  
(I, II, S) 3 hours  
Experimentation with various art media used in the elementary and secondary schools. Prereq: Junior Standing.

430 **Art for the Secondary Teacher**  
(I, II, S) 3 hours  
Theory and methods of teaching art in the secondary school. Prereq: Junior Standing.

436 **Functional Relationship in Crafts**  
(I, II) 3 hours  
Advanced class in arts and crafts with emphasis on secondary level presentation. Prereq: Junior Standing.

**STUDIO ART**

110 **Drawing**  
(I, II) 3 hours  
Art fundamentals, emphasis on line, value, shape, texture, and the components of art. Prereq: None.

111 **Drawing**  
(I, II, S) 3 hours  
Art fundamentals, emphasis on color and space in drawing. Prereq: 110

121 **Design**  
(I, II, S) 3 hours  
Art fundamentals, emphasis on the design elements of line, value, shape, and texture. Prereq: None.

122 **Design**  
(I, II, S) 3 hours  
Art fundamentals, emphasis on design elements, of color and space. Prereq: 121

181 **Watercolor Painting**  
3 hours  
Covers watercolor techniques, beginning and advanced.

210 **Lifedrawing**  
(I, II, S) 3 hours  
An introduction to drawing of the human form. The goal is to introduce the various materials used in drawing and relate them to the problems of drawing the figure. Prereq: 111 and 122.

211 **Lifedrawing**  
(I, II, S) 3 hours  
Instruction in life drawing to help the student to become aware of unfamiliar forms in the figure. Creative work in materials and ideas. Prereq: 210

231 **Elementary Sculpture**  
(I, II) 3 hours  
241 **Elementary Painting** (I, II, S) 3 hours
Practical instruction in oil painting and related medias. The course gives the student the time and environment to work and develop individually. A strong emphasis is placed on a complete knowledge of contemporary art. Prereq: 122 or Permission.

251 **Elementary Printmaking** (I, II, S) 3 hours
Fundamentals of relief and intaglio techniques. Prereq: 122 or Permission.

261 **Elementary Ceramics** (I, II) 3 hours
Basic methods of forming and decorating pottery, introduction to glaze composition, kiln loading, and firing. Prereq: 122 or Permission.

271 **Lettering** (I, II) 3 hours
Speedball, brush, and mechanical, working with many different kinds of materials to create letter forms. Prereq: 122 or Permission.

272 **Layout** (I, II) 3 hours
Working with design and lettering for commercial advertising. Prereq: 122 or Permission.

281 **Jewelry** (I, II) 3 hours
An introduction to basic jewelry making techniques in copper, enameling, brass, wood, and sterling silver with emphasis on creative design.

331 **Intermediate Sculpture** (I, II) 3 hours
Exploration and continuation of sculpture 231 with additional work in mold making, drip lead casting, and oxyacetylene welding. Prereq: 231.

341 **Intermediate Painting** (I, II, S) 3 hours
Practical instruction in oil painting and related medias. The course gives the student the time and environment to work and develop individually. A strong emphasis is placed on a complete knowledge of contemporary art. Prereq: 241.

351 **Intermediate Printmaking** (I, II, S) 3 hours

361 **Intermediate Ceramics** (I, II) 3 hours
Basic methods of forming pottery on the potter's wheel. Continuation of glaze composition, further development in design and decoration of pottery. Prereq: 261.

431 **Advanced Sculpture** (I, II) 3 hours
Advanced work in area of student's choice, with facilities for oxyacetylene, arc welding, and general metal working. Prereq: 331.
441 **Advanced Painting** (I, II, S) 3 hours
Practical instruction in oil painting and related medias. The course gives the student the time and environment to work and develop individually. A strong emphasis is placed on a complete knowledge of contemporary art. Prereq: 341.

451 **Advanced Printmaking** (I, II, S) 3 hours
Intaglio process stressing technical proficiency in the various media. Prereq: 351.

461 **Advanced Ceramics** (I, II) 3 hours
Advanced work on the potter's wheel, glaze composition, loading and firing of a high-fire kiln. Prereq: 361.

471 **Illustration II** (II) 3 hours
Work in Black and White with techniques covering Commercial Illustration. Prereq: 272.

481-482 **Technical Problems** (I, II, S) Each 3 hours
Advanced and individual problems related to the student's area of studio concentration. Prereq: Permission.

491 **Thesis** (I, II) 3 hours
Individually designed projects in the student's area of studio or Art History concentration. Prereq: Permission.

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**BIOLOGY**

PROFESSORS PRIOR (Head), BROOKS, BUSCH; ASSOCIATE PROFESSORS INGHAM, LUNT, RASMUSSEN; ASSISTANT PROFESSORS DEGRAW, NORDAHL, PATACH; SHARPE, SUTHERLAND; ASSISTANT INSTRUCTORS IRWIN, LEWIS

A departmental or education major in biology requires credit in: Biology 102, 145, 175, 214, 334, 414, 423, and 12-14 hours of biology electives. Chemistry 110-120 and 213-214 or 101, 102 and 202; Physics 102, or 111-112, or 211-212. Mathematics 195 and Psychology 213 are strongly recommended.

A teaching field consists of Biology 102, 145, 175, and 9 hours of biology electives. Chemistry 110-120 or 101, 102.

For the requirements of the General Science major see page 68.

All courses in Biology have both lecture and laboratory unless otherwise indicated.

*102 **Principles of Biology** (I, II, S) 5 hours
An intellectual, esthetic, and scientific approach to the complexities of living things and their interrelationships in nature. Prereq: None.

145 **General Botany** (I, II, S) 5 hours
A comprehensive treatment of classical botany combined with recent developments. Prereq: Biology 102 or advanced placement.

* A student may be exempted from Biology 102 by achieving a suitable examination score as determined by the Department of Biology.
175 General Zoology (I, II, S) 5 hours
A study of the animal kingdom from the standpoint of morphology, anatomy, physiology, biochemistry, genetics, embryology, evolution, and ecology. Prereq: Biology 102 or advanced placement.

214 Genetics (I, II) 4 hours
Facts and theories of heredity and laboratory practice in interpretation. Prereq: Biology 102, 145, or 175.

244 The Biology of Microorganisms (II) 4 hours
A comparative study of microorganisms, principles and applications. Prereq: Biology 102, 145, 175, or equivalent.

275 Physiology and Anatomy of Man (I, II, S) 5 hours

285 Comparative Anatomy of Vertebrates (I, II) 5 hours
The skeletal, muscular, digestive, respiratory, circulatory, endocrine, urogenital, nervous, and reproductive systems. Prereq: Biology 175.

301 Undergraduate Seminar in Biology (I, II) 1 hour
A study of current and past research in any of the divisions of biology as determined by current interest and desirability. Prereq: Biology major or minor.

312 Biological Materials and Laboratory Procedures (I, II) 2 hours
Experiences in assembling materials and equipment necessary to conduct laboratory exercises in biology. Special emphasis is given to the use of materials and equipment to be used in biology projects and research. Prereq: Biology major or permission. Biology 145, 175.

323 Microtechnique (I) 3 hours
A course in the techniques of collection, fixation, dehydration, staining, clearing and mounting of biological material in the process of the manufacture of microscope slides. Prereq: Two years of biological sciences.

334 Ecology (I, S) 4 hours
The study of the behavior of whole organisms and groups of organisms in relation to their total living and non-living environment. Prereq: Biology 145, 175; Junior-Senior.

344 Morphology of Lower Plants (I) 4 hours
A lecture and laboratory course which covers the ecology, morphology, and evolutionary trends of algae, fungi, and bryophytes. Prereq: Biology 145; Junior-Senior.

353 Flora of the Great Plains (I, S) 3 hours
The classification, identification, and recognition of common vascular plants, including weeds, ornamentals, and indigenous plants, found in the Great Plains. Prereq: Biology 145; Jr.-Sr.
354 **Morphology of Higher Plants**  (II) 4 hours
A lecture and laboratory course covering the living and fossil vascular plants with emphasis on morphology, ecology, and evolutionary trends. Prereq: Biology 145; Junior-Senior.

363 **Plant Anatomy**  (I) 3 hours
A study of cells, tissues, and organs of vascular plants with particular emphasis on internal structure of seed plants. Prereq: Biology 145; Junior-Senior.

373 **Fauna of the Great Plains**  (II, S) 3 hours
A survey of the common animal groups found in the Great Plains, including their evolution, ecology, distribution and specific adaptations to the environment of the temperate North American grasslands. Prereq: Biology 145, Biology 175. Junior-Senior.

374 **Histology**  (I) 4 hours
The microscopic anatomy of tissues and organs, their adaptations, and functional significance. Prereq: Biology 175, and a course in vertebrate anatomy. Junior-Senior.

384 **Embryology**  (II) 4 hours
An intensive study of the embryology and development of the vertebrate animal, particularly the human, from gametogenesis through organogenesis as revealed by a study of selected vertebrate embryos and fetuses. Prereq: Biology 175 and a course in vertebrate anatomy; Junior-Senior.

402 **Problems and Projects in Biology**  (I, II, S) 2 hours
Individual field and laboratory work of an investigational nature involving research, library research, conferences, and a written report. Prereq: At least two years of work in biology; written permission of biology advisor; Junior-Senior.

414 **Cellular Biology**  (I) 4 hours
This course is a comprehensive study of the structure and function of plant and animal cells. Prereq: Biology 145, 175 and 214; organic chemistry and physics. Junior-Senior.

418 **Limnology**  (II, S) 4 hours
A study of the physical, chemical, and biotic relationships that serve to establish and maintain plant and animal communities in a fresh water environment. Prereq: Biol. 145, 175, and organic chemistry. Junior-Senior.

423 **Organic Evolution**  (II) 3 hours
A study of organic evolution in terms of evidences which support the theory and the mechanisms involved in the process. Prereq: Biology 214. Junior-Senior. Lecture only.

427 **Animal Behavior (same as Psychology 427)**  (I, II) 3 hours
Behavior of diverse animals will be studied—primarily to develop an understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. Prereq: Biology 175 or Psychology 101 or permission. Junior-Senior.
433 **Bryology** (I) 3 hours
A course in the identification, classification, ecology, and distribution of bryophytes. Prereq: Biology 344 or permission of the instructor. Junior-Senior.

444 **Plant Physiology** (II) 4 hours
A study of plant processes and functions with particular emphasis on photosynthesis, respiration, mineral nutrition, and morphogenesis. Prereq: One year of botany; chemistry 214 or 102; and physics. Junior-Senior.

454 **Taxonomy of Vascular Plants** (II) 4 hours
The identification, nomenclature and classification of vascular plants with emphasis on gymnosperms and angiosperms. Prereq: Biology 145. Junior-Senior.

464 **General Bacteriology** (I) 3 hours
The nature of microorganisms, their life processes, their biological and economical significance. Prereq: Biology 145; Chemistry 214 or 102. Junior-Senior.

473 **Endocrinology** (II) 3 hours
A survey of endocrine physiology stressing the regulative and integrative roles of hormones, the control of hormone secretion, and mechanisms of hormone action. Prereq: Organic Chemistry, Vertebrate Anatomy, and Physiology or permission of the instructor. Junior-Senior.

474 **Animal Physiology** (II) 4 hours
This course is a comprehensive study of the functions of the animal body systems. Prereq: Biology 175, vertebrate anatomy, organic chemistry, and physics. Junior-Senior.

478 **Vertebrate Zoology** (I) 4 hours
A study of the general biology of the subphylum Vertebrata including the morphology, anatomy, physiology and ecology of vertebrate representatives. Prereq: Biol. 175; Junior-Senior.

484 **Parasitology** (II) 4 hours
Taxonomy, morphology, life history, dissemination, and control of the parasitic protozoans, helminths, and arthropods. Prereq: Biol. 175; Junior-Senior.

488 **Invertebrate Zoology** (II) 4 hours
A field-oriented course emphasizing the taxonomy and natural history of the invertebrate animals. Prereq: Biology 175; Junior-Senior.

494 **Entomology** (II) 4 hours
The study of insects, their classification, morphology, physiology, behavior, life histories, ecology, and evolution. Prereq: Biol. 175; Junior-Senior.

498 **Ornithology** (II, S) 4 hours
An introduction to the general biology of birds, including their anatomy, physiology, behavior, ecology, classification and identification with emphasis on North American groups. Prereq: Biology 175. Junior-Senior.
501 **Seminar in Biology** (I, II, S) 1 hour
A study of current research in any of the divisions of biology.
Prereq: Graduate student in biology.

502 **Problems in Biology** (I, II, S) 2 hours
Research investigation in various areas of biology. Prereq:
Sufficient work in biology and the ancillary sciences necessary
to pursue adequately the area of investigation involved.

516 **Experimental Genetics** (II) 3 hours
Lecture and laboratory involving experimentation with organ­isms such as *Drosophila* spp., *Neurospora* spp., *E. Coli* and *T* phage. Prereq: Biology 214.

573 **Environmental Physiology** (I) 3 hours
A detailed study of selected dynamic environmental factors and
mechanisms of physiologic adaptation by organisms of various
taxa. Prereq: General Physics, Algebra, Animal Physiology, or
permission of the instructor. Graduate.

601-602 **Thesis** (I, II, S) 3 hours
Independent research project written under the supervision of a
faculty committee.

**MEDICAL TECHNOLOGY PROGRAM**

**MED TECH 101** **Introduction to Medical Technology** (I) 1 hour
Aims and career opportunities in Medical Technology.

**PRE-BACCALAUREATE NURSING**

**NURSING 100** **Introduction to Professional Nursing** 1 hour
Study of major historical and current events as they shape the
present and future character of professional nursing and other
health team member roles.

**CHEMISTRY**

PROFESSORS MARQUARDT (Head), KEPEL, LINSTROMBERG;
STAGEMAN; ASSISTANT PROFESSORS HOBURG, KEMNITZ,
WOOD; INSTRUCTOR SULLIVAN; ASSISTANT
INSTRUCTOR HENNING

A Bachelor of Arts in chemistry primarily intended for the teachers of
chemistry, pre-professionals, chemical technologists and chemistry majors
not planning to take graduate work consists of 28-32 hours of chemistry.
The required courses are Chemistry 110-120, 213-214, 230 and a complete
course in Physical Chemistry. Additional hours may be selected from
Chemistry 202, 361, 410, 423, and 424. Mathematics through Math 195
must be included in the supporting subjects as well as a foreign language
and one year of college physics.

The B.S. Degree in Chemistry, intended for chemistry majors planning
to take graduate work, consists of 42 to 49 credit hours including Chem­
istry 110, 120, 213, 214, 349, 350, 361, 410, and 11 to 18 credit hours selected
from Chemistry 230, 313, 314, 411, 412, 423, 424, 493-494, and 495-496. At
least two semesters of calculus (195-196), one year college physics (211-212), and a reading knowledge of Russian or German* must be included in the supporting subjects.

101 **College Chemistry** (I,II) 5 hours

102 **Elementary Organic Chemistry** (1,II) 5 hours
Chemistry of carbon compounds. A one-semester terminal course. (Lect.-3, Disc.-1, Lab.-4). Prereq: Chemistry 101 or 120.

110 **General Chemistry and Qualitative Analysis** (I, II, S) 4 hours
A comprehensive survey of chemical principles primarily for students planning a professional course. (Lect. 3, Lab. 4) Prereq: High school chemistry with a grade of C or above or Chemistry 100 with a grade of C or above; and high school algebra and trigonometry or Mathematics 114.

120 **General Chemistry and Quantitative Analysis** (I, II, S) 4 hours
Continuation of a comprehensive survey of chemical principles with emphasis on rates of reactions and chemical equilibria as applied to quantitative analysis. (Lect. 3, Lab. 4) Prereq: Chemistry 110 with a grade of C or better.

202 **Elementary Biochemistry** (I) 4 hours
An introduction to the chemical components and reactions of living matter. (Lect.-3, Lab.-4) Prereq: Chemistry 102 or 214 and Biology 275.

213-214 **Organic Chemistry** (Chem. 213, I) (Chem. 214, II) Each 4 hours
The fundamental chemistry of the carbon compounds. (Lect.-3, Lab.-4) Prereq: For Chemistry 213: Chemistry 120 with a grade of C or above; For Chemistry 214: Chemistry 213 with a grade of C or above.

230 **Elementary Quantitative Analysis** (I) 4 hours
Classical and standard non-instrumental methods of quantitative analysis. (Lect.-2, Lab.-8) Prereq: Chemistry 120 with a grade of C or above.

313-314 **Organic Preparations** (Chem. 313, I) (Chem. 314, II) Each 1-3 hours
An advanced laboratory course in the synthesis of more complex organic compounds. (Lab.-4-12) Prereq: Chemistry 214.

349-350 **Physical Chemistry** (Chem 349, I) (Chem 350, II) Each 4 hours
An introduction to thermodynamics and atomic and molecular structure and the application of these concepts to thermochemistry, equilibrium, solutions, electrochemistry, kinetics, solids, and chemical bonding. (Lect.-3, Lab.-4) Prereq: For Chem 349: Chemistry 230 and 214, Physics 212, Math 196; For Chemistry 350: Chemistry 349 with a grade of C or above.

* Usually 2 years of college German or Russian.
361 Instrumental and Advanced Quantitative Analysis (II) 4 hours
Instrumental, physico-chemical, and special methods applied to quantitative analysis. (Lect.-2, Lab.-8) Prereq: Chemistry 350 (may be taken concurrently).

410 Advanced Inorganic Chemistry (II) 3 hours
Theories of chemical bonding, the determination of chemical structures, and the application of modern techniques to classical and recent problems in inorganic chemistry (Lect.-3) Prereq: Chemistry 350 (may be taken concurrently).

411-412 Advanced Inorganic Chemistry Preparations
(Chem. 411, I) (Chem. 412, II) Each 1 hour
Laboratory preparation of representative types of inorganic compounds by various standard and special experimental techniques. (Lab.-4) Prereq: Chemistry 410 (may be taken concurrently).

423 Advanced Organic Chemistry (I) 3 hours
An advanced lecture course in modern theories and special topics. (Lab.-3) Prereq: Three years of college chemistry including Chemistry 214.

424 Identification of Organic Compounds (II) 3 hours
A laboratory course in the systematic identification of organic compounds by classification reactions, spectral analysis, and the preparation of derivatives. (Lect.-1, Lab.-8) Prereq: Three years of college chemistry including Chemistry 214.

493-494 Biochemistry (Chem. 493, I) (Chem. 494, II) Each 4 hours

495-496 Problems in Chemistry
(Chem. 495, I) (Chem. 496, II) Credit arrg.
Independent student research. Prereq: Three years of chemistry and permission of instructor.

503 Research in Chemistry (I, II, S) Credit arrg.
Provides the student with an opportunity for experience in the solving of an actual research problem in the field of chemistry. Prereq: Permission of instructor.

ECONOMICS
PROFESSORS STEELE (Chairman),
KAYSER PROFESSOR OF ECONOMICS;
ADJUNCT PROFESSOR KLEMME;
ASSOCIATE PROFESSOR TURNER;
ASSISTANT PROFESSORS ANTHES, BETTER, CONNELL, DRAKE,
KERCHEMER, McCUNE, AND STOLEN;
INSTRUCTORS KIRBY, TUSH AND WEST.

A major in the Department of Economics consists of a minimum of 30 hours. The following specific courses are required:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Principles of Economics</td>
<td>6</td>
</tr>
<tr>
<td>320</td>
<td>Economic Theory—Micro</td>
<td>3</td>
</tr>
<tr>
<td>322</td>
<td>Economic Theory—Macro</td>
<td>3</td>
</tr>
<tr>
<td>345</td>
<td>Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>313</td>
<td>Statistics (See Bus. Adm.)</td>
<td>3</td>
</tr>
<tr>
<td>300 or 400-level</td>
<td>Economic Electives</td>
<td>6</td>
</tr>
<tr>
<td>400-level</td>
<td>Economic Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Majors considering graduate work in economics would do well to secure a background in mathematics through calculus.

Students who wish to teach economics in secondary schools may follow the major program and complete requirements for the Secondary Teaching Certificate, or they may major in the College of Teacher Education, in which case they must take a program recommended by the Economics Department.

A major in urban studies consists of 36 semester hours selected from the courses listed below. At least 3 semester hours must be completed in each departmental area (economics, geography, political science, and sociology) plus 15 hours in one of the above fields. The remaining 9 hours of electives will be scheduled in consultation with the department chairman.

The following courses may be used to satisfy the urban studies major.

- Business Administration: 344, 347\(^*\), 440.
- Economics: 312, 355, 456\(^*\).
- Geography: 313, 353, 363, 412\(^*\), 443\(^*\).
- Political Science: 216, 301\(^*\), 317\(^*\), 319, 440, 441.
- Sociology: 210, 361, 402, 410\(^*\), 414\(^*\), 462, 475.

\[201\] **Principles of Economics** (I, II, S) 3 hours

Modern economic concepts and ideas are introduced and related to the understanding of human behavior. A study of how limited resources are used in relation to the macro-problems of national income, employment, growth, and money.

\[202\] **Principles of Economics** (I, II, S) 3 hours

A continuation of Econ 201 with emphasis upon pricing, markets for products and resources, and the international and comparative systems. Prereq: Econ 201.

\[311\] **American Economic History to 1865** (same as Hist. 311) (I) 3 hours

A study of our agricultural, commercial, financial, and industrial society, from Colonial times through the Civil War. Prereq: Econ 201, 202.

\[312\] **American Economic History Since 1865** (same as Hist. 312) (II) 3 hours

A continuation of Econ 311 from the Civil War to the present. Prereq: Econ 201, 202.

\[313\] **Economic Geography** (same as Geog. 313) (I, II, S) 3 hours

An intensive study of commercial production in agriculture, fishing, forestry, mining, and manufacturing as related to geographic factors. Prereq: Econ 201, 202.

\(^*\) Courses marked with an asterisk are to be given priority by students majoring in urban studies.
315 **Labor Economics** (I, II, S) 3 hours
An historical and analytical survey of developments in the field of labor. Prereq: Econ 201, 202.

320 **Economic Theory: Micro** (I, II, S) 3 hours
An advanced theory course including the economics of the firm and price analysis. Prereq: Econ 201, 202.

322 **Economic Theory: Macro** (I, II, S) 3 hours
Macroeconomics concerns itself with the output, income and growth of the U.S. Economy as a totality. Prereq: Econ 201, 202.

335 **Economic Systems** (II) 3 hours
An analysis of the underlying concepts and characteristic features of the major economic systems as exemplified by capitalism, communism, and socialism. Prereq: Econ 201, 202.

345 **Money and Banking** (I, II, S) 3 hours
A banking approach to the fundamentals of the monetary and banking system. Prereq: Econ 201, 202.

351 **Economic History of Europe to 1760** (same as Hist. 351) (I) 3 hours

352 **Economic History of Europe Since 1760** (same as Hist. 352) (II) 3 hours
A survey of agricultural, commercial, financial and industrial European society, together with the development of economic thought from 1760 to the present. Prereq: Econ 201, 202.

355 **Public Finance** (I) 3 hours
Theories of taxation and principles of public expenditure. Prereq: Econ 201, 202.

365 **International Economics** (I) 3 hours
Principles and financing of international trade. Monetary, tariff and lending policies. Prereq: Econ 201, 202.

411 **Government and Labor** (II) 3 hours
Provides a background of knowledge and understanding of the development of public policy, the regulation of labor by government and the relationship of the various levels of government to labor. Prereq: Econ 315.

412 **Urban Geography (Same as Geography 412)** 3 hours

418 **Collective Bargaining** (I, II) 3 hours
A study of the issues, structures and procedures involved in collective bargaining, and the settlement of disputes, as centered around the labor-management contract. Prereq: Econ 315.

421 **Advanced Firm and Industry Theory** (I) 3 hours
The effects of changes in conditions of supply and demand under alternative market structures affecting firm and industry are examined. General equilibrium and welfare economics are introduced. Prereq: Econ 320.
423 Advanced Macro-Theory (II) 3 hours
A study of the level of income, production, employment, and growth. Classical and Keynesian systems are contrasted, with recent theoretical paths being explored. Prereq: Econ 322.

426 History of Economic Thought (II) 3 hours
From Mercantilism to the modern period. Focus is on the interactions of institutional milieu, thought and economic doctrine. Prereq: Econ 201, 202.

430 Econometrics (I) 3 hours
The study and application of modern statistical and mathematical procedures to theoretical economic models. Prereq: Elementary statistics, Econ 201 and 202, Math 195, 196, 211 or equivalent.

436 Comparative Economic Philosophy (I) 3 hours
The mainstreams of political and economic philosophy are examined in order to understand both the political basis of comparative economic systems as well as to judge the political consequences of changing economic policy. The emphasis is prior to the twentieth century. Prereq: Econ 320.

437 Contemporary Economic Philosophy (II) 3 hours
A continuation of Economics 436 with emphasis upon contemporary writers and thinkers. Prereq: Econ 322.

443 Geography of Manufacturing (same as Geog. 443)

445 Monetary Theory and Policy (I) 3 hours
The role of money in the stabilization at high levels, production, employment, income and prices. Emphasis is on contemporary problems. Prereq: Econ 345.

446 Economics of Commercial Banking (II ao) 3 hours
The economics of the individual commercial bank; banking laws; organization; management of reserve; lending and investing procedures and policies. Prereq: Econ 345.

456 State and Local Finance (II ao) 3 hours
Economic resource allocation problems of state and local government, with particular reference to Nebraska and Omaha. Prereq: Econ 201 and 202.

466 Economic Development (II) 3 hours
Problems relating to early stages of economic development; investment priorities, mobilizing savings and policies and programs are studied. Prereq: Econ 201-202.

480 Managerial Economics (II) 3 hours
Economics applied in decision making, with special emphasis on application of the micro theory. It aims to bridge the gap between theory and managerial practice, stressing the measurement of theoretical concepts, collection and evaluation of information and comparison of alternatives. Prereq: Econ 320.
485 **Economics in Urban Areas** (I) 3 hours
An analysis of urban growth and development within the framework of economic theory. The discussion centers around urban growth, the goals of the urban economy, urban problem areas, and policy issues. Prereq: Econ 320 or 322.

487 **Regional Economics Growth and Development** (II) 3 hours
A background in regional economic development and theories. Knowledge regarding the structure, stability, and growth of regions. An Intelligent critique of policies that have been and are being applied. Prereq: Econ 320 or 322.

491 **Internship in Local Government** (same as Pol. Sci. 491)
Credit 2 hours per sem, to a max. of 6

495 **Special Topics** (I, II, S) 1-3 hours
Individual investigations of special problems in economics for majors. Prereq: Permission of Department Head.

496 **Special Topics** (same as Econ 495) (I, II, S) 1-3 hours
Prereq: Permission of Department Head.

505 **Economic Education** (I) 3 hours
Open to any graduate student with no previous college work in economics who is teaching K-12. Not open to majors in Economics. A study and examination of economic principles and how they can be related to the teacher's classroom presentation. This course is designed to furnish the public school teacher (K-12) with sufficient background and understanding to aid in the recognition of economic issues and the teaching of economic concepts and principles.

506 **Economic Education** (II) 3 hours
A continuation of Econ. 505.

507 **Economic Education Institute** (S) 3 hours
A study and an in depth examination of selected economic topics and their relation to citizens, students, teachers, community and society. Prereq: Permission by Director of the Institute.

510 **Economic Security** (I) 3 hours
The analysis and discussion of problems and programs of economic security, emphasizing historical developments, present programs, possible future developments, and various arguments and proposals. Particular attention will be given, especially through student research, to programs aimed at reducing urban poverty. Prereq: Permission of Instructor.

516 **Seminar in Labor Economics** (I ao) 3 hours
A study and investigation of current developments and issues involving labor institutions, labor relations, wage theories and employment policies. Local and regional studies will be stressed. Prereq: Six hours of credit in undergraduate labor economics or permission.
520 Seminar in Micro Theory 
(I) 3 hours
This seminar develops modern micro-economic theory with emphasis on utility functions and demand, production functions and cost, price, and non-price policy of the firms, market and multi-market equilibrium. Emphasizes theoretical methods and techniques as well as specific content. Prereq: Econ 320.

521 Micro-economic Theory 
(I, II, S) 3 hours
Microeconomics for graduate students of Business. Economic analysis of the business firm and its environments, with emphasis on market structure, production possibilities, and cost factors. Recent developments in the theory of the firm and operations research will be investigated. Prereq: Graduate standing in the College of Business Administration.

522 Seminar in Macro Theory 
(II) 3 hours
A brief review of the standard national income accounting and the more recent development of the flow-of-funds analysis. A study of the evolution and establishment of the Keynesian economics, its relationship to the classical macro-theory and the many refinements of the Keynesian model. To learn some extensions of the Keynesian theory, especially in connection with inflation, investment, and economic growth. A development of understanding of recent work in fiscal and monetary theory. Prereq: Econ 322.

523 Macro-economic Theory 
(I, II, S) 3 hours
A study of modern income theory and policy. The development of modern aggregate theory is reviewed. Recent fiscal and monetary policies regarding employment, inflation, investment, and economic growth are examined. Problems of applying policy in a dynamic economic environment are emphasized. Prereq: Graduate standing in the College of Business Administration.

530 Econometrics 
(II) 3 hours
The study and application of statistical and mathematical techniques in economic research. Prereq: Econ 430 or consent of Instructor.

540 Seminar in American Economic History to 1865 
(See History) 
(I) 3 hours

541 Seminar in American Economic History Since 1865 
(See History) 
(II) 3 hours

545 Seminar in Money and Banking 
(II) 3 hours
Original research and writing of papers on basic problems in the area of money and banking. Required of all Economics majors. Prereq: Six hours in undergraduate monetary courses or permission of the instructor.

565 Seminar in International Economics 
(I ae) 3 hours
Original research and critique of current issues in international economic theory, policy, and institutions. Prereq: Econ 365 or 466, or Permission of Instructor.
580 **Independent Study in Topics on Urbanism** 1 hour per sem. to 3
Graduate student research on an individual basis under faculty supervision in topics pertaining to urbanism. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Geography, Political Science and Sociology.)

581 **Urban Seminar in Metropolitan Planning and Development** (see Geography 581) 3 hours

583-584 **Interdisciplinary Seminar on the Urban Community** 3 hours per sem. to 6
An interdisciplinary course on the metropolitan community in which various departmental and college offerings concerned with urban problems are put in broad interrelated focus. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Geography, Political Science and Sociology.)

585-586 **Urban Economics** (I, II) 3 hours each
An examination of the theoretical basis for the analysis of urban economic problems with emphasis upon the policy alternatives applicable toward their possible solution. Separate credit may be received for each course. Prereq: At least 6 hours of upper division course work in economics or permission of the Instructor.

587-588 **Regional Economics** (I, II) 3 hours each
An examination of the current developments and issues involving regional economic development and planning. These courses provide the theoretical basis for understanding and analysing economic problems of a regional nature. In addition, policy alternatives, decision making, and measurement techniques are examined. Prereq: At least 6 hours of upper division course work in economics or permission of the instructor.

598-599 **Urban-Regional Research** (I, II, S) 3 hours each
Chiefly for Master of Science Degree candidates in Economics in lieu of thesis. Consists of a study in Urban Economic problems, employing research techniques. Students do independent research consulting with advisor, and submitting completed report to a departmental committee. Prereq: Permission of graduate advisor.

601-602 **Thesis** (I, II, S) 3 hours each
An independent research project, written under the supervision of a graduate advisor in the department of Economics. Approval of the topic and the completed project by the student's departmental committee is required. Prereq: Permission of graduate advisor.

(ae) Alternate even years
(ao) Alternate odd years
Students who elect a major in English literature must pass, as prerequisites, English 231* and 232, History 261 and 262, and either English 245* and 246 or English 251 and 252. To complete the requirements for the major they must pass, with a grade of “C” or above, one course (or the equivalent) from each of the following groups:

(a) English 468  
(b) English 434 or 472  
(c) English 433, 448, or 450  
(d) English 460  
(e) English 440 or 465  
(f) English 481 or 482  
(g) English 283, 285, or 360  
(h) English 353

Students who elect a major in American literature must pass, as prerequisites, English 245* and 246, History 111 and 112, and either English 231* and 232 or English 251 and 252. To complete the requirements for the major, they must pass, with a grade of “C” or above, one course (or the equivalent) from each of the following groups:

(a) English 468  
(b) English 460  
(c) English 440 or 465  
(d) English 481 or 482  
(e) English 497  
(f) English 498  
(g) English 283, 285, or 360  
(h) English 353

Students who elect a major in Creative Writing must pass, as prerequisites, English 231* and 232, English 240, and English 246. To complete the major, they must pass, with a grade of “C” or above, one course (or the equivalent) from each of the following groups:

(a) English 331  
(b) English 421  
(c) English 434 or 472  
(d) English 422  
(e) English 460  
(f) English 440, 465, or 497  
(g) English 481 or 482  
(h) English 283, 285 or 360

Students who choose English as their major field for secondary teaching may elect (1) either of the first two majors described above, in which case, they must satisfy the requirements for the Secondary Teaching Certificate, or (2) a major in the College of Education, in which case, they must pass, as prerequisites, English 231* and 232, History 261 and 262, English 245* and 246, and English 240. They must also pass, with a grade of “C” or above, one course (or the equivalent) from each of the following groups:

(a) English 468  
(b) English 460  
(c) English 481, 482, or 497  
(d) English 225, 283, or 285  
(e) English 353

*English 217 substitutes for English 231.

*English 219 substitutes for English 245.
Students who choose English as their minor field for secondary teaching must pass, as prerequisites, English 231* and 232, and English 245* and 246. In addition, they must pass with a grade of “C” or above, English 353, English 468, and nine hours in English courses above the freshman level (not more than three of which may be at the 200-level).

†90 English Fundamentals (I, II) 3 hours
Basic review of grammar, usage, sentence structure, paragraph building, punctuation, and spelling; plus work in vocabulary building.

105 Reading Improvement (I, II, S) 1 hour
Beginning course designed to help students improve comprehension, increase reading speeds, establish proper study techniques, and develop vocabulary.

110 English for the Foreign Born (I, II) 3 hours
The study of pronunciation and phonetics; written composition, reading and vocabulary; and aural comprehension—designed to prepare the student of foreign birth for subsequent work in English. Prereq: Permission

111 Elementary English Composition (I, II, S) 3 hours
The minimum essentials of correct writing. Prereq: English 109 or proficiency.

112 Intermediate English Composition (I, II, S) 3 hours
The theory and practice of correct, clear, and effective writing and of intelligent reading. Prereq: English 111 or proficiency.

205 Reading Improvement (I, II, S) 1 hour
An advanced course for students who have potential to improve their reading speeds without significant loss of comprehension.

217 English Literature to 1750 (I) 3 hours
A survey of the development of English literature before 1750 supplemented by frequent written exercises. Prereq: Proficiency. (Freshmen only)

219 American Literature to 1855 (I) 3 hours
A survey of the development of American literature before 1855 supplemented by frequent written exercises. Prereq: Proficiency. (Freshmen only)

225 The Short Story (I, II) 3 hours
Readings in the modern short story, with particular attention to literature as a reflection of life and to form as an outgrowth of content. Prereq: English 112 or proficiency.

227 Introduction to Poetry (II) 3 hours
An analysis of poetry from a great variety of periods in the Anglo-American tradition, proceeding from analysis of various poems and poetic techniques to critical judgment of many different types of poems.

* English 217 substitutes for English 231.
* English 219 substitutes for English 245.
† Credit not allowable toward degrees in the College of Arts and Sciences.
Introduction to English Literature (I, II, S) 3 hours
Major contributions to English literature from Beowulf to Swift. Prereq: English 112 or proficiency.

Introduction to English Literature (I, II, S) 3 hours
Continuation of English 231, from Samuel Johnson to the present. Prereq: English 112 or proficiency.

Black Literature in America (I, II) 3 hours
A survey of American literature by black authors from 1760 through the present. Prereq: English 112 or proficiency.

Expository Writing (I, II) 3 hours
Discussion of and practice in the various types of expository writing. Prereq: English 112 or proficiency.

American Literature (I, II, S) 3 hours
A survey of American literature to the Civil War. Prereq: English 112 or proficiency.

American Literature (I, II) 3 hours
A survey of American literature since the Civil War. Prereq: English 112 or proficiency.

World Literature (I) 3 hours
A survey of European literature in translation from Homer to Cervantes. Prereq: English 112 or proficiency.

World Literature (II) 3 hours
A survey of European literature in translation from Rabelais to Camus. Prereq: English 112 or proficiency.

The Contemporary Novel (I) 3 hours
A study of some of the most important ideas, techniques, and authors of the British and American novels of the twentieth century. Prereq: English 112 or proficiency.

Contemporary British and American Drama (II) 3 hours
Readings in British and American plays written since 1900, with emphasis on problems of form and content rather than historical development. Prereq: English 112 or proficiency.

Narrative Writing (I, II) 3 hours
Basic course in fiction writing. Prereq: English 112 or proficiency.

Modern English Grammar (I, II) 3 hours
An analytical study of the English language, stressing structural and transformational grammar in comparison with traditional grammar. Prereq: Upperclass standing and major or minor in English.

Contemporary Poetry (II) 3 hours
British and American poetry since 1900. Prereq: English 232.

Creative Writing (I) 3 hours
Advanced course in fiction writing. Prereq: English 331 or permission of the instructor.
422 Creative Writing (II) 3 hours
Advanced course in fiction writing. Prereq: English 331 or permission of the instructor.

433 Sixteenth Century Literature (I) 3 hours
Poetry and prose of the English Renaissance, from its continental origins to the end of the Elizabethan Age. Prereq: English 231.

434 Chaucer (I) 3 hours
A literary and linguistic study of the works of Chaucer, with emphasis on *The Canterbury Tales*. Prereq: English 232.

440 Eighteenth Century Literature 3 hours
Readings in the major authors of the Age of Pope and the Age of Johnson. Prereq: English 231 or 232.

448 Seventeenth Century Literature 3 hours
English poetry and prose of the seventeenth century—especially Donne and Milton. Prereq: English 231.

450 English Drama Before 1642 (II) 3 hours
A study of the development of the English drama, exclusive of Shakespeare, from the beginnings to 1642. Prereq: English 231.

458 Linguistics (S) 3 hours
A study of the phonology, morphology, and syntax of modern English, with particular emphasis on current research in the theory of grammars. Prereq: Permission of instructor.

460 Shakespeare (I, II) 3 hours
A critical study of twelve major plays of Shakespeare. Prereq: English 231.

465 The English Novel (II) 3 hours

468 History of the English Language (I, II) 3 hours
A study of the structural development of the English language. Prereq: English 231.

472 Medieval English Literature 3 hours
A survey of the principal writings in English, excluding those of Chaucer, from 1100 to 1500. Prereq: English 231.

481 Literature of the Romantic Period 3 hours
Poetry and prose (excluding the novel) of England from 1798 to 1830. Prereq: English 232.

482 Literature of the Victorian Period (I) 3 hours
English poetry and prose (excluding the novel) from 1830 to 1900. Prereq: English 232.

497 The American Novel (II) 3 hours
A critical and historical study of the work of twelve major American novelists of the nineteenth and twentieth centuries. Prereq: English 246.
The American Drama (I) 3 hours
A study of the American drama and its theatrical background from the beginning to the present day, with concentration on the drama of the twentieth century. Prereq: English 112 and permission of instructor.

Introduction to Literary Research (I) 3 hours
A survey of the techniques of literary research, history and interpretation, with a primary emphasis on methods of scholarship currently useful to the study of English and American literature.

Seminar: Literary Criticism 3 hours
A study of the history of literary criticism from the beginnings to the present time, with emphasis on the criticism of ancient Greece and Rome, nineteenth century England, and twentieth century America. Prereq: Graduate standing or permission of the head of the Department of English.

Seminar: American Literature 3 hours
Individual research and group discussion relating to a general topic in American literature. Prereq: Graduate standing or permission of the head of the Department of English.

Seminar: The English Renaissance 3 hours
A seminar in a few significant literary figures of the English Renaissance. Prereq: Graduate standing or permission of the head of the Department of English.

Seminar: Restoration and Early 18 Century (I, II) 3 hours
A study of selected authors and works of the Augustan age of English Literature: 1600-1750. Prereq: Graduate standing.

Seminar: Victorian Literature 3 hours
An intensive study of selected Victorian authors and their works. Prereq: Graduate standing or permission of the head of the Department of English.

Seminar: Shakespeare 3 hours
Critical analysis of ten tragedies or ten comedies of Shakespeare. Prereq: Graduate standing or permission of the head of the Department of English.

Seminar: Milton (I, II) 3 hours
Intensive seminar in the works of John Milton and investigation of critical and scholarly works. Prereq: Graduate standing.

Seminar: English Literature: 1750-1830 3 hours
Studies in the transitions between English literature of the Age of Johnson and that of the Age of Wordsworth. Prereq: Graduate standing.

Seminar: Medieval Literature 3 hours
A study of the rationale and techniques of medieval allegory. Prereq: Graduate standing and English 434 or English 472.
Seminar: Chaucer
3 hours
An analysis of the selected works of Chaucer, his sources, and analogues. Prereq: Graduate standing and English 434 or English 472.

Thesis
Each 3 hours
Prereq: Graduate standing.

FOREIGN LANGUAGES AND LITERATURES
PROFESSOR MOST (Head);
ASSISTANT PROFESSORS ELLER, JUNG, LUNA, THILL, TODD;
INSTRUCTORS CHERICA, DOSENOVICH, GARCIA, GULLUM,
MOORE, ROCHE, SOUKUP, THOMPSON, VALLE;
ASSISTANT INSTRUCTOR THORNDIKE.

REQUIREMENTS FOR A MAJOR IN FOREIGN LANGUAGES
Twenty credit hours in one foreign language in the upper division courses (above 212) are required for a major in French, German or Spanish. The two conversation-composition courses, 313 and 335, are required for all majors; in addition, French 315 and 316 are required for all French majors, and German 431 and 432 for all German majors. Spanish majors may choose a concentration in the Spanish area or the Spanish-American area. For concentration in the Spanish area, Spanish 317, 318 and 341 are required; for concentration in the Spanish-American area, Spanish 321, 322 and 342 are required. Students contemplating graduate studies are advised, however, that competence in both areas is generally required for admission to graduate study.

It is also strongly recommended that majors in foreign languages extend their language training by completing an additional 17 credit hours in the upper division courses of a second foreign language. A second teaching field is required by the College of Education for teacher certification and a minor field is always required for graduate study.

Students who plan to enter the teacher certification program are required to take all the courses required of majors, along with the specific courses in History recommended by the Department.

In the last semester of the Senior year, all majors are required to take the MLA Foreign Language Proficiency Tests.

All courses in the major program (above 212) must be passed with a grade of "C" or better.

FRENCH

111-112 Elementary French (I, II, S) Each 4 hours
Pronunciation, listening comprehension, speaking and reading.
Prereq: For 112: 111 or one year of high school.

211-212 Intermediate French (I, II, S) Each 4 hours
Continuation of 112 with grammar review, more advanced readings. Prereq: For 211: 112 or two years of high school and proficiency. For 212: 211 or three years of high school and proficiency.
313 **Conversation and Composition**  (I) 4 hours
Oral practice, grammar review, composition. Prereq: 212 or permission of instructor.

315-316 **Introduction to French Literature**  (I, II) Each 3 hours
Readings of French authors from the Middle Ages to 1800; lectures, reports, collateral readings. Prereq: 212 for either 315 or 316. For majors, this course is prerequisite to all other literature courses. Either 315 or 316 may be taken concurrently with another literature course.

335 **Advanced Conversation and Composition**  (II) 4 hours
Further oral practice, grammar review, composition. Prereq: 313 or permission of instructor.

337 **French Civilization**  (I) 3 hours
A study of contemporary modes of life and thought in France. Prereq: French 212 or permission of instructor.

340 **Eighteenth Century French Literature**  (II) 3 hours
Study of the Enlightenment: Montesquieu, Voltaire, Rousseau and Diderot. Prereq: 212.

351-352 **Nineteenth Century French Literature**  (I, II) Each 3 hours
351: 1789 to 1848, Lamartine to Michelet, Stendhal, Mérimée, Balzac, Hugo. 352: 1850 to 1885, Realism, Naturalism, Parnasse, Symbolism. Prereq: 212 for either 351 or 352.

421 **Sixteenth Century French Literature**  (II) 3 hours
Literature of the Renaissance, Rabelais, Ronsard, Montaigne. Prereq: Any 300 course in literature or permission of instructor.

431 **Seventeenth Century French Literature**  (I) 3 hours
The Classical School: Descartes, Pascal, Corneille, Molière, Racine, LaFontaine. Prereq: Any 300 course in literature or permission of instructor.

451-452 **Twentieth Century French Literature**  (I, II) Each 3 hours
451: Main currents of twentieth century literature from the beginning to 1930. 452: Continuation to current literary production. Prereq: For either 451 or 452, any 300 course in literature or permission of instructor.

460 **Pro-Seminar**  (II) 1-3 hours
Detailed study of narrower phases of French literature, language or culture. Prereq: Permission of instructor.

**GERMAN**

111-112 **Elementary German**  (I, II, S) Each 4 hours
Pronunciation, listening comprehension, speaking and reading. Prereq: For 112: 111 or one year of high school.

211-212 **Intermediate German**  (I, II, S) Each 4 hours
Continuation of 112 with grammar review, more advanced readings. Prereq: For 211: 112 or two years of high school and proficiency. For 212: 211 or three years of high school and proficiency.
313 **Conversation and Composition** (I) 4 hours
Idioms, patterns of conversation, composition. Prereq: 212 or permission of instructor.

335 **Advanced Conversation and Composition** (II) 4 hours
Further training in speaking, writing, idioms and speech patterns. Prereq: 313 or permission of instructor.

337 **German Civilization** (II) 3 hours
German history, art, architecture, customs, philosophy, literature. Prereq: 313 or permission of instructor.

400 **Independent Study** (I, II) 1-3 hours
Guided independent study and research under tutorial supervision. Prereq: permission of instructor.

431 **Nineteenth Century German Literature** (I) 3 hours
Survey of the literature of the nineteenth century from Romanticism to Naturalism. Prereq: 313 or permission of instructor.

432 **Twentieth Century German Literature** (II) 3 hours
Survey of literature of the twentieth century from Expressionism to the literature after World War II. Prereq: 313 or permission of instructor.

439 **German Novel** (I) 3 hours
Survey of the German novel from its beginning to the twentieth century. Prereq: Permission of instructor.

440 **German Novelle** (II) 3 hours
Survey of the German short story, its historical origin, characteristics. Prereq: 313 or permission of instructor.

444 **German Drama** (II) 3 hours
History of drama development, study of several of the more important dramas. Prereq: 313 or permission of instructor.

450 **German Literature of the Eighteenth Century** (I) 3 hours
A study of representative authors of the Enlightenment, Storm and Stress, and German Classicism: Lessing, Herder, Schiller, and Goethe. Prereq: Permission of instructor.

458 **Bibliography and Methodology** (II) 1-2 hours
An introduction to the basic bibliography and methodology of German literature and language. Prereq: Permission of instructor.

460 **Pro-Seminar in German Literature** (II) 1-3 hours
A detailed study of narrower phases of German literature, language or culture. Prereq: Permission of instructor.

**LATIN**

211-212 **Intermediate Latin** (I, II) Each 4 hours
211: readings from Cicero; inductive review of grammar through the readings. Prereq: one year college Latin or two years high school Latin. 212: Continuation of course 211; readings from Vergil. Prereq: one and one-half years college Latin or three years high school Latin.
RUSSIAN

111-112 Elementary Russian (I, II) Each 4 hours
Pronunciation, listening comprehension, speaking and reading.
Prereq: For 112: 111 or one year of high school.

211-212 Intermediate Russian (I, II) Each 4 hours
Continuation of 112 with grammar review, more advanced readings.
Prereq: For 211: 112 or two years of high school and proficiency.
For 212: 211 or three years of high school and proficiency.

SPANISH

111-112 Elementary Spanish (I, II, S) Each 4 hours
Pronunciation, listening comprehension, speaking and reading.
Prereq: For 112: 111 or one year of high school.

211-212 Intermediate Spanish (I, II, S) Each 4 hours
Continuation of 112 with grammar review, more advanced readings.
Prereq: For 211: 112 or two years of high school and proficiency.
For 212: 211 or three years of high school and proficiency.

313 Conversation and Composition (I) 4 hours
Oral practice, grammar review, composition. Prereq: 212 or permission of instructor.

317-318 Survey of Spanish Literature (I, II) Each 3 hours
317: Introduction to the principal authors and works of Spanish literature from El Cid to the eighteenth century.
318: Major Spanish writers and works of the eighteenth, nineteenth, and twentieth centuries.
Prereq: 317: 212 or permission of instructor.

321-322 Survey of Spanish American Literature (I, II) Each 3 hours
321: Spanish American literature from the Colonial Period to Modernism.
322: From Modernism to contemporary works and writers.
Prereq: 321: 212 or permission of instructor.

335 Advanced Conversation and Composition (II) 4 hours
Further oral practice, grammar review, composition. Prereq: 313 or permission of instructor.

341 Spanish Civilization (I) 3 hours
History, geography, national economy, education, art and literature of the Spanish people.
Prereq: 212 or permission of instructor.

342 Spanish American Civilization (II) 3 hours
History, architecture, painting, music, education, religion, literature of Hispanic America.
Prereq: 212 or permission of instructor.

355 Modern Drama of Spain (I) 3 hours
Ideologies, techniques, trends, and influences of the major Spanish dramatists of the nineteenth and twentieth centuries.
Prereq: 318 or permission of instructor.
356 Modern Novel of Spain (II) 3 hours
Analytical study of the representative Spanish novelists of the
nineteenth and twentieth centuries from P.A. de Alarcón to
Cela. Prereq: 318 or permission of instructor.

410 Theater of the Golden Age (I) 3 hours
Foremost Spanish dramatists and plays of the sixteenth and
seventeenth centuries, with emphasis on Lope de Vega, Tirso de
Molina, and Calderón de la Barca. Prereq: 317 or permission of
instructor.

411 Novel of the Golden Age (II) 3 hours
Study of the prose masterpieces of the sixteen and seventeenth
centuries, including such works as Lazarillo de Tormes, La
Celestina, and Don Quixote. Prereq: 317 or permission of
instructor.

416 Spanish American Literature of the Twentieth Century (I) 3 hours
Critical and analytical study of the foremost Spanish American
dramatists, poets, and essayists from Modernism to the present.
Prereq: 322 or permission of instructor.

420 Spanish American Novel (II) 3 hours
Study of representative novels and novelists of the nineteenth
and twentieth centuries, with emphasis on contemporary auth-
ors. Prereq: 322 or permission of instructor.

424 Generation of 1898 (II) 3 hours
Examination of the ideology, philosophy, and literary techniques
of Unamuno, Martínez Ruiz, Valle-Inclán, Baroja, and Antonio
Machado. Prereq: 318 or permission of instructor.

435 Spanish American Short Story (II) 3 hours
Representative stories of the nineteenth and twentieth centuries,
from Romanticism to current production. Prereq: 321 and 322,
or permission of instructor.

460 Pro-Seminar (I) 1-3 hours
Detailed study of narrower phases of Spanish, or Spanish
American, literature, language or culture. Prereq: Permission
of instructor.

GEOGRAPHY AND GEOLOGY

PROFESSORS SCHILZ (Head), RETALLICK, VOGEL;
ASSOCIATE PROFESSOR BARISS;
ASSISTANT PROFESSORS GILDERSLEEVE, JUNG, SHRODER;
INSTRUCTORS BUSH, EHRLICH, ZIPAY

The requirements for a major in Geography are as follows: (1) either
course 100 or 200; (2) courses 106, 107, 313, 353, 393, and one additional
course at the 300 level; and (3) three courses at the 400 level.

Courses 106, 107, 117, 118, 203, 396, and 432 offer credit in the Natural
Science Division. All other geography courses offer credit in the Social
Science Division.
A major in urban studies consists of 36 semester hours selected from the courses listed below. At least 3 semester hours must be completed in each departmental area (economics, geography, political science, and sociology) plus 15 hours in one of the above fields. The remaining 9 hours of electives will be scheduled in consultation with the Department Head.

The following courses may be used to satisfy the urban studies major.

- **Business Administration**: 344, 347*, 440.
- **Economics**: 312, 355, 456*.
- **Geography**: 313, 353, 363, 412*, 443*.
- **Political Science**: 216, 301*, 317*, 319, 440, 441.
- **Sociology**: 210, 361, 402, 410*, 414*, 462, 475.

For the requirements of the General Science major see page 00.

**Fundamentals of Geography** (I, II, S) 3 hours

A basic course which combines the physical and human aspects of geography. Both the systematic and regional approach are used in presentation of the subject matter.

**Physical Geography I**: The Globe, (I,II,S) 4 hours

Weather and Climate, Soils and Vegetation. Prereq: None.

**Physical Geography II**: Land, Forms, (I,II,S) 4 hours

Waters of the Land, Oceans. Prereq: None.

**Physical Geology** (I, II, S) 4 hours

Basic fundamentals of geology. The study of the internal geologic processes and external erosional processes which create the subsurface and surface features of the earth. Fundamentals of contour mapping and topographic map interpretation. Identification of the common minerals and rocks. One day field trip required. Prereq: None.

**Historical Geology** (II) 4 hours

Basic fundamentals for the interpretation of earth history. The deduction of the history of the earth through the interpretation of geologic phenomena, including stratigraphy, structure, and fossil content. Fundamentals of geologic map interpretation. Identification of the key fossils. Prereq: None.

**Human and Cultural Geography** (I, II, S) 3 hours

Differences between developed and underdeveloped countries with regard to culture, health and diet, business and production. Prereq: None.

**General Physiography**

An introductory course in the study of landforms, with emphasis on interpretation of surface features of the earth as represented on topographic maps.

*Courses marked with an asterisk are to be given priority by students majoring in urban studies.*
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>273</td>
<td>Geography of Latin America</td>
<td>(I, II) 3 hours</td>
<td>Advantages and limitations of the natural environment and the cultural environment, population characteristics and economic developments are considered in Mexico, Central America, West Indies, and South America—special emphasis on South America. Prereq: None.</td>
</tr>
<tr>
<td>283</td>
<td>Asia</td>
<td>(I, II) 3 hours</td>
<td>A systematic approach to the geography of Asia with emphasis on landforms, climate and biogeography. Prereq: None.</td>
</tr>
<tr>
<td>303</td>
<td>Africa</td>
<td>(I, II) 3 hours</td>
<td>The geographic factors which set the stage for the economic and national revolution in countries and protectorates, emphasis upon east and northeast Africa. Prereq: Geog. 200 or 100 and Junior Standing.</td>
</tr>
<tr>
<td>313</td>
<td>Economic Geography (Same as Econ 313)</td>
<td>(I, II, S) 3 hours</td>
<td>An intensive study of commercial production, exchange and consumption in agriculture, fishing, forestry, mining, and manufacturing as related to geography factors. Prereq: Junior Standing.</td>
</tr>
<tr>
<td>323</td>
<td>Europe</td>
<td>(I, II) 3 hours</td>
<td>An intensive examination of major natural regions, climatic regions, resources, industrial development and current economic-political problems from a geographic point of view. Prereq: Geog. 100 or 200 and Junior Standing.</td>
</tr>
<tr>
<td>324</td>
<td>U.S.S.R.</td>
<td>(I, II) 3 hours</td>
<td>This is a regional geography course intended for Arts and Sciences students who have had some previous geography study. Prereq: Geog. 100 or 200 or Geog. 313 and Junior Standing.</td>
</tr>
<tr>
<td>333</td>
<td>United States and Canada</td>
<td>(I, II) 3 hours</td>
<td>A consideration by regions of the economic life from a geographic viewpoint. Prereq: Geog. 100 or 200 and Junior Standing.</td>
</tr>
<tr>
<td>353</td>
<td>Cartography and Graphics</td>
<td>(I, II) 3 hours</td>
<td>Basic fundamentals for the cartographic representation of statistical information with emphasis upon the compilation of statistics and the variety of possible symbolization. Basic fundamentals of drafting and design. Prereq: Geog. 100, 104, or 200 or C. E. 200 and Junior Standing.</td>
</tr>
<tr>
<td>363</td>
<td>Map and Photo Interpretation</td>
<td>3 hours</td>
<td>Practical experience in the identification and interpretation of physical and cultural features through the use of topographic, geologic, hydrographic, and aeronautical charts and of selected aerial photographs. Prereq: Math 112 and Junior Standing.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Description</td>
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</tr>
<tr>
<td>393</td>
<td>Political Geography</td>
<td>(I, II) 3 hours</td>
<td>Analysis of the geographic factors underlying international relations followed by detailed study of problem areas. Prereq: Junior Standing.</td>
</tr>
<tr>
<td>396</td>
<td>Land Form Studies and Geomorphology</td>
<td>3 hours</td>
<td>Land forms are classified and analyzed according to the landform-shaping forces such as streams, glaciers, volcanoes, etc. Study of the arid lands and land forms of the Nebraska-Western Iowa region are also included. Practical aspects of land form analysis with regard to man's activity constitute a part of the course. One field trip is required. Prereq: Geog. 104 or 203.</td>
</tr>
<tr>
<td>412</td>
<td>Urban Geography (Same as Econ. 412)</td>
<td>(I, II) 3 hours</td>
<td>A geography of the city from the viewpoint of history, site, and situation, external relations, internal relations, and the comparative study of cities. Prereq: Junior Standing.</td>
</tr>
<tr>
<td>423</td>
<td>Great Plains and Nebraska</td>
<td>(II) 3 hours</td>
<td>This is a regional geography course intended for geography majors and Arts and Sciences students who may have an interest in this particular area. It is desirable to have had some previous study with regional geography. Prereq: 6 hours of Geog. and Junior Standing.</td>
</tr>
<tr>
<td>432</td>
<td>Climates of the World</td>
<td>(II) 3 hours</td>
<td>Climatic controls and elements of the continents are studied on the basis of regional subdivision according to the modified koppen system. Prereq: Geog. 104 (or a meteorology course).</td>
</tr>
<tr>
<td>443</td>
<td>Geography of Manufacturing (Same as Econ 443)</td>
<td>(II) 3 hours</td>
<td>A course which discusses methods of measurement and classification, as well as the function of manufacturing; major world manufacturing regions and industry analysis; location criteria and theory in the U.S.; and local community patterns. Prereq: Geog. 313 or Econ 201 and 202.</td>
</tr>
<tr>
<td>453</td>
<td>Historical Geography of the United States</td>
<td>(II) 3 hours</td>
<td>A course dealing with the geography of the past. Emphasis is placed on the sequent occupancy of regions in the United States or the geography of major divisions of the United States at selected times in the past. Prereq: Junior Standing and Hist. 111 and 112.</td>
</tr>
<tr>
<td>460</td>
<td>Independent Regional Research</td>
<td>2 or 3 hours</td>
<td>(May be repeated to a maximum of 3 hours.) Prereq: Permission of Department Head.</td>
</tr>
<tr>
<td>491</td>
<td>Internship in Local Government (Same as PS 491)</td>
<td>2 hours per sem. to max. of 6</td>
<td></td>
</tr>
</tbody>
</table>

All 500 and 600 Courses Require Departmental Permission

501-502 | Geography Concepts | (I, II) Each 3 hours | Development of the systematic fields and regional approach to area inventory and planning; introduction to visualizing data and introduction to authorities in each field. |                                                                                                    |
503 **Investigating the Earth** 3 hours
A survey of earth science which provides a basic knowledge of the earth as a planet, the solar system, and the universe; and an introduction to the earth’s atmosphere and hydrosphere. Prereq: Permission of the Head of the Secondary Education Department.

504 **Investigating the Earth** 3 hours
A survey of earth science which provides a basic knowledge of earth as a planet with emphasis on the lithosphere. Prereq: Permission of the Head of the Secondary Education Department.

506 **Physical and Cultural Geography for Teachers** (II) 6 hours
Orientation through discussion and demonstration and projects to physical and cultural geography; involvement in professional geography journals and associated media suitable for geography presentations. Prereq: Less than 9 hours of geography, have two or more years of teaching associated with geography, interest in M.S. in education with geography concentration.

521 **Cultural Geography** (II) 3 hours
The philosophical basis of human and cultural geography; interpretation of the cultural landscape. Prereq: Permission.

531 **Geography of Agriculture** (II) 3 hours
A systematic study of the characteristics of agriculture on a world-wide basis. Prereq: Permission and Geog. 313 or Econ. 313.

541 **Seminar in Problems of Political Geography** (I) 3 hours
Case studies in land boundaries, territorial waters, and in population aspects of boundary problems. Prereq: Permission and Geog. 393.

551 **Geomorphology** (I) 3 hours
Concentrates on significant topics, problems, and applied cases in landform studies. Prereq: Geog. 396 or 117 or 118.

555 **Physiography of North America** (I) 3 hours
A study of the landforms regions of North America as related to the whole study of geography by means of a systematic analysis of geomorphic patterns. Prereq: Geog. 104 or 117 or 118.

558 **Soils** (II) 3 hours
A synthesis of the concepts of the morphology, classification, and distribution of soils with some emphasis on environment and genesis. Prereq: Geog. 104.

561 **Field Geography** (S) 3 hours
A systematic discussion of techniques for studying and analyzing terrain features, land use characteristics, and the nature of their patterns as a part of the whole geographic environment. Prereq: Permission.
565 **Land Use** (S) 3 hours
A field course designed to investigate and understand through urban field work, land use patterns in urban and rural areas by studying the social, physical, and economic factors which tend to shape the land use of a given place. Prereq: Geog. 412.

567 **Cartographic Methods** (I, II) 3 hours
Teaches the student proper use of drawing instruments, effective map layout and exposure to the latest cartographic techniques, leading to a high level of competence in the design and interpretation of maps. Prereq: Geog. 353.

571 **Population Seminar** (S) 3 hours
The significance of differences from place to place in the number, kind, and qualities of human inhabitants and changes through time. Prereq: Permission.

580 **Independent Study in Topics on Urbanism** 1 hour per sem. to 3
Graduate student research on an individual basis under faculty supervision in topics pertaining to urbanism. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Economics, Political Science, and Sociology.)

581 **Urban Seminar in Metropolitan Planning and Development** (Same as Pol. Sci. 581) (II) 3 hours
An overview of the present status of planning in metropolitan areas with special emphasis on structure of planning departments, comprehensive plans, and problems of annexation. Prereq: Geog. 412 or recommendation from Political Science, Sociology, or Economics Departments.

583-584 **Interdisciplinary Seminar on the Urban Community** 3 hours per sem. to 6
An interdisciplinary course on the metropolitan community in which various departmental and college offerings concerned with urban problems are put in broad interrelated focus. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Economics, Political Science, and Sociology.)

585-586 **Urban Economics** Each 3 hours
An examination of the theoretical basis for the analysis of urban economic problems with emphasis upon the policy alternatives applicable toward their possible solution. Separate credit may be received for each course. Prereq: At least 6 hours of upper division course work in economics or permission.

591-592 **General Seminar** Each 1 hour
Review of current research by geographers including national and international associations and initial thesis proposal.
598-599 Urban-Regional Research* Each 3 hours
Used in candidates for the Master of Science Degree in economics in lieu of a Master's thesis. A study consisting of urban economic problems, employing research techniques. Students do independent research, consulting with adviser, and submitting completed report to a departmental committee. Prereq: Graduate enrollment in the Master of Science in economics program and acceptance by a graduate adviser.

601-602 Thesis Each 3 hours
Independent research project written under the supervision of an adviser.

HISTORY

PROFESSORS TRICKETT (Head), ADRIAN, BECK, GUM, ROBBINS;
ASSOCIATE PROFESSORS CARRIGAN, DALSTROM, PETROWSKI;
ASSISTANT PROFESSORS GAEDDERT, OVERFIELD, PRATT, ST. JOHN;
INSTRUCTORS BRITT, NELSON, THOMPSON

Students who elect a major in history must pass, with an average grade of "C" or above as prerequisites, either History 111 and 112 or History 151 and 152 and one of the following 200-level course sequences, or the equivalents:

- History 247-248, Latin America
- History 251-252, Ancient History
- History 257-258, German History
- History 261-262, English History
- History 271-272, Russian History
- History 281-282, The Far East

To complete the requirements for the major they must pass, with grades of "C" or above, 18 hours of history, or the equivalents, from courses in the 300 and 400 groups. (Students primarily interested in English history may present English 231 (or 217) and 232 as credit towards the 18 hours normally required from courses in history at the 300 and 400 level provided that they present History 261-262 as their 200-level course sequence and complete at least six hours satisfactorily from among the following: History 364, 461, 462, 463, and 464). In addition they must pass, with a grade of "C" or above, one of the following courses, or the equivalent:

- History 493, Historical Research
- History 496, Great American Historians
- History 497, Great European Historians

Students who wish to teach history in secondary schools must pass, with an average grade of "C" or above, History 111, 112, 151, 152, and one of the 200-level sequences in history (see above), or the equivalents. In addition they must pass, with grades of "C" or above, a specific num-

* Cross listed in economics.
ber of hours of work in 300 and 400 numbered courses in history. Details of such requirements for the academic major or teaching field in history in the College of Education may be secured from Professor Adrian.

111 **American History to 1865**  
(I, II, S) 3 hours  
A history of the creation and development of the United States from the beginning of English colonization to the end of the American Civil War.

112 **American History Since 1865**  
(I, II, S) 3 hours  
A general survey of the basic forces shaping American life since the Civil War.

151 **European History, 1500-1815**  
(I, II, S) 3 hours  
A factual and interpretive treatment of the major political, economic, and cultural movements in Europe from the Reformation through the Scientific Revolution, terminating with the era of the French Revolution and Napoleon.

152 **European History Since 1815**  
(I, II, S) 3 hours  
A study of the forces shaping Modern Europe with particular emphasis on Republican, National, Anticlerical and Socialistic developments.

241 **Ethnic Groups in American History to 1865**  
(I) 3 hours  
A history of the arrival, association, conflict and development of the American Indian, the African, peoples of the Spanish Borderlands, the Asian and the new Immigrant in American society to 1865.

242 **Ethnic Groups in American History Since 1865**  
(II) 3 hours  
A history of the association, conflict and development of the American Indian, the African, the peoples of the Spanish Borderlands, the Asian, and the new Immigrant in American society since 1865.

247 **Latin American History: Mexico and The Caribbean**  
(I) 3 hours  
A history of Mexico and the Caribbean nations from the pre-Columbian Indian cultures to the present time. Prereq: Sophomore Standing.

248 **Latin American History: South America**  
(II) 3 hours  
A history of the nations of South America from the pre-Columbian Indian cultures to the present time. Prereq: Hist. 247 or permission of instructor.

251 **Ancient History: Greece**  
(I) 3 hours  
A study of ancient civilizations in the Near East, Mesopotamia and Greece with emphasis upon their contributions through Greece to the development of Western Civilization. Prereq: Sophomore Standing.

252 **Ancient History: Rome**  
(II) 3 hours  
A study of the growth and development of the Roman Empire with emphasis on the unique contributions of Rome to the modern world. Prereq: Hist. 251 or permission of instructor.
257 History of Germany from the Reformation through Frederick the Great (I) 3 hours
A cultural history of the German States from the end of the Thirty Years' War to the beginning of the Revolutions of 1848. Prereq: Sophomore Standing.

258 History of Germany in the Nineteenth and Twentieth Centuries (II) 3 hours
A cultural history of Germany, including Austria, from the Revolutions of 1848 to the present. Emphasis will be placed upon Germany's dominant role in Europe since unification, the experiments (past and present) with democracy and the cataclysm of the Third Reich. Prereq: Sophomore Standing.

261 English History: England to 1688 (I, S) 3 hours

262 English History: The Expansion of England (II, S) 3 hours
The expansion of English society and the development and spread of British institutions. Prereq: Hist. 261 or permission of instructor.

271 Russian History: To 1855 (I, 70-71) 3 hours
An interpretive analysis of the unique development of Russian culture from its Kievan beginnings through the establishment of autocracy and serfdom to the end of the reign of Nicholas I. Prereq: Sophomore Standing.

272 Russian History: Imperial Russia and the Soviet Union Since 1855 (II, 70-71) 3 hours
An interpretive analysis of Russian culture and society under the last three tsars, the Bolshevik Revolution and a half-century of Communist domination. Prereq: Hist. 271 or permission of instructor.

281 The Far East: Traditional and Modern China (I) 3 hours
A study of traditional Chinese society with special emphasis upon those traits which in large part shaped China's response to the impact of the West in the nineteenth century and conditioned her search for a new political structure in the twentieth century. Prereq: Sophomore Standing.

282 The Far East: Modern Japan and Southeast Asia (II) 3 hours
A study of the evolution of traditional Japan to a modern national state and Japan's role as a major world power in the twentieth century. A survey of the development of colonialism and nationalism in southeast Asia. Prereq: Hist. 281 or permission of instructor.

311 American Economic History to 1865 (Same as Econ 311) (I) 3 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>312</td>
<td><strong>American Economic History Since 1865</strong> (Same as Econ 312)</td>
<td>(II) 3 hours</td>
<td>A survey of American economic development from the Civil War to the present. Prereq: Hist. 111-112 or Econ. 201-202.</td>
<td></td>
</tr>
<tr>
<td>313</td>
<td><strong>American Colonial History</strong></td>
<td>(I) 3 hours</td>
<td>A study of the background settlement, and development of the English colonies. Prereq: Hist. 111-112.</td>
<td></td>
</tr>
<tr>
<td>315</td>
<td><strong>The American Frontiers: 1600-1840</strong></td>
<td>(I) 3 hours</td>
<td>A study of the frontier systems of the Thirteen Colonies and of Spain and France, and the Westward Movement of the United States to the Mississippi River. Prereq: Hist. 111-112.</td>
<td></td>
</tr>
<tr>
<td>316</td>
<td><strong>The American Frontier: 1840-1900</strong></td>
<td>(II) 3 hours</td>
<td>The Trans-Mississippi West from Spanish and French days to the disappearance of the frontier around 1900. Prereq: Hist. 315 or permission of instructor.</td>
<td></td>
</tr>
<tr>
<td>333</td>
<td><strong>Diplomatic History of the United States to 1900</strong></td>
<td>(I) 3 hours</td>
<td>A study of the foreign relations of the United States before 1900. Prereq: Hist. 111-112.</td>
<td></td>
</tr>
<tr>
<td>334</td>
<td><strong>Diplomatic History of the United States Since 1900</strong></td>
<td>(II) 3 hours</td>
<td>A study of the foreign relations of the United States since 1900. Prereq: Hist. 333 orpermission of instructor.</td>
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</tr>
<tr>
<td>341</td>
<td><strong>History of Nebraska</strong></td>
<td>(II) 3 hours</td>
<td>From the earliest known records to the present. Prereq: Hist. 111-112.</td>
<td></td>
</tr>
<tr>
<td>344</td>
<td><strong>History of the South</strong></td>
<td>(II) 3 hours</td>
<td>Economic, social, and political development of the South as a region. Prereq: Hist. 111-112.</td>
<td></td>
</tr>
<tr>
<td>351</td>
<td><strong>Economic History of Europe to 1760</strong> (Same as Econ 351)</td>
<td>(I) 3 hours</td>
<td>A survey of European economic development to 1760. Prereq: Hist. 151-152 or Econ. 201-202.</td>
<td></td>
</tr>
<tr>
<td>352</td>
<td><strong>Economic History of Europe Since 1760</strong> (Same as Econ 352)</td>
<td>(II) 3 hours</td>
<td>A survey of European economic development from 1760 to the present. Prereq: Hist. 151-152 or Econ. 201-202.</td>
<td></td>
</tr>
<tr>
<td>353</td>
<td><strong>Medieval Europe, 284-1095</strong></td>
<td>(I) 3 hours</td>
<td>Establishment and development of the medieval church and of feudal society from the declining years of the Roman Empire to the beginning of the Crusades. Prereq: Hist. 151-152.</td>
<td></td>
</tr>
<tr>
<td>354</td>
<td><strong>Medieval Europe, 1095-1492</strong></td>
<td>(II) 3 hours</td>
<td>Religious, social, economic, philosophic and institutional developments of the era extending from the Crusades and the investiture struggle through &quot;the waning of the middle ages.&quot; Prereq: Hist. 353 or permission of instructor.</td>
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<tr>
<td>Course Number</td>
<td>Course Title</td>
<td>Type</td>
<td>Credits</td>
<td>Description</td>
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<tr>
<td>355</td>
<td>The Age of the Renaissance</td>
<td>(I)</td>
<td>3 hours</td>
<td>An introduction to the economic, social, political, religious, and intellectual changes and to the principal thinkers, writers, and artists of the period extending roughly from 1300-1550. Prereq: Hist. 151-152.</td>
</tr>
<tr>
<td>401</td>
<td>History of Science to 1700</td>
<td>(I)</td>
<td>3 hours</td>
<td>A survey of the development of scientific ideas and techniques from antiquity to the beginning of modern science. Prereq: History 151-152 or a major in a department of science, mathematics, or general science.</td>
</tr>
<tr>
<td>402</td>
<td>History of Science Since 1700</td>
<td>(II)</td>
<td>3 hours</td>
<td>A survey of the historical and intellectual development of modern science and its relation to technology, society, and social thought. Prereq: History 151-152 or a major in a department of science, mathematics, or general science.</td>
</tr>
<tr>
<td>411</td>
<td>Representative Americans: 1600-1800</td>
<td>(I)</td>
<td>3 hours</td>
<td>A biographical and intellectual approach to American History. The outstanding leaders of each generation—every 40 to 50 years—are studied and their contributions analyzed. Prereq: Hist. 111-112.</td>
</tr>
<tr>
<td>412</td>
<td>Representative Americans: 1800 to the Present</td>
<td>(II)</td>
<td>3 hours</td>
<td>A biographical and intellectual approach to American History. The outstanding leaders of each generation since 1800—every 40 to 50 years—are studied and their contributions analyzed. Prereq: Hist. 411 or permission of instructor.</td>
</tr>
<tr>
<td>413</td>
<td>The Revolutionary Era, 1763-1789</td>
<td>(I)</td>
<td>3 hours</td>
<td>An analysis of the imperial and internal forces which led to the Revolution and an examination of the economic, social, and political problems of the emerging nation. Prereq: Hist. 111-112.</td>
</tr>
<tr>
<td>414</td>
<td>The Early Federal Period, 1789-1815</td>
<td>(II)</td>
<td>3 hours</td>
<td>A study of the interworkings of politics, economics, and foreign affairs in molding government and society during the formative years of the United States. Prereq: Hist. 111-112.</td>
</tr>
<tr>
<td>418</td>
<td>Civil War and Reconstruction</td>
<td>(II)</td>
<td>3 hours</td>
<td>A period study from 1845 to 1877. The backgrounds of the Civil War, the War Years, and the reshaping of the Union during Reconstruction. Prereq: Hist. 111-112.</td>
</tr>
</tbody>
</table>
The Emergence of Modern America: 1877-1901 (I) 3 hours
A study of a transitional period in American history, this course considers the importance of industrialization, urbanization, immigration, and the emergence of the United States as a significant world power. Prereq: History 111-112 or permission of instructor.

Twentieth Century America to 1932 (I) 3 hours

Twentieth Century America Since 1932 (II) 3 hours
A study of the history of the United States since the election of Franklin D. Roosevelt to the Presidency in 1932. Prereq: Hist. 427 or permission of instructor.

Ideas in Twentieth Century America (II) 3 hours
An analysis of some of the more important ideas which have had influence in recent America. Prereq: Hist. 111-112.

Constitutional History of the United States to 1860 (I) 3 hours

Constitutional History of the United States Since 1860 (II) 3 hours
A history of constitutional theory and practice since 1860. Prereq: Hist. 433 or permission of instructor.

History of American Science (II) 3 hours
A study of the origins, development, and nature of American science and its relations with technology, social thought, and government. Prereq: History 111-112 or a major in a department of science, mathematics, or general science.

American Urban History to 1870 3 hours
Historical survey of urban development in the United States from the colonial period through the 1860's; urban society, problems, institutions; role of cities in national history; American ambivalence toward cities.

American Urban History Since 1870 3 hours
American urbanization from 1870's to the present; influence of technology, transportation, industry, immigration; urban politics and reform movements; emergence of metropolitan America and problems of the contemporary super-city.

Intellectual History of Modern Europe from the Renaissance to the French Revolution (I, 70-71) 3 hours
A study of historically potent political, religious, economic, scientific and philosophical ideas in the Western European culture from the Renaissance to the French Revolution as a basis for stimulating the spirit of philosophical inquiry in each student. Prereq: Hist. 151-152.
Intellectual History of Modern Europe from the Early Nineteenth Century to the Present

A study of the historically potent scientific, economic, and philosophical ideas of the last century and a half. Emphasis will be upon the answers of Western European culture to life's great questions. Prereq: Hist. 451 or permission of instructor.

The Age of the Reformation

Study of an era characterized by the dissemination of Renaissance culture, the declining authority of the medieval church, nascent "nationalism," changing economic and social patterns, religious upheaval, and interrelated political rivalries and strife. Prereq: Hist. 151-152.

The Age of Absolutism

The emergence of new power relationships on the European Continent after the religious wars of the sixteenth century with an emphasis upon the political, military, and cultural factors that led to the French hegemony and the secularization of European politics. Prereq: Hist. 151-152.

The Age of Enlightenment

An examination of eighteenth century society and culture with the attendant rise of Prussia, the growing importance of Russia, "enlightened absolutism," and the causes of the French Revolution. Prereq: Hist. 151-152.

The French Revolution and Napoleonic Era: 1789-1815

A study of the French Revolution and the Napoleonic Era with particular attention to the development of democratic practice concurrently with the development of modern authoritarianism. Prereq: Hist. 151-152.

Nineteenth Century Europe: 1815-1848

An advanced interpretive analysis of the political and cultural development of Europe from the Congress of Vienna through the Revolutions of 1848. Prereq: History 151-152.

Nineteenth Century Europe: 1848-1890

An advanced interpretive analysis of the political and cultural development of Europe from the Revolutions of 1848 to 1890. Prereq: History 151-152.

Tudor and Stuart England

A study of England under the Tudors when the English people rose magnificently and experienced a Golden Age, and the Stuarts then cast off the last remnants of medieval things and formed new institutions foreshadowing those of our world of today. Prereq: Hist. 261-262 or (with permission of instructor) Hist. 151-152.

England in the Eighteenth and Nineteenth Centuries

A study of the change and development in Great Britain from 1714 to 1914. Prereq: Hist. 261-262 or (with permission of instructor) Hist. 151-152.
463 English Constitutional History to 1485 (I) 3 hours
The development of the legal and governmental institutions of the English-speaking people to 1485, including England's central and local governments. Prereq: Hist. 261-262 or (with permission of instructor) Hist. 151-152.

464 English Constitutional History Since 1485 (II) 3 hours
The development of the legal and governmental institutions of the English-speaking people since 1485, including British central and local government and the governments of the member states of the Commonwealth and of the more important colonies. Prereq: Hist. 463 or permission of instructor.

477 Europe in Crisis: 1890-1932 (I) 3 hours
A study of the conditions and forces immediately precedent to World War I, the war itself, the peace following the war and the rise of the modern dictatorships. Prereq: History 151-152 & junior standing.

478 Europe in the Global Age: 1933 to the Present (II) 3 hours
A study of the ever increasing tensions between the fascist and communist dictatorships and the Western democracies, World War II, the resultant dislocation of power and the emergence of the "Balance of Terror". Prereq: History 151-152 and at least junior standing.

490 Problems in History (I, II, S) 1-5 hours
Independent original work on special problems with scheduled conferences and written reports. Prereq: Senior Standing and satisfactory completion of 12 hours of work in history from courses in the 300 and 400 groups and permission of the department head (not open for graduate credit).

491 Internship in Local Government (Same as PS 491) 2 hours to a max. of 6

493 Historical Research (I) 3 hours
The critical method in collecting, organizing and presenting historical material. Prereq: Senior Standing, acceptance as an undergraduate major in history or permission of the department head (not open for graduate credit).

496 Great American Historians (II) 3 hours
A survey of American historical writing from colonial days to the present. Prereq: Senior Standing, acceptance as an undergraduate major in history or permission of the department head (not open for graduate credit).

497 Great European Historians (I) 3 hours
A pro-seminar designed to acquaint the student with significant developments in the writing of European History from Homer to Toynbee. Prereq: Senior Standing and acceptance as an undergraduate major in history or permission of the department head (not open for graduate credit).
501 **Advanced Research Project in History** (I, II, S) 1-5 hours
Special problems in advanced work in history arranged individually with graduate students. Prereq: Acceptance as a graduate major or minor in history and permission of the department head and the instructor.

503 **Historical Research** (I) 3 hours
The critical method in collecting and organizing historical materials; the processes of verification, evaluation, and organization of facts; the problems of writing: documentation, styling and printing the product. Prereq: Acceptance as a graduate major or minor in history or permission of the department head and the instructor (not open for credit to students who have taken Hist. 493 or the equivalent).

506 **Great American Historians** (II) 3 hours
A survey of the history of American historical writing from colonial times to the present. Reports based on selected readings. Prereq: Acceptance as a graduate major or minor in history or permission of the departmental head and the instructor (not open for credit to students who have taken Hist. 496 or the equivalent).

507 **Great European Historians** (I) 3 hours
A survey of the history of European historical writing from the Renaissance to the present. Reports based on selected readings. Prereq: Acceptance as a graduate major or minor in history or permission of the department head and the instructor (not open for credit to students who have taken Hist. 497 or the equivalent).

The following seminars lay stress on individual research on significant problems as indicated by the titles. An introduction to bibliography and demonstration of the methods of historical research will be incorporated in each seminar. Prereq: Acceptance as a graduate major or minor in history and permission of the instructor and department head. Each 3 hours.

510 **Seminar in Early American History (I)**
512 **Seminar in American History: The Jacksonian Era** (I)
517 **Seminar in American History: The Frontier** (II)
522 **Seminar in American History: Civil War and Reconstruction** (I)
532 **Seminar in Recent American History** (I)
535 **Seminar in Local History: Nebraska and the Great Plains** (II)
536 **Seminar in Twentieth Century Diplomatic History of the United States** (II)
540 (also Economics 540) **Seminar in American Economic History (To 1865)** (I)
541 (also Economics 541) Seminar in American Economic History (Since 1865) (II)
542 Seminar in United States Public Land Policy and Conservation (I)
551 Seminar in Early Modern European History (II)
553 Seminar in European History: The Revolutionary Age (I)
554 Seminar in European History: The Napoleonic Era: 1800-1815 (II)
555 Seminar in Nineteenth Century European History (I)
556 Seminar in Twentieth Century European Diplomatic History (I)
558 Seminar in World History: Military History and Policy (II)
563 Seminar in Eighteenth Century British History (II)
565 Seminar in British History: The Era of Reform (II)
569 Seminar in Contemporary British History (II)
601 Thesis (I & II) Each 3 hours

The following 300-level courses in history are open to students for graduate credit with special assignments: 311, 312, 313, 315, 316, 333, 334, 341, 344, 351, 352, 353, 354, 355 and 364.

JOURNALISM

ASSOCIATE PROFESSOR COWDIN (Head); ASSISTANT PROFESSOR FRANCKE; INSTRUCTORS McCARTNEY, SIMPSON, WITTEKIND

A major in Journalism consists of a minimum of 30 hours, including Journalism 215, 216, 301, 303, 327, 420, 441, and 490 or 491. Journalism 101 does not count toward the major, but majors are strongly urged to take it. Courses beyond Journalism 101 must be completed with a grade of "C" or better. Also required are Psychology 101, Sociology 101, Economics 201, and 202, History 111 and 112, and Political Science 110 and 111.

In addition, a student who holds a special area interest (such as radio and television news) is expected to pick electives from those areas which will aid him in rounding out his knowledge of that special field.

Students who wish to teach journalism in secondary schools may elect either (1) the major described above, in which case they must satisfy the requirements for a Secondary Teaching Certificate, or (2) a major in the College of Education, in which case they must pass with a grade of "C" or above 26 hours of journalism, including Journalism 101, 215, 216, 301, 311, 327, 441, and two semesters of Applied Journalism.

101 Introduction to Mass Communications (I, II, S) 3 hours

An introduction to the mass media, including newspapers, radio, television, books, magazines, advertising, public relations, and movies, surveying their functions in American society.
215 News Writing and Reporting (I, S) 3 hours
Theory and practice in writing and reporting for newspapers. Prereq: Engl. 111 and typing ability, or permission.

216 News Editing (II) 3 hours
Evaluation, editing and production of news for print media. Also headline writing, layout, and typography. Prereq: 215 or permission.

*230-231 Applied Journalism (I, II) Each 1 hour
Supervised experience in news editing, reporting, copy reading, proof reading, organization and direction of the editorial staff, selection of copy for placement, page makeup, headline writing, use of style sheets; also administrative procedures for editors and reporters. Includes work on the campus newspaper and/or yearbook. Prereq: Journ. 215 and/or permission.

301 History of Mass Communications (I) 3 hours
The American press from 1690 up to and including the mass media of today, with emphasis on the history of newspapers, magazines, and broadcast journalism. Prereq: Sophomore standing.

303 Radio and TV News Writing (I, II) 3 hours
The theory, techniques and practices utilized in gathering, writing and editing news for broadcast journalism. Prereq: Journ. 215 or permission.

311 Photography (I, II, S) 3 hours
The theory, techniques and application of basic photographic operations of exposure, development and printing. Prereq: Sophomore Standing.

315 Newsfilm and Documentaries (Crosslisted as Speech 333) (I, II) 3 hours
Theories and techniques for filming and producing television newsfilm and documentaries. Prereq: Journ. 311 or permission.

322 Critical Writing for the Mass Media (II, S) 3 hours
Theory and practice in writing criticisms of the arts, interpretative articles, editorials, columns and creative features. Prereq: Junior Standing.

323 Business and Industrial Publication Editing (I) 3 hours
Planning, management, format organization, editing, and writing of business and industrial magazines and newspapers, from the editor's point of view. Prereq: Journ. 216 or permission.

327 Reporting of Public Affairs (I) 3 hours
Proper and effective procedures used in covering such activities as trials, conventions, addresses, council meetings and other public affairs. Prereq: Journ 215.

*330-331 Applied Journalism (I, II) Each 1 hour
See entry listed under 230-231. Prereq: Journ. 215 or permission.

* Total credits in Applied Journalism may not exceed six hours.
362 **Advertising Layout and Copywriting** (II) 3 hours
Theory and practice of advertising in all the media, both print and broadcast. Prereq: Marketing 331 or permission.

410 **Literary Aspects of Journalism** (II) 3 hours
Survey of the journalistic works of important English and American writers through reading, lectures and discussion, accompanied by a creative journalistic writing requirement. Prereq: Junior Standing.

420 **Mass Communication Theories and Research** (II) 3 hours
A study of communication theory, both interpersonal and mass communications; philosophical, sociological and psychological theories of mass communications; and methodology and findings of mass communication research. Prereq: Junior Standing.

423 **Public Relations** (I, S) 3 hours
A study of the principles, problems and techniques of the public relations function through lectures, discussions and case histories. Prereq: Junior Standing or permission.

424 **Publicity Methods** (II) 3 hours
A survey of and practice in the use of the various methods of communication (the news release, the photograph, etc.) in order to achieve a preconceived end with a given audience. Prereq: Journalism 215 or permission.

*430-431 **Applied Journalism** (I, II) Each 2 hours
See entry listed under 230-231. Prereq: Permission of department head.

435 **Journalism Internship Program** (I, II, S) 3 hours
Professional media experience under supervision with a newspaper, radio station, television station, etc. Prereq: Permission of department head.

440 **Mass Media and Society** (II) 3 hours
An analysis of the agencies of mass communications as social institutions, with emphasis on their organization and structure, their normative statements and reflected values, and the interaction of individual roles within the mass media. Prereq: Junior Standing.

441 **Communications Law** (II) 3 hours
A discussion of laws and legal issues which have special application to the mass media, such as libel, privacy, contempt of court, copyright, and censorship. Prereq: Junior Standing.

443 **International Communications** (I, S) 3 hours
A comparative study of the mass communication systems and philosophies in the world today. Prereq: Junior Standing.

*Total credits in Applied Journalism may not exceed six hours.*
450 **Mass Communications and Public Opinion** (II) 3 hours
A study of the nature and formation of public opinion and its significance in our society in contrast to some other societies; the nature of propaganda and its methods; and the relationship between public opinion, propaganda, and the mass communication process. Prereq: Junior Standing.

490-491 **Seminar in Mass Communications** (I, II) Each 3 hours
A senior seminar applying historical and theoretical perspective to current issues and developments in mass communications. Prereq: Senior Standing.

**MATHEMATICS**
PROFESSOR HAEDER (Head);
ASSOCIATE PROFESSORS MALONEY, SMITH;
ASSISTANT PROFESSORS BUCHALTER, DOWNING, FREIVALD, ROBINSON, WARDEN, STERN (Emeritus), TUECKE;
INSTRUCTORS CRAIG, DECKER, LARSEN, PARSONS SHARIEFF

A major in mathematics for the Bachelor of Arts degree or a departmental major in mathematics for secondary school certification consists of 18 semester hours beyond 197, including 423 and at least one of the courses 411 and 427. A student may include in the 18 hours as many as 6 hours of computer science courses beyond 230. Students who contemplate graduate work in mathematics should include 411-412, 423-424, and 427 in their programs.

A teaching field in mathematics for secondary school certification and a departmental major for elementary school certification are available from the department.

**COMPUTER SCIENCES**

170 **Computer Language: Fortran** (I, II) 1 hour
Prereq: One year each of high school algebra and geometry or placement.

171 **Computer Language: Cobol** (I, II) 1 hour
Prereq: One year each of high school algebra and geometry or placement.

230 **Computer Concepts** (I, II) 3 hours
Program writing in several languages. Problem solving, numerical and non-numerical. Programs are tested and run on an actual computer. Prereq: Math 143 or equivalent.

322 **Advanced Programming Techniques** (I) 3 hours
The analysis and composition of advanced programs used with contemporary computers. Prereq: C.S. 170 or 230, Math 195, 211.

330 **Numerical Methods** (II) 3 hours
**332 Introduction to the Theory of Information Storage and Retrieval** (II) 3 hours
List processing languages, theories of file organization, theories of system design, information retrieval, applications. Prereq: Math 196, 211, and C.S. 230.

**430 Linear Programming** (I) 3 hours
An introduction to linear programming and applications. Prereq: Computer Science 322 or equivalent.

**432 Introduction to System Programming** (II) 3 hours
Input-Output and storage systems, structures and transformations of data basis, assembly and executive systems. Prereq: Comp. Sci. 322 or equivalent.

**470 Introduction to the Theory of Compilers** (II) 3 hours
Assemblers, interpreters, compilers. Prereq: C.S. 322 or equivalent.

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**MATHEMATICS**

**100 Introduction to Mathematics** (I, II) 2 hours
A theory of arithmetic for elementary teachers. Open only to elementary education students.

**114 Algebra and Trigonometry** (I, II) 4 hours
Introductory college algebra from a contemporary point of view. Elements of plane trigonometry with applications to geometry and physics. Prereq: Two years of high school mathematics including 3 semesters of algebra, or demonstrated proficiency.

**143 Logic, Sets and Functions** (I, II) 3 hours
An introduction to mathematical logic, set theory, the real numbers, relations and functions. Prereq: Two years of high school mathematics, including at least one full year of algebra.

**153 Introduction to Applied Probability and Statistics** (I, II) 3 hours
An elementary introduction to the mathematical theory of probability with applications to statistical inference. Prereq: 143 or equivalent.

**195 Calculus I** (I, II) 5 hours

**196 Calculus II** (I, II) 4 hours

**197 Calculus III** (I, II) 3 hours
Differentiation and integration of algebraic, trigonometric, exponential, logarithmic and hyperbolic functions with analytic geometry and vectors. Prereq: For 195—Four years of high school mathematics including trigonometry or equivalent. 195 required for 196, and 196 required for 197.

**211 Linear Algebra** (I, II) 3 hours
A first course in Linear Algebra to include vectors, vector spaces, determinants, matrices, linear transformations, and an introduction to linear programming. Prereq: One semester of calculus or permission of instructor.

*Credit not allowable toward degrees in the College of Arts and Sciences.*
225 **Calculus of Vector Functions**  (II) 3 hours
Calculus of real and vector functions with linear algebra including gradient, divergence, curl, Green's Theorems and Stokes' Theorem. Prereq: Math 196 and 211 or equivalent.

235 **Advanced Mathematics for Engineers I**  (I) 3 hours

236 **Advanced Mathematics for Engineers II**  (II) 3 hours

254 **Mathematics of Finance**  (II) 3 hours
Simple and compound interest, annuities, amortization of debts, sinking funds, depreciation and capitalized cost, and bonds. Prereq: Math 114 or four semesters of high school algebra.

311 **Differential Equations**  (I, II) 3 hours
Methods of solving ordinary differential equations with applications to geometry and physics. The linear equations are emphasized. Prereq: one year of calculus.

324 **Elementary Topics**  (II) 3 hours
The course contains elementary topics of interest selected from geometry, analysis, number theory, point set topology and logic. Prereq: Math 195 or equivalent.

331 **Introduction to the Theory of Games**  (II) 3 hours
Finite games, minimax, theorem, optimal strategies, methods of solution of finite games, infinite games, applications. Prereq: Math 196 and 211 or equivalent.

353 **Probability and Statistics I**

354 **Probability and Statistics II**  (I, II) Each 3 hours
Events and probabilities, dependent and independent events, random variables, discrete distributions, absolutely continuous distributions, expectation and limit theorems, point estimation, the multivariate normal distribution, testing of statistical hypotheses, confidence intervals. Prereq: Math 196 and Junior Standing.

360 **Elementary Topology**  (II) 3 hours

364 **Projective Geometry**  (I) 3 hours
Duality, perspectivity, harmonic sets, double ratio, conics and projective coordinates, dependence and independence of sets of points and sets of lines, matrices and determinants, pole and polar, polar reciprocation in respect to a conic, classical theorems. Prereq: Math 195 or equivalent.

411-412 **Abstract Algebra**  (I, II) Each 3 hours
An introduction to modern algebra, congruences, groups, fields, linear transformations and matrices. Prereq: Math 196, 211, and Junior Standing.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>423-424</td>
<td>Mathematical Analysis (I, II)</td>
<td>Each 3</td>
<td>Topology of Euclidean space, continuity, differentiation, Riemann-Stieltjes integration, sequences and series. Prereq: Math 311 or equivalent.</td>
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<tr>
<td>427</td>
<td>Complex Variables</td>
<td>(I, II)</td>
<td>Differentiation, integration and power series expansions of analytic functions, conformal mapping, residue calculus and applications, analytic continuation, singularities and representations of analytic functions. Prereq: Math 423 or Advanced Calculus.</td>
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</tr>
<tr>
<td>433</td>
<td>Operational Mathematics (I)</td>
<td>3 hours</td>
<td>Laplace transform and properties, applications, Inversion integral, heat conduction problems, Sturm-Liouville systems, Fourier transforms. Prereq: Math 311.</td>
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<tr>
<td>441</td>
<td>Introduction to the Foundation of Mathematics</td>
<td>3 hours</td>
<td>Logic, axiom systems, set theory, groups, the real number system, metamathematics. Prereq: Senior or Graduate Classification.</td>
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<tr>
<td>451</td>
<td>Theory of Numbers</td>
<td>3 hours</td>
<td>Congruences, quadratic reciprocity, diophantine equations, continued fractions, and prime number distribution. Prereq: Junior standing, three semesters of college mathematics including one year of calculus.</td>
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<tr>
<td>460</td>
<td>Tensor Analysis</td>
<td>(II) 3</td>
<td>E-systems, determinants, review of vector analysis, surface theory, tensor and extensor algebra, applications. Prereq: Math 311 or equivalent.</td>
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<tr>
<td>498</td>
<td>Seminar</td>
<td>(I, II)</td>
<td>A seminar in mathematics. Prereq: Permission of instructor.</td>
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<tr>
<td>499</td>
<td>Independent Studies</td>
<td>(I, II)</td>
<td>A variable credit course for the advanced junior or senior who will benefit from independent reading assignments and research type problems. Prereq: Permission of department head.</td>
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<tr>
<td>511</td>
<td>Advanced Topics in Algebra I</td>
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<tr>
<td>523-524</td>
<td>Theory of Functions of Real Variables</td>
<td>Each 3</td>
<td>Real number system, convergence, continuity, bounded variation, differentiation, Lebesque-Stieltjes, integration, abstract measure theory, the Lp spaces. Prereq: Math 423 or Advanced Calculus.</td>
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</tr>
</tbody>
</table>
525 **Partial Differential Equations** (II) 3 hours

526-527 **Functional Analysis** Each 3 hours
Normed linear spaces and operators, dual spaces, linear topological spaces, weak topologies, convex sets, Hilbert spaces, Banach spaces, spectral theory. Prereq: Math 427, 523, 562 or permission of instructor.

535-536 **Theory of Analytic Functions** Each 3 hours
Semester I; Complex numbers, analytic and elementary functions, complex integrations.
Semester II; Calculus of residues, entire and meromorphic functions, Normal families, and conformal mappings. Prereq: Math 423, 424 or equiv.

560 **Differential Geometry** (I) 3 hours
Differential manifolds, integral calculus on manifolds, Lie groups, differential geometry of Euclidean space. Prereq: Math 423.

562-563 **Introductory Topology** Each 3 hours
Set theory, topological spaces, convergence, continuity, metric spaces and metrization, simplicial, homology theory. Prereq: Permission of instructor.

598 **Graduate Seminar** (I, II) Each 3 hours
A graduate seminar in mathematics. Prereq: Permission of instructor.

601-602 **Thesis** (I, II) Each 3 hours
Prereq: Permission of department head.

**MUSIC**

PROFESSORS PETERSON (Head), RUETZ;
ASSOCIATE PROFESSORS MULLEN, PETERS, TRENHOLM;
ASSISTANT PROFESSORS BOHRER, PAYNE, SCHIVE, SULLIVAN

The Department of Music offers a curriculum designed to meet the professional needs of students preparing for careers in music education, musical performance and private teaching. In addition, courses are provided for all University students who are interested in gaining an understanding of music as a humanistic study.

The degree, Bachelor of Music, offers an intensive study in music with provision for a major field in music education and applied music. It also provides the prerequisites for advanced degree work. The degree allows a maximum of 68 credit hours in music.

111-112 **Diatonic Harmony** (I, II) Each 3 hours
The study of Diatonic Harmonic materials and their application in the writing of music.

121-122 **Ear Training and Sight Singing** (I, II) Each 1 hour
Thorough training in sight singing and the aural recognition of scales, intervals, melodic line and rhythmic patterns.
200-201-202  **Diction for Singers**  Each 1 hour
The phonetics of diction for singing Italian (200), German (201), and French (202). Prereq: Sophomore level and Music 134.

211-212  **Chromatic Harmony**  (I, II) Each 3 hours
Study of Chromatic Harmonic materials and their application to the composition of music. Prereq: Music 112.

221-222  **Ear Training and Sight Singing**  (I, II) Each 1 hour
A thorough training in sight singing and the writing of music through aural dictation. Prereq: Music 122.

225  **Music of the People**  (I, II, S) 3 hours
A listening course based on folk music; its influence on and use in art music; nationalism and program music. No previous musical training required.

226  **Music Masterpieces**  (I, II, S) 3 hours
A listening course designed to guide the untrained listener in a better understanding of great works of music of various periods.

253  **Music Workshop for Elementary and Junior High School**  (S) 1 or 2 hours
A short course designed to meet the needs of both the classroom teacher of music and the music specialist desiring a refresher course in general music. Preq: Teaching experience or Mus. Ed. 251 or equivalent.

301  **Fundamentals of Conducting**  (II) 1 hour
The elements of conducting and score reading.

303-304  **Choral Techniques**  (I, II) Each 1 hour
A study of choral music; the organization and rehearsal techniques of various types of choruses, especially on the secondary level. Prereq: Music 112 or permission.

313-314  **Keyboard Harmony**  (I, II) Each 2 hours

315  **Music History**  (I, II) 3 hours
Primitive times through Bach and Handel. Prereq: Music major or permission.

316  **Music History**  (I, II) 3 hours
Classic, Romantic and Contemporary periods; individual research. Prereq: Music major or permission.

321  **Piano Literature—The Baroque Period**  (I) 1 hour
A detailed study of music literature of the Baroque Period for the piano; the evolution of forms and styles. Prereq: Music 232 or permission.
322 Piano Literature—The Classical Period  (II) 1 hour
A detailed study of music literature of the Classical Period for the piano; the evolution of forms and styles. Prereq: Music 232 or permission.

323 Piano Literature—The Romantic Period  (I) 1 hour
A detailed study of music literature of the Romantic Period for the piano; the evolution of forms and styles. Prereq: Music 232 or permission.

324 Piano Literature—Contemporary  (II) 1 hour
A detailed study of music literature of Contemporary music for the piano; the evolution of forms and styles. Prereq: Music 232 or permission.

325-326-327-328 Vocal Literature  Each 1 hour
Study of the style and performance of Baroque (325), Classical (326), Romantic (327), and Contemporary (328) vocal compositions. Prereq: Junior Standing and Music 234.

363-364 Opera Production  2 hours each
To provide experience and understanding of the technique in the preparation and production of Opera on the proscenium stage. The role of the Stage Director in relation to the Singing Actor. Backstage mechanics as related to Opera production. The administration and organization of a complete Opera production. Prreq: Vocal Director, Musical Stage Director, or equivalent; or permission of instructor.

365-366 Opera Coaching  2 hours each
Individual vocal instruction in the preparation of Opera roles, stressing tone, diction, style, and musical characterization. Prreq: Concurrent enrollment in Music 361 and 363.

411-412 Counterpoint  (I, II) Each 2 hours
Strict counterpoint in three and four voices; fugue exposition; double counterpoint and Canon. Prereq: Music 212 or permission.

415 Orchestration  (I) 3 hours
The technique of writing for the orchestra; required of majors in public school instrumental music. Prereq: Music Major or permission.

416 Bandstration  (II) 2-3 hours
The technique of writing for the band; required of majors in public school instrumental music. Prereq: Music 415.

424 Arranging for Stage Band  (II) 1 hour
The technique of writing for the stage band; suggested for majors in public school instrumental music. Prereq: Music 415 or permission.

429-430 Principles and Materials for Teaching Piano  (I, II) Each 2 hours
The goals, principles, procedures, and materials for teaching piano from elementary through advanced levels. Prereq: Music 232 or permission.
### Projects in Music

*(I, II)* Each 1-3 hours  
Projects in research, composition and performance in music.  
Prereq: Permission.

### MUSIC EDUCATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Fundamentals of Music for Teachers</td>
<td>(I, II, S) 2-3 hours</td>
<td>Music fundamentals for elementary teachers who are unacquainted with the mechanics and language of music.</td>
</tr>
<tr>
<td>251</td>
<td>Elementary School Music Materials and Methods</td>
<td>(I, II, S) 3 hours</td>
<td>Materials and methods of teaching music in grades one through six. Prereq: ME 151 or proficiency.</td>
</tr>
<tr>
<td>351</td>
<td>Secondary School Vocal Music Materials and Methods</td>
<td>(I) 2 hours</td>
<td>Materials and methods of teaching vocal music in grades seven through twelve. Required of music majors who expect to teach vocal music in the junior and senior high school. Prereq: M.E. 251 or permission.</td>
</tr>
<tr>
<td>352</td>
<td>Secondary School Instrumental Music Materials and Methods</td>
<td>(I) 2 hours</td>
<td>Materials and methods of teaching instrumental music in grades seven through twelve. Required of music majors who expect to teach instrumental music in the junior and senior high school. Prereq: M.E. 251 or permission.</td>
</tr>
<tr>
<td>452</td>
<td>Supervision and Administration of Music in the Public Schools</td>
<td>(II) 2 hours</td>
<td>The nature, principles and procedures of music supervision with emphasis placed on the practical situation, materials and organization. Prereq: ME 352 or permission.</td>
</tr>
</tbody>
</table>

### LABORATORY COURSES

Eight semester hours credit in laboratory courses (band, chorus, orchestra; singly or in any combination) are required for the Bachelor of Music degree.

Four credits in Music 360, 361, 362, may be taken in addition to the eight above.

All music majors are required to participate each semester of enrollment in one or more of the Department's laboratory courses; i.e. band, chorus, orchestra.

All music majors preparing to teach instrumental music in the public schools are required to participate in marching band each year of attendance.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>Chorus</td>
<td>(I, II) 1-2 hours</td>
<td>Study of best choral literature; public performances required. Membership, subject to director's approval, is open to any University student.</td>
</tr>
<tr>
<td>262</td>
<td>Orchestra</td>
<td>(I, II) 1 hour</td>
<td>Study of best orchestral literature; public performances required. Open to any University student subject to approval of director.</td>
</tr>
</tbody>
</table>
Band (I, II) 1 hour
Stresses marching routines and band formations during the football season, after which the best concert band literature is studied. Public performances are required. Open to any University student subject to approval of director.

Ensemble (I, II) 1 hour
A course for the study and performance of music written for small groups in various combinations. Features: string, Brass, woodwind, vocal, piano repertoire, piano accompaniment. Open to any University student subject to approval of director.

Opera Theatre (I, II) Each 2 hours
The preparation of complete operas in English, and arias, ensembles, and scenes, in the vernacular language, for public performance. Prereq: Permission.

APPLIED MUSIC

Courses in applied music may be taken only by audition and permission of the Head of the Department of Music.

Lessons must be taken at the scheduled time. A jury examination will be given at the close of each semester. Absence from the examination at the time it is given will result in a failing grade.

All music majors must pass an examination in piano proficiency before graduation. The first examination is to be taken not later than the end of the junior year.

A full or partial recital is required of all music majors.

Minimum requirement in applied music for graduation is 16-24 hours.

All students registered for applied music, except those in preparatory courses, are required to participate in at least one student recital per semester.

PREPARATORY

The Department of Music offers private instruction for those who are not prepared to enter the major courses in applied music at the collegiate level.

101-102 Class Voice (I, II, S) Each 1 hour
103-104 Class Brass (I, II, S) Each 1 hour
105-106 Class Woodwinds (I, II, S) Each 1 hour
107-108 Class Strings (I, II, S) Each 1 hour
109 Class Percussion (II, S) 1 hour
113-114 Class Piano (I, II, S) each 1 hour
203-204 Intermediate Voice (I, II, S) Each 1 hour
Prereq: Music 104 or permission of instructor.
213-214 Intermediate Piano (I, II, S) Each 1 hour
Prereq: Music 114 or permission of instructor.
215-216 **Intermediate Brass**  
(I, II, S) Each 1 hour  
Prereq: Music 116 or permission of instructor.

217-218 **Intermediate Strings**  
(I, II, S) Each 1 hour  
Prereq: Music 118 or permission of instructor.

219-220 **Intermediate Woodwinds**  
(I, II, S) Each 1 hour  
Prereq: Music 120 or permission of instructor.

**COLLEGIATE**

PIANO: to enter the four-year course in piano, the student should be able to play works of the following difficulty: (1) a composition by Bach, such as a prelude and fugue from the WELL TEMPERED CLAVIER or a suite; (2) an entire sonata by Beethoven, Haydn or Mozart; (3) a composition by a nineteenth century composer; (4) a work by a representative twentieth century composer; and (5) all major and minor scales and arpeggios, hands an octave apart.

131-132  
231-232 **Piano**  
331-332  
431-432

VOICE: to enter the four-year course in voice, the student should be able to sing standard art songs and simple classics in good English, on pitch, with correct phrasing, musical intelligence, and pleasing vocal quality. An elementary knowledge of piano is recommended.

133-134  
233-234 **Voice**  
333-334  
433-434

STRINGS: to enter the four-year course in Violin, Viola, Violoncello and String Bass, the student should be able to play scales and arpeggios in at least two octaves, etudes and studies of intermediate difficulty; one or two movements of a classical sonata; concerto: suitable to the student's advancement. An elementary knowledge of piano is recommended.

135-136  
235-236 **Violin, Viola, Violoncello, String Bass**  
335-336  
435-436

WOODWINDS AND BRASS: Required of all entering woodwind and brass majors: the fundamentals of good tone production, breath control and hand position; an elementary knowledge of major and minor scales and arpeggios; one or more solo numbers of good musical quality. An elementary knowledge of piano is recommended.

137-138  
237-238 **Flute, Oboe, Clarinet, Bassoon**  
337-338  
437-438
Trumpet, Trombone, French Horn, Tuba (I, II, S) Each 1-2 hours

Percussion (I, II, S) Each 1-2 hours

Organ (I, II, S) Each 1-2 hours

Harp (I, II, S) Each 1-2 hours

REQUIREMENTS FOR THE BACHELOR OF MUSIC

The course of study below will be followed. Those wishing teacher certification will take the starred courses. Those not wishing teacher certification will take an equal number of credit hours as advised by the counselor.

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 111—Diatonic Harmony</td>
<td>Music 112—Diatonic Harmony</td>
</tr>
<tr>
<td>Music 121—Ear Training and Sight Singing</td>
<td>Music 122—Ear Training and Sight Singing</td>
</tr>
<tr>
<td>English</td>
<td>English</td>
</tr>
<tr>
<td>Physics 101</td>
<td>Biology 102</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Applied Music</td>
</tr>
<tr>
<td>Music Laboratory</td>
<td>Music Laboratory</td>
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15-16

SECOND YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 211—Chromatic Harmony</td>
<td>Music 212—Chromatic Harmony</td>
</tr>
<tr>
<td>Music 221—Ear Training and Sight Singing</td>
<td>Music 222—Ear Training and Sight Singing</td>
</tr>
<tr>
<td>Music 226—Music Masterpieces</td>
<td>Humanities elective</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Applied Music</td>
</tr>
<tr>
<td>Music Laboratory</td>
<td>Music Laboratory</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Foreign Language</td>
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17-18

THIRD YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 315—Music History</td>
<td>Music 316—Music History</td>
</tr>
<tr>
<td>Psychology 101</td>
<td>*Ed. Psychology 351</td>
</tr>
<tr>
<td>*Ed. 207—Hum. Grwth. and Dev.</td>
<td>Humanities elective</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Applied Music</td>
</tr>
<tr>
<td>Music Laboratory</td>
<td>Choral Techniques</td>
</tr>
<tr>
<td>Choral Techniques</td>
<td>Music Laboratory</td>
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</tbody>
</table>

15-16
FOURTH YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mus. 415—Orchestration</td>
<td>3</td>
</tr>
<tr>
<td>*Ed. 468—Elem. Sch. Curr.</td>
<td>3</td>
</tr>
<tr>
<td>*Student Teaching</td>
<td>4-5</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2-3</td>
</tr>
<tr>
<td>Music Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Social Science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 416—Bandstratation</td>
<td>2</td>
</tr>
<tr>
<td>*Mus. Ed. 432—Supv. &amp; Adm.</td>
<td>2</td>
</tr>
<tr>
<td>*Student Teaching</td>
<td>3</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2-3</td>
</tr>
<tr>
<td>Music Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Social Science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

16-18 13-14

Those preparing to teach vocal music only may omit Music 415 and Music 416 but must take at least four credit hours of Class Instrument courses in addition to Choral Techniques.

Students interested in teaching both vocal and instrumental music should consult their counselor for a specific program leading to teacher certification in both areas.

In order to complete the course work for the Bachelor of Music with teacher certification, it may be necessary to do work in addition to the eight semesters normally required.

PHILOSOPHY AND RELIGION

PROFESSOR ANDERBERG (Head);
ASSOCIATE PROFESSOR PALMER;
ASSISTANT PROFESSORS BLUM, STOVER, WILLARD;
INSTRUCTORS BLIZEK, MOLOFF

A major may be secured in Philosophy by successfully completing Philosophy 201, 211 and 212, and eighteen credit hours in the 300 group.

No major is offered in Religion.

PHILOSOPHY

101 Introduction to Philosophy (I, II, S) 3 hours
A first course in philosophy designed to introduce students to the major philosophic positions by way of a treatment of selected problems.

201 Logic (I, II, S) 3 hours
A study of the principles of correct reasoning; induction, deduction, formal and informal fallacies.

203 Classical Ethical Theories (I) 3 hours
A critical study of the moral philosophies of Plato, Aristotle, Christianity, Butler, Kant, Mill, and Nietzsche.

211 History of Ancient Philosophy (I) 3 hours
A broad survey of philosophy from its beginnings in Ancient Greece to the rise of Christianity with emphasis on the philosophies of Plato and Aristotle.

212 History of Modern Philosophy (II, S) 3 hours
An examination of the leading philosophic ideas of the 17th and 18th centuries; Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant.
Contemporary Ethical Philosophy (II) 3 hours
Examination of 20th century developments in moral philosophy: naturalism, non-naturalism, emotivism, prescriptivism, and existentialism. Prereq: Philosophy 203 or Junior Standing.

Philosophy of Religion (I, II, S) 3 hours
A study of the major arguments for and against the existence of God, religious knowledge, miracles, morality without religion, and immortality. Prereq: Junior Standing or 3 credits in Philosophy.

Social Philosophy (II) 3 hours
A philosophic treatment of contemporary social issues with an emphasis upon their moral and ethical implications. Prereq: 3 credits in Phil. or Junior Standing or permission of instructor.

Philosophy of Art (I) 3 hours
A philosophical examination of art from the standpoint of the creative activity of the artist, the work of art, and the reception of art by the public. Prereq: Junior Standing or 3 credits in Philosophy.

History of American Philosophy (18th and 19th centuries) (I) 3 hours
A survey of the philosophy of the Colonial period, the Age of Reason, Transcendentalism, Absolute Idealism, and the Philosophy of Evolution. Prereq: Junior Standing or 3 credits in Philosophy.

History of American Philosophy (20th century) (II) 3 hours
A study of the men and movements in 20th century American thought; Pragmatism, Critical Realism, New Realism, along with selected readings from contemporary American thinkers. Prereq: Junior Standing or 3 credits in Philosophy.

Nineteenth Century Philosophy (II) 3 hours
Post-Kantian philosophical movements in Europe during the 19th century; Idealism, Religious Existentialism, Social Positivism, Communism, Evolutionary Philosophy, and Phenomenology. Prereq: Phil. 212 or permission.

Philosophy of Science (I) 3 hours
An examination of the history, method and presuppositions of scientific inquiry; concept formation, scientific laws and scientific theories. Prereq: Junior Standing.

Symbolic Logic (II) 3 hours
A first course in symbolic logic designed to introduce students to formal systems of propositional, predicate, and class logic. Prereq: Phil. 201 or permission.

Analytic Philosophy (I) 3 hours
An examination of the 20th century movement in philosophy called Philosophical Analysis. Prereq: 3 credits in Phil. or permission.
**Philosophy and Language**

(II) 3 hours
A critical analysis of the theories of meaning and language represented in the literature of 20th century English speaking philosophers. Prereq: Junior Standing or 6 credits in Philosophy.

**RELIGION**

**Old Testament**

(I) 3 hours
A literary and historical approach to the study of the Old Testament in the light of recent scholarship.

**New Testament**

(II, S) 3 hours
An introduction to the literature of the New Testament from a historical perspective.

**Phenomenology of Religion**

(S) 3 hours
After a consideration of various attempts to define what religion is, the course will concentrate on a study of characteristic phenomena in the religious life of man (religious ideas, activities, institutions, customs, and symbols) as they occur in various religious traditions and cultures. Prereq: Junior Standing.

**Religions of the World**

(I) 3 hours
An introduction to the comparative study of religions, followed by a historical account of the major religions of India and the Far East (Hinduism, Buddhism, Taoism, and Confucianism). Prereq: Junior Standing.

**Religions of the World**

(II,S) 3 hours
A study of the major religions of the Near East (Judaism, Christianity, and Islam) with an introduction to their ancient predecessors. Prereq: Junior Standing.

**History of Christian Thought**

(I) 3 hours
The development of Christian thought from the beginnings of Christianity through the medieval period. Prereq: Junior Standing.

**History of Christian Thought**

(II) 3 hours
Main trends in Christian thought in the Reformation and modern periods. Prereq: Junior Standing.

**Religion and Culture**

(I) 3 hours
A study of types of relationships between religion and culture (religion against culture, religion of culture, etc.), and the interaction of religion with various aspects of culture (art, science, politics, etc.). Prereq: Junior Standing.

**Religion and Reason**

(II) 3 hours
A critical study of the dialogue between philosophical reason and religious belief. Reason is seen historically in the curious roles of enemy, ally, and servant of religion. Consideration of contemporary options for applying intellect to faith. Prereq: Junior Standing or Permission of Instructor.
330 Existentialism and Religious Thought (I) 3 hours
A study of existentialism in its theistic (e.g. Kierkegaard) and atheistic (e.g. Sartre) forms, and its impact on recent Jewish and Christian thought. Prereq: Junior Standing.

331 Contemporary Religious Thought (I) 3 hours
A survey of recent developments in religious thought, emphasizing central themes and basic issues in current discussion. Prereq: Junior Standing.

332 Contemporary Religious Thinkers (II) 3 hours
An examination of the thought of recent and contemporary theologians representing various religious traditions. Prereq: Junior Standing.

341 Religious Thought in America (I) 3 hours
The role of religion in American culture as reflected in the development of American religious thought to 1865. Prereq: Junior Standing.

342 Religious Thought in America (II) 3 hours
A study of significant men and movements in the development of American religious thought since 1865. Prereq: Junior Standing.

PHYSICS

PROFESSOR McMILLAN (Head);
ASSOCIATE PROFESSOR GUENTHER:
ASSISTANT PROFESSORS FLOCKEN, SHULT, SCHMIDT;
INSTRUCTORS KASHER, GRAHAM

A major in physics consists of a minimum of 24 hours of advanced physics beyond the general courses (111, 112 or 211, 212). At least 15 hours of the advanced credit in physics requires calculus as a prerequisite. All physics majors must take Theoretical Physics 325 early in their program as prerequisite to some of the advanced undergraduate courses. Core courses should include 375, 376, at least one of 345 or of 385, at least one of 412 or of 414. Inclusion of all core courses, and of more than the minimum of 24 hours will make a stronger major. One year of General Chemistry should be included.

A teaching major in physics shall consist of a minimum of 21 hours of advanced physics beyond the general courses (111, 112 or 211, 212). At least 12 hours of the advanced credit in physics must require math through calculus as a prerequisite. Courses should include Modern or Nuclear Physics, Electricity and Magnetism, Heat or Mechanics, and Optics where possible. Math through differential equations is recommended, as well as a course in General Chemistry.

Double major in Math and Physics. The physics part of a double major may be satisfied by 21 hours of advanced physics beyond the general courses (111, 112 or 211, 212), subject to the same conditions as required above for physics majors. Math Analysis 423 may be used for physics credit if desired.

Engineering Physics. See General Engineering, Physics option.

All physics majors and teaching majors must take laboratory parts of given courses.
All physics majors and teaching majors are required to present a project paper before a scientific group.

Physics majors intending to go on for graduate work should include a course in differential equations.

For the requirements of the general science major see page 00.

*101 Principles of Physical Science (I, II, S) 5 hours
A selected sampling from the fields of geology, physics, chemistry, and astronomy, correlated with everyday problems in the application of physical science to the home, to the industrial city, and to a democracy, leading to an understanding of some of the basic principles and methods of physical science. Lecture, discussion, laboratory. Prereq: H.S. Algebra.

102 Introduction To Physics (I and/or II 5 hours
A terminal one semester course covering major topics in mechanics, heat, sound, electricity, magnetism, light, and modern physics. Designed particularly for non-science liberal arts majors or others for whom such a one semester coverage might be deemed adequate. (Not applicable toward degrees in chemistry, physics, or engineering.) Prereq: H.S. algebra or equivalent.

111-112 General Physics (I, II, S) Each 4 hours
Two-semester continuing course designed for students with no prior background in physics. Mechanics, Heat and Sound covered in first semester with Electricity and Magnetism, Light and a little Modern Physics—covered the second semester. Prereq: High school Algebra and Geometry.

211-212 General Physics Technical (I, II) Each 5 hours
Two-semester continuing course designed for students majoring in some area of science, math, or engineering. Mechanics, Molecular Properties of Matter, Heat, and Wave Motion are covered in the first semester, whereas Electricity, Magnetism, Light, and Nuclear Energies are considered during the second semester. Prereq: High school Physics, and Calculus prior or concurrently.

301 Elements of Electronics (I or II) 3 hours
The background of theory, operation, and practice of electronic devices and circuits particularly as they apply to scientific instrumentation. Both solid state and vacuum tube principles and circuits are involved. Prereq: Math thru Trig., and Physics 112 or 212.

301-L Electronics Laboratory (I or II) 1 hour
302 Optics (I or II) 3 hours
The nature of light energy as disclosed through studies of geometrical optics, physical optics and quantum optics. Prereq: Math 196 and Physics 112 or 212.

302-L Optics Laboratory (I or II) 1 hour

* Not open to students who have completed courses in both high school chemistry and physics with a grade of "C" or better.
325 Theoretical Physics
Training in the use of mathematical techniques as applied to the solutions of physics problems encountered in upper level physics courses. Vector operation, Fourier analysis, frequently used differential and partial differential equations, orthogonal functions, and matrix methods in coordinate transformations are included. Emphasis is given to solving problems from mechanics such as vectorial mechanics, oscillatory systems, wave motion, potential theory etc. Prereq: Calculus and Physics 112 or 212.

335 Atmospheric Physics (I or II) 3 hours
Solar and terrestrial radiation, energy transformations in planetary circulation, condensation and precipitation processes, the upper atmosphere, atmospheres of other planets. Prereq: Calculus and General Physics 112 or 212.

345 Physical Mechanics (I or II) 3 hours
Statics and dynamics of particles and rigid bodies including the equations of Lagrange and Hamilton. Prereq: Calculus, Physics 325 or Permission.

375 Electricity and Magnetism I (I) 3 hours
An advanced discussion of electrostatics and magnetostatics as well as A.C. theory. Prereq: Calculus, Physics 325, or permission.

375-L Laboratory for Electricity and Magnetism I (I) 1 hour

376 Electricity and Magnetism II
3 hours
A course in electrodynamics. Topics include Maxwell's Equations and methods for their solution, boundary conditions, as well as energy, momentum, and transformations of the fields. Prereq: Physics 375.

375-L Laboratory for Electricity and Magnetism II (II) 1 hour

385 Heat and Thermodynamics (I or II) 3 hours

405 Solid State (I or II) 3 hours
Behavior of materials in the solid state as concerns Energy Levels, Wave Mechanics, Optical and Electrical Phenomena. Prereq: Calculus and Physics 325 or permission.

407 The Special Theory of Relativity
This course includes the general historical background, the important experiments, Lorentz transformations, covariant formulation, applications to electromagnetism and mechanics, and philosophical implications of special relativity including relationship to the general theory. Prereq: Calculus and Physics 112 or 212.

412 Modern Physics (I or II) 3 hours
Recent developments concerning the nature of matter, radiation, and space including relativistic effects and the dualistic behavior of particles and waves. Prereq: Calculus and Physics 112 and 212.
412-L Modern Physics Laboratory (I or II) 1 hour

414 Nuclear Physics (I or II) 3 hours
Methodology and principles of nuclear science, nuclear structure, artificial and natural radioactivity, isotopes, tracer, techniques, radiation health physics, reactor theory. Prereq: Calculus and General Physics 112 or 212.

414-L Nuclear Physics Laboratory (I or II) 1 hour

434 Principles of Geology (I or II) 3 hours
Geology course designed primarily for Junior High School and Secondary High School teachers of science or for science majors desirous of broadening background. Includes minerals, rocks, volcanism, diatrophism, gradational agents, geophysics, and a brief contact with historical and structural geology. Prereq: General Physics and/or General Chemistry.

435 Descriptive Astronomy (I or II) 3 hours
Astronomy course designed primarily for Junior and Senior High School teachers of science or for science majors desiring to broaden their background. Includes historical highlights, Newtonian mechanics, solar system, meteors, physics of starlight, stars, star systems, and stellar evolution. Prereq: General Physics and/or General Chemistry.

455 Quantum Mechanics (I or II) 3 hours
Basic quantum phenomena such as black body radiation, photoelectric effect, Compton scattering, and barrier penetration. Course includes the uncertainty principle, and solutions of various problems such as the potential box, potential step, and the harmonic oscillation by use of the Schroedinger equation. Applications will be considered for the Hydrogen atom and to simple molecules and crystals. Prereq: Calculus, Physics 325 or permission.

492-493 Modern Developments in Physics (I or II) Each 3 hours
A resume of the most important discoveries, changes and new concepts gleaned from the last decade of research in physics. Superconductivity, lasers, masers, superfluidity, ultra large magnetic fields, space plasmas, nuclear fusion, power, etc. Designed for updating physical science concepts for science majors and for science teachers. Prereq: General Physics 112 or 212.

495-496 Problems in Physics (I, II, S) Each 1-3 hours
Individual laboratory and/or library work in some field of energy. Prereq: General Physics and permission of instructor. For 496: 495 and permission of instructor.

Courses in other departments applicable toward physics major:

- Statics of Engineering See Engineering 230
- Meteorology See Engineering 336
- Mathematics Analysis See Mathematics 423

Education Courses 560 and 570, Harvard Project Physics, are encouraged for Physics Teaching Majors.
The Bachelor of Arts degree with a major in Political Science and the Bachelor of Science in Public Administration degree are offered by the Department of Political Science.

The requirements for the two degrees are listed below.

BACHELOR OF ARTS DEGREE

A major consists of 24 hours. Pol. Sci. 100 does not count as a part of the major, but majors are strongly urged to take it. For any area of concentration in Political Science, Pol. Sci. 110, 111, and 6 hours of Political Theory are required. In individual counseling, each major will have a pattern of courses in the department as well as a social science pattern outside of the department, designed to suit his areas of concentration. Programs are carefully worked out for students having specific goals, such as pre-law, Foreign Service, public administration, graduate school, secondary teaching certificates, etc. However, at least 6 hours of economics and a minimum of 3 hours of geography are required of all majors. The major must maintain at least a “C” average in all Political Science courses, and courses at the 200, 300, and 400 level with less than a “C” grade may not be applied on the major.

BACHELOR OF SCIENCE IN PUBLIC ADMINISTRATION

The major in Public Administration consists of 44 hours of Political Science. A foreign language is not required but in lieu thereof a student must take 11 hours of Mathematics and Computer Science and 12 hours of English. Other specific subject matter requirements are: Accounting, 6 hours; Economics, 9 hours; Geography, 7 hours; History, 6 hours; Philosophy, 6 hours; Psychology, 6 hours; Natural Science, 12 hours; Sociology, 3 hours; and Speech, 3 hours. Specific course requirements will be determined in consultation with the student’s adviser. The major must maintain at least a “C” average in all Political Science courses and courses at the 200, 300, and 400 level with less than a “C” grade may not be applied on the major.

URBAN STUDIES

A major in urban studies consists of 36 semester hours selected from the courses listed below. At least 3 semester hours must be completed in each departmental area (economics, geography, political science, and sociology) plus 15 hours in one of the above fields. The remaining 9 hours of electives will be scheduled in consultation with the departmental chairman.
The following course may be used to satisfy the urban studies major.

Economics: 312, 355, 456.
Geography: 313, 353, 363, 412*, 443*.
Political Science: 216, 301*, 317*, 440, 441, 443.

100 Introduction to Political Science (I, II) 3 hours
A basic course in Political Science dealing with the fundamentals of man politically organized. It seeks to introduce students to the fundamental language and concepts of the broad field of Political Science.

110 American Government: Organization (I, II) 3 hours
The first semester of a two semester American government course. The first semester covers the origins and organization of American Governments: National, State, and Local.

111 American Government: Function (I, II, S) 3 hours
A continuation of Pol. Sci. 110 in which the student studies Cooperative Federalism. This course examines what the various levels of governments do as opposed to structure. Prereq: Pol. Sci. 110.

216 Political Parties (I, S) 3 hours
A study of the organization and operation of the American party system. Prereq: Sophomore Standing.

217 Pressure Groups and Public Opinion (II, S) 3 hours
A study of the activities of the basic interests and their efforts to influence both the opinion and policy of the public sector of the government. Prereq: Sophomore Standing.

221 International Relations (I, S) 3 hours
The nature of the international political environment, in terms of the forces, influences, and problems involved in the relations between nation-states and the means of conducting these relations. Prereq: Sophomore Standing.

301 Municipal Government (I, S) 3 hours
A course concerned with the development of cities, their forms of government, powers, functions, and problems in an industrialized and urbanized society. Prereq: Junior Standing.

313 Comparative Government-Democracies (I, S) 3 hours
A basic study of theory, practice and practitioners of political democracy, its roots, development, present application and problems, and future. Prereq: Junior Standing.

314 Comparative Government-Dictatorships (II, S) 3 hours
A basic study of theory, practice and practitioners of political dictatorship, its roots, development, major 20th century application and bestiality, and threats to man. Prereq: Junior Standing.

* Courses marked with an asterisk are to be given priority by students majoring in urban studies.
315 **Communism: Its Theory and Practice**  
(I, S) 3 hours  
The Marxian message, its use as an impulse to political power,  
its world-wide extension, and the threat it poses for the world  
in the hands of the Soviet Union and others. Prereq: Junior  
Standing.

317 **Introduction to Public Administration**  
(I, II, S) 3 hours  
A study of governmental administration and its involvement in  
the social and economic problems of American democracy. It  
includes but is not limited to the organizational, financial, per-  
sonnel, and planning problems and administrative relations with  
legislatures, political parties, chief executives and the courts.  
Prereq: 110, 111, Junior Standing.

320 **Jurisprudence**  
(II) 3 hours  
A study of the theories of law. The Codified Law and British  
Common Law will be examined as well as the writings of the  
great legal theorists. Prereq: 110, 111, Junior Standing.

322 **International Organization**  
(II, S) 3 hours  
The efforts made and the problems involved in providing inter­  
national institutions capable of peacefully reconciling the differ­  
ences and advancing the mutual interests of nation-states. Pre­  
req: Junior Standing.

326 **United States Foreign Policy**  
(II, S) 3 hours  
The conduct and control of United States foreign policy in terms  
of the influences, processes and machinery of foreign policy  
formulation and the instruments of implementation. Prereq:  
Junior Standing.

350 **Governments of Western Europe**  
(II, S) 3 hours  
The government and politics of the states of Western Europe,  
including Great Britain, France, and West Germany. Prereq:  
Junior Standing.

352 **Latin American Governments**  
(I, S) 3 hours  
The problems and political processes of the states of Latin  
America, including the structure and operations of their gov­  
ernments and the forces and dynamics of their political systems  
Prereq: Junior Standing.

354 **Governments of Asia**  
(II, S) 3 hours  
The government and politics of the states of Asia, including  
China, Japan, and India, with special attention to the social, eco­  
nomic, and ideological setting. Prereq: Junior Standing.

403 **The Presidency**  
(I, S) 3 hours  
The rise of the institution from Washington to the present, to  
the position and prestige it holds and how the President uses  
this power and prestige to influence Congress, the courts, and  
the public. Prereq: 110, 111 and Junior Standing.
404 **The Legislative Process**  (II, S) 3 hours
A comprehensive study of the legislative process of the Congress and state legislatures. The major emphasis is on legislative institutions, processes and behavior. Prereq: 110-111, Junior Standing.

405 **The Judicial Process**  (I, S) 3 hours
This is a course in the administration of justice. It examines the Federal and State courts with respect to their powers, judicial selection, the bar, and the reform movements in the most basic of all of man's objectives, "The pursuit of justice."

410 **Comparative State Politics**  (I, S) 3 hours
A comparative analysis of the structure and function of American state governments. Institutional aspects will be examined, but primary emphasis will be placed on the policy determination process and the significant variables which pattern this process. Prereq: 110, 111, Jr.

412 **Public Opinion and Political Behavior**  (II, S) 3 hours
Analysis of the political socialization process as it relates to opinion formulation and participation and the effects of this process on the operation of the political system. Prereq: Junior Standing.

418 **Constitutional Law I**  (I, S) 3 hours
The first semester of a two-semester course in American Constitutional Law. It seeks to familiarize the student with the background of the American Constitutional system, the nature of the judicial process and the role of the United States Supreme Court in the development of the institutions and powers of the American Federal System. Prereq: 110, 111, Junior Standing.

419 **Constitutional Law II**  (II, S) 3 hours
The second semester of the American Constitutional Law course. It focuses on the role of the United States Supreme Court in delineating and defining the political and civil rights guaranteed in the United States Constitution. Prereq: 110, 111, Junior Standing.

421 **Foreign Policy of the U.S.S.R.**  (II, S) 3 hours
A study of the foreign policy of the U.S.S.R., with emphasis on developments since 1945. Internal and external influences on Soviet foreign policy, the processes of foreign policy making, and the relations among members of the Communist camp also will be considered. Prereq: Junior Standing.

423 **National Security Policy**  (II, S) 3 hours
The processes and the machinery of formulating national security policy and the influences involved. Special emphasis is given to demonstrating the interrelationships among political, military, technological, domestic and international factors. Prereq: Junior Standing.
426 **International Law of Peace**  
(I, S) 3 hours  
A basic course in the broad curriculum of international politics.  
It seeks to introduce the student to the continuing morality and  
law which is accepted by the international community and ac­  
cording to which it seeks to function in its relations as sovereign  
states. The aspects of the Law of War are excluded from this  
treatment. Prereq: Senior Standing.

428 **Inter-American Politics**  
(II, S) 3 hours  
Analysis of the role of Latin American states in the interna­  
tional political arena. Emphasis upon developing applying and  
testing an explanatory theory of international politics through  
the study of the Inter-American system: the regional institu­  
tional and ideological environment, power relations, policies,  
and contemporary problems. Prereq: 352 or Senior Standing  
and permission of instructor.

431 **Political Theory I**  
(I, S) 3 hours  
Reviews and analyzes the leading political theories of Western  
Man from the Hebrews and Greeks to the mid-17th Century.  
Prereq: Junior Standing.

432 **Political Theory II**  
(II, S) 3 hours  
Continues the review and analysis of the leading political  
theories of Western Man begun in Pol. Sci. 431, bringing the  
study down to the present day. Prereq: Junior Standing.

433 **American Political Thought**  
(II, S) 3 hours  
An over-view and analysis of the dominant political thoughts  
and ideas that have been present in American thinking from  
the days of the Puritans to today, and the individuals who held  
them. Prereq: Junior Standing.

440 **Public Budgeting**  
(II) 3 hours  
A study of the processes and procedures involved in making  
budgets for governmental institutions. Prereq: 317, Senior  
Standing.

441 **Public Personnel Management**  
(II, S 3 hours  
A study of the personnel process in American governmental  
administration. The processes and problems of recruiting, struc­  
turing, and operating public bureaucracies are examined as well  
as problems in personnel leadership, neutrality, accountability  

443 **Municipal Administration**  
(II, S) 3 hours  
The administrative structure and administrative practices of  
American cities covering such areas as finance, personnel, public  
works, public safety, health, utilities, and planning. Prereq:  
301, Junior Standing.

445 **State Administration**  
(II) 3 hours  
A study of the administrative organization and procedures of  
selected states in the Federal System. Application of the prin­  
ciples of public administration to the level of state govern­  
ments is made on a comparative basis. Prereq: 110, 111, 317.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government and Politics of Great Britain</td>
<td>(I, S) 3 hours</td>
<td>A comprehensive study of British politics and government. Emphasis will be focused on the formal institutions and informal customs and practices of the British political system. Prereq: Junior Standing.</td>
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<tr>
<td>Government and Politics of France</td>
<td>(II, S) 3 hours</td>
<td>The political heritage, attitudes, institutions, processes, and problems of modern France. Prereq: Junior Standing.</td>
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<tr>
<td>Government and Politics of Africa</td>
<td>(I, S) 3 hours</td>
<td>A comparative analysis of political problems, institutions, and governmental functions in Africa, primarily Sub-Saharan Africa, with special attention given to the political environment. Prereq: Junior Standing.</td>
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</tr>
<tr>
<td>Government and Politics of the U.S.S.R.</td>
<td>(I, S) 3 hours</td>
<td>An analysis of the structure and processes of government in the U.S.S.R. Special attention will be devoted to the role of the Communist Party in Soviet politics and to the ideological and social factors which influence policy formation. Prereq: Junior Standing.</td>
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</tr>
<tr>
<td>Readings in Government</td>
<td>(I, II, S) 3 hours</td>
<td>A course designed for senior majors, who through inability to schedule, are unable to meet departmental requirements for graduation. Prereq: Pol. Sci. major. Senior Standing, and approval of the department and the department head.</td>
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</tr>
<tr>
<td>Internship in Local Government</td>
<td>(I, II, S) 2 hours per sem. to 6</td>
<td>Internship in Local Government offices: Participation in the policy-making and administrative processes of Local Government; discussions and reports. Prereq: 110, 111, 301, 317, or their equivalents, and Senior Standing. (Also listed under Economics, Sociology, Geography, and History.)</td>
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<tr>
<td>Comparative Politics</td>
<td>(II, S) 3 hours</td>
<td>An examination of the purpose, theories and literature of the field of comparative politics, with evaluation of the theories by application to contemporary political systems. Prereq: Graduate Standing or Senior Standing with permission of the instructor and the department head.</td>
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</tr>
<tr>
<td>Theories and Literature of International Relations</td>
<td>(I, S) 3 hours</td>
<td>An examination of the theoretical frameworks advanced for the systematic study of International Relations, with application to particular problems in International relations. Prereq: Graduate or Senior Standing, with permission of instructor and department head.</td>
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</tr>
<tr>
<td>Independent Study in Topics on Urbanism</td>
<td>1 hour per sem. to 3</td>
<td>Graduate student research on an individual basis under faculty supervision in topics pertaining to urbanism. Prereq: Under-</td>
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</table>
graduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Economics, Geography, and Sociology.)

581 Urban Seminar in Metropolitan Planning and Development

(II) 3 hours

An overview of the present status of planning in metropolitan areas with special emphasis on structure of planning departments, comprehensive plans, and problems of annexation. Prereq: Geog. 412 or recommendation from Political Science, Sociology, or Economics Departments. (Also listed under Geography.)

583-584 Interdisciplinary Seminar on the Urban Community

3 hours per sem. to 6

An interdisciplinary course on the metropolitan community in which various departmental and college offerings concerned with urban problems are put in broad interrelated focus. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under Economics, Geography and Sociology.)

585-586 Urban Economics

Each 3 hours

An examination of the theoretical basis for the analysis of urban economic problems with emphasis upon the policy alternatives applicable toward their possible solution. Prereq: At least 6 hours of upper division work in economics or permission. (Also listed under Economics, Geography, and Sociology.)

PSYCHOLOGY

PROFESSORS NEWTON, (Head), ELLINGSON, HURST, PEDRINI, WILLIAMS;
ASSOCIATE PROFESSORS BECKER, BERRY, INNES, KINCAID, LaVOIE, ROSE, SASLOW, STRIDER WIKOFF;
ASSISTANT PROFESSORS BROWN, DEFFENBACHER, HAMM, HANSEN, HENDRICKS, KESSLER, MILLIMET, THOMAS;
INSTRUCTORS BETHEL, HUNTLLEY, MANNING

The Psychology Department offers two avenues by which a student may complete an undergraduate major. The first leads to a Bachelor of Arts degree. It is intended for the student who is seeking a broad, liberal education and either does not intend to go on to graduate work in psychology or has not definitely decided to make psychology his life's work. The second leads to a Bachelor of Science degree and is specifically designed to prepare a student for admission to post-graduate work.

An undergraduate major in the B.A. program may be secured by completing the following courses: Psychology 101, 102 (with laboratory), 213, 343, 401, 421, and nine additional hours of upper division courses in psychology. Psych 401 and 421 are offered with optional laboratory sections for one additional hour of credit. Psychology majors are required to elect a laboratory in one of these two courses, and are strongly en-
couraged to take the laboratory work with both courses. Permission of
the psychology department is required to substitute another course for
one in which a grade of less than "C" is earned.

In the B.S. program, a student must complete the following require-
ments for a psychology major:

**Psychology:** 101, 102 (with laboratory), 213, 313, 401 (with laboratory),
421 (with laboratory), 445, and six additional hours of upper division
courses. All of these courses must be completed with a grade of "C"
or better.

**Foreign Language:** Either French, German, or Russian is recom-
mended for fulfillment of College language requirements.

**Humanities:** Philosophy 341 must be included in fulfilling College
divisional requirements.

**Natural Sciences:** Two Biology courses (as recommended by the stu-
dent's advisor) are required. Either Physics 111 and 112 or Chem-
istry 101 and 102 are required.

**Social Sciences:** Six hours of Sociology or Anthropology are required
to be taken in meeting College divisional requirements.

**Mathematics and Computer Science:** Mathematics 195 and Computer
Science 230 are required.

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>101</td>
<td>Introduction to Psychology</td>
<td>3 hours</td>
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<tr>
<td>102</td>
<td>Introduction to Psychology</td>
<td>3-4 hours</td>
</tr>
<tr>
<td>213</td>
<td>Basic Statistics</td>
<td>3 hours</td>
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<tr>
<td>313</td>
<td>Research Design</td>
<td>3 hours</td>
</tr>
<tr>
<td>341</td>
<td>Survey of Clinical Psychology</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

An introductory course and fundamental to all subsequent
courses in the department.

A discussion of selected points of view within psychology
usually emphasizing behaviorism and Freud, designed pri-
marily as a second course for potential majors and Arts students
in related fields. A laboratory section may be taken (by permis-
sion of the instructor) for an extra one hour credit. The labora-
tory is coordinated with the discussion and includes operant
conditioning techniques with laboratory animals. Prereq: Psy.
101.

An introduction to statistics, with particular emphasis on models
and hypothesis testing. Coverage of single-factor analysis of
variance, chi-square, F and t tests, first-order regression and
correlation. Prereq: Math 143 or perm of instr.

A study of behavioral science research methodology with par-
ticular emphasis on psychological and sociological research
including discussion of experimental design and scaling. Prereq:
Psy. 213.

A broad survey of problems and practices in the diagnosis and
Personality and Adjustment 3 hours
The study of persons in a social context, and their resultant effective or ineffective behavior, with emphasis on types of adjustment. Prereq: Psy. 102.

Social Psychology 3 hours
A study of human interactions: the effects of the behavior of others on the behavior of the individual; the effects of group membership on behavior; an analysis of the social self; attitudes, motives, norms, and roles. Prereq: Psy. 101.

Educational Psychology 3 hours
A study of the capacities and interests of children and individual differences in their capacities. Factors that influence learning and an evaluation of learning and classroom procedures are included. Prereq: Psy. 101.

Child Psychology 3 hours
A study of the physical growth, social and emotional behavior, and mental development of the child, including the pre-school period, primary, and elementary grades. Prereq: Psy. 102 or 351.

Psychology of Adolescence and Adulthood 3 hours
A review of theory and available evidence useful in understanding changes and problems in the physical, intellectual, social, and emotional adjustment of individuals in adolescence and later life. Prereq: Psy. 102 or 351.

Industrial Psychology 3 hours
A broad survey of findings and principles related to business applications including discussion of personnel selection and classification, employee appraisal, training, human engineering, employee development, consumer analysis and advertising. Designed primarily for non-psychology majors. Prereq: Psy. 101.

Experimental Psychology of Learning 3-4 hours
A comprehensive coverage of the experimental literature on human and animal learning. An optional laboratory is designed to acquaint the student with practical research methods. Prereq: Psy. 102.

Psychology of Motivation 3 hours
An exploration of the motivation of organisms including methods, concepts, issues, and theories deriving from historical and contemporary research. Prereq: Psy. 213 and 401.

Computer Concepts in Psychology and the Behavioral Sciences 3 hours
An introductory course emphasizing the applications of computers in the areas of psychology, sociology, and education. Includes a functional description of computers and a discussion of programming languages as well as specific uses. Prereq: An introductory statistics course.
407 Cognitive Processes 3 hours
An exploration of historical and contemporary research and theory concerned with higher cognitive processes including concept formation, problem solving, creativity, memory, and symbolic behavior. Prereq: Psy. 401.

414 Non-parametric Statistics 2 hours
A study of distribution-free statistics with particular emphasis on application of distribution-free tests to research problems in the social behavior sciences. Prereq: Basic Statistics.

415 Multiple Regression and Factor Analysis 3 hours
Advanced problems and techniques of correlation and regression are discussed, including: special simple correlation methods and problems, multiple correlation, multiple regression, and factor analysis. Prereq: Basic Statistics.

416 Analysis of Variance 3 hours
Consideration is given in this course to descriptive and inferential procedures for use in analyzing individual differences expressed as variance. One-way and multifactor designs are discussed along with the models, purposes, assumptions and techniques appropriate to each. Prereq: Basic Statistics.

421 Experimental Psychology of Sensation and Perception 3-4 hours
Advanced laboratory techniques and methods in the field of sensation, perception, and learning are presented, and the student is given an opportunity to conduct supervised research on several laboratory projects. Prereq: Basic Statistics or permission of instructor.

423 Physiological Psychology 3 hours
The relation of the structures and functions of the nervous and other organ systems of an organism to its behavior. Research will be emphasized throughout the course. Prereq: Psych 101 and permission of instructor.

427 Animal Behavior (Biology 427) 3 hours
Behavior of diverse animals will be studied—primarily to develop an understanding of the relationships between nervous integration and the behavior manifested by the organism, as well as the evolution and adaptive significance of behavior as a functional unit. Prereq: Psych 101 or Biology 174 or permission.

431 Psychological and Educational Testing 3 hours
The purpose of the course is to acquaint students in Education and Psychology with the different kinds of standardized tests available to them for the evaluation of students' programs and for guidance. Emphasis will be placed on achievement tests, and construction of teacher-made tests. Prereq: Psych 102 or 351.
433 Individual Differences 3 hours
A critical study of experimental and statistical investigations of the influence of age, ancestry, sex, physical traits, and environment in causation of individual differences in mental traits. Prereq: 9 hours of psychology, including Psych 101 and Basic Statistics.

443 Psychoanalytic Theories of Personality 3 hours
An integrative course designed to acquaint the student with the Freudian and psychoanalytic viewpoints. Research in anxiety, defense mechanisms, sleep, and dreams is emphasized. Prereq: Basic Statistics and Psych 343.

444 Abnormal Psychology 3 hours
The purpose is to become familiar with theories (psychological, psychiatric, psychoanalytic) of normalcy and abnormality. The symptoms, dynamics, therapy, and prognosis of individuals and groups in the syndromes will be considered. Research in the syndromes is emphasized. Prereq: Psych 343 and Basic Statistics or Psych 445.

445 Personality Theories 3 hours
This course is designed to familiarize the student with personality theories, which are much more inclusive than learning or perception, per se. To transcend isolated facts and approach integrated viewpoints. A research approach is emphasized. Prereq: Psych 102 and senior standing.

447 Advanced Counseling Theory 3 hours
This course emphasizes the relation between diagnosis and treatment with a Jungian approach embracing psychology, literature, philosophy, and theology. Readings are emphasized. Prereq: Psych 343 or Ed 520 or Psych 445.

452 Introduction to General and Experimental Linguistics (Speech 452) 3 hours
A broad survey of generative syntax, phonology, and pragmatics and of related material in linguistic and paralinguistic perception, memory, and communication. Individual papers required in areas of student interest. Designed primarily for students wishing to apply linguistic methods and thought in the behavioral and communication sciences. Laboratory to be arranged. Prereq: Senior or graduate standing in Psych or Speech or permission. Recommended: Psych 421 or Speech 351.

455 Retardation 3 hours
This course considers significantly sub-average intellectual functioning originating during the developmental period and associated with impairment in adaptive behavior. Research is emphasized. Prereq: Psych 431; or basic statistics and Psych 343 or 445.

457 Developmental Psychology 3 hours
A systematic review of the research literature related to the biological, social, and cognitive development of children from conception to adolescence. Prereq: Basic Statistics.
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<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>459</td>
<td>Psychology of Exceptional Children</td>
<td>3</td>
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<tr>
<td></td>
<td>A study of the special problems of youngsters with visual, auditory, or neurological impairments, orthopedic anomalies, intellectual retardation or superiority, speech disorders, emotional or social maladjustments, learning disabilities and cultural deprivation; and the characteristic relationships of parents, professionals, and others to these children. Prereq: Psych 343 or 351.</td>
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<tr>
<td>461</td>
<td>Engineering Psychology</td>
<td>3</td>
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<td></td>
<td>The methods of experimental psychology are discussed as they relate to problems of designing machines for efficient human use. Prereq: Psych 101 and permission of instructor.</td>
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<tr>
<td>462</td>
<td>Psychological Aspects of Industrial Training and Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A study and application of the theory, techniques, and procedures involved in preparing individuals for their jobs through training and education. Prereq: Psych 362 and Basic Statistics.</td>
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<tr>
<td>463</td>
<td>Techniques of Programmed Instruction</td>
<td>3</td>
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<tr>
<td></td>
<td>An introduction to methods and technology in construction and use of teaching machine programs, with special emphasis on computer assisted instruction. Prereq: Psych 101 and permission of instructor.</td>
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<tr>
<td>490</td>
<td>Problems in Psychology</td>
<td>1-3</td>
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<tr>
<td></td>
<td>A faculty supervised research project, involving empirical or library work and oral or written reports. Prereq: 15 hours of psychology.</td>
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<tr>
<td>491</td>
<td>Research Problems in Physiological Psychology</td>
<td>3-6</td>
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<td></td>
<td>An individualized introduction to the techniques and methodology used in the physiological psychology laboratory. Prereq: Psych 423 and permission of instructor.</td>
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<tr>
<td>501</td>
<td>History of Psychology</td>
<td>3</td>
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<tr>
<td></td>
<td>A study through reading and discussion of the significant individual contributors and contributions to the growth of psychology. Prereq: Permission of instructor.</td>
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<tr>
<td>502</td>
<td>Current Trends in Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A study through reading and discussion of the most recent developments, covering all specialties. Prereq: Permission of instructor.</td>
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<tr>
<td>505</td>
<td>Learning Theory</td>
<td>3</td>
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<td>This course presents, at an advanced level, the work of the theorists who have most directly influenced the contemporary psychology of learning. Prereq: Psych 401 or permission of instructor.</td>
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<tr>
<td>520</td>
<td>Introduction to Counseling Theories</td>
<td>3</td>
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<td>Study of contemporary theories of counseling, the counseling process and methods. Prereq: Education 490 or department permission.</td>
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532 **Tests and Measurements** 3 hours
A study of the theoretical and practical problems related to the development and use of psychological tests. Covers such topics as: measurement, test development, standardization, reliability, validity, and interpretation. Prereq: Basic Statistics.

545 **Experimental Social Psychology** 4 hours
A study through lectures and laboratory work of group processes emphasizing information theory, game theory, and graph theory. Prereq: Psych 421.

550 **Seminar in Communication Theory** (Speech 550) 3 hours
Analysis of current approaches to the study of communication with emphasis on theoretical models and their application to various professional interests. Prereq: Basic statistics or permission of instructor.

551 **Advanced Educational Psychology** 3 hours
A study of the principles of learning and testing and their applications to problems of contemporary education, particularly to those problems existing in the classroom. Prereq: Psych 351.

553 **Individual Tests: Children and Adolescents** 4 hours
Administration, scoring, standardization, and interpretation of and research with the Revised Stanford-Binet (L-H), Vineland Social Maturity Scale, Wechsler Intelligence Scale for Children, Goodenough-Harris, and House-Tree-Person Technique. Prereq: Basic Statistics and Psych 431 or Psych 532 or permission of instructor.

554 **Individual Tests: Adolescents and Adults** 4 hours
Administration, scoring, standardization, and interpretation of and research with the Wechsler Adult Intelligence Scale, Wide Range Achievement Test, Bender Visual-Motor Gestalt Test, Children's Apperception Test, Sentence Completion, and Thematic Apperception Technique. Prereq: Psych 553.

555 **Introduction to Therapeutic Techniques with Children** 3 hours
The purpose of this course is to become familiar with play therapy, a technique for enhancing the adjustment and maturity of children. The history and methods of and the research with play therapy are considered. Prereq: Permission of instructor.

557 **Behavior Modification** 3 hours
A course in the techniques, rationale, and research literature of changing behavior through reinforcement procedures. Particular attention will be paid to child behavior including retarded children, behavior problems in school, and the behavior of the mentally disturbed. Prereq: Psych 102 and 343, or permission of instructor.

561 **Seminar in Industrial Psychology** 3 hours
Intensive study of current problems and research in psychology in industry with particular emphasis on integration of research findings. Prereq: Graduate standing and Basic Statistics.
563 Personnel Selection and Assessment
A practical course designed to familiarize the student with the procedures used in assessing and selecting people for industrial positions. Prereq: Basic Statistics, Psych 532 and permission of instructor.

591 Topical Seminar in Psychology
A discussion of specific advanced topics which will be announced whenever the course is offered. Prereq: Permission of instructor.

595 Practicum in Psychology
Faculty-supervised experience in a real life educational agency, clinic or institutional setting designed to bridge the gap between the classroom and a job by emphasizing use of previously acquired knowledge in dealing with practical problems. Prereq: Permission of instructor.

601-602 Thesis
Each 1-3 hours
Independent research project written under supervision of a faculty committee.

SOCIOMETRY

PROFESSORS BARGER (Chairman), VOGT, WHEELER;
ASSISTANT PROFESSORS CLUTE, NYE, ROOT, ROUSSEAU,
SIMPSON, SKREIJA, ZELINSKY;
INSTRUCTORS BETTER, ELSE

The undergraduate major in sociology consists of the course Sociology 101 and twenty-four additional hours in the field including eighteen hours numbered 300 or above and one basic course in each of the areas of social problems, statistics, social psychology, social organization, research methods, and sociological theory. Departmental offerings which meet these requirements are, respectively, 210 or 413; 213; 301, 401, or 402; 361, 363, 369, 410 or 462; 451; 471 or 472.

Students such as those in military service and others having special interests in foreign or preliterate cultures are directed toward courses in Anthropology which are listed following the Sociology courses. Students interested in employment in a social work agency should consider the social work sequence listed on page 151. One need not be a Sociology major to qualify for the social work sequence.

101 Introductory Sociology
(I, II) 3 hours
An introduction to the study of human social behavior, presenting the fundamental concepts and point of view of the field of sociology. Open only to freshmen and sophomores. Others should enroll in 403.

210 Social Problems
(I, II) 3 hours
A description of the major social problems in American society with some therapeutic considerations. Prereq: Soc 101 or 403.
213 **Basic Statistics** (I, II) 3 hours
Descriptive statistics, an introduction to inductive statistical thinking, the basic statistical techniques employed in analyses of social data. Prereq: Mathematics 143 or permission of instructor.

215 **Marriage and the Family** (I, II) 3 hours
An inquiry into the historical, biological, and cultural foundations of the family. A description and analysis of the contemporary American family with special attention to changing norms and functions. Prereq: Soc. 101 or 403.

217 **Pressure Groups and Public Opinion** (Same as Political Science 217) (II, S) 3 hours
A study of the activities of the basic interests and their efforts to influence both the opinion and policy of the public sector of the government. Prereq: sophomore standing.

301 **Society and Self** (I, II) 3 hours
A sociological perspective on the nature and extent of group effects on the personality and its development. Prereq: Soc. 101 or 403 or Psych. 101 and sophomore standing.

314 **American Society** 3 hours
A sociological perspective on contemporary American Society, Urbanization and other population trends, social movements, changes in work, family life, recreation, institutions and values. Prereq: 6 hours social science.

335 **Criminology** (I, II) 3 hours
A general survey of the history, nature, and causes of crime; criminal investigation and prosecution; punishment, correctional treatment, and crime prevention. Prereq: Soc. 101 or 403.

337 **Juvenile Delinquency** (I) 3 hours
The study of the extent, causation, and prevention of juvenile delinquency. Includes an analysis of juvenile courts, probation, institutional treatment, parole, and prevention programs. Prereq: Soc. 101 or 403.

361 **Social Organization** (I) 3 hours
The social structure of human groups. Patterns of communication and interaction, stratification, division of labor, and power in institutions, bureaucracies and informal groupings. Prereq: Soc. 101 or 403 and sophomore standing.

363 **Comparative Social Institutions** (I) 3 hours
An examination of the interlocking network of institutions in society with particular stress on social institutions not covered in other Department of Sociology courses e.g., political, economic, religious institutions, and science as an institution. A comparison among societies with differing institutional arrangements. Prereq: Soc. 101 or 403 and Anthropology 105 or permission of the instructor and sophomore standing.
369 **Social Stratification** (II) 3 hours
Social classes and social mobility in America. Other systems of distributing rewards, honors, and power on the basis of hierarchical rank and the principles underlying their operation. Prereq: Soc. 101 or 403 and sophomore standing.

380 **Occupational Sociology** (II) 3 hours
The sociology of work, unions and other occupational associations, the professions. Sociological factors in industrial morale and productivity, occupational prestige and mobility, career patterns. Prereq: Soc. 101 or 403 and sophomore standing.

381 **Sociology of Education** (I) 3 hours
The study of education as a social institution and as a social process in modern society. The internal systems, problems, roles, and subcultures of educational organizations. Prereq: Soc. 101 or 403 and sophomore standing.

382 **Medical Sociology** (II) 3 hours
The sociology of health and the health professions providing an examination of the social aspects of medicine and of processes of health and illness. The effects of the norms, values and roles of medical professionals and their clients on the treatment process. Prereq: Soc. 101 and sophomore standing or permission.

384 **Population** (II) 3 hours

390 **Ethnic Group Relations** (I, II) 3 hours
A description of various ethnic groups in the United States, their contributions, distinctive attributes and problems. Major attention is given the Negro minority and the effects of prejudice, segregation, civil rights as a legal and a social force, and other aspects of the current situation. Prereq: Soc. 101 or 403 and sophomore standing.

401 **Social Control of Behavior** (I) 3 hours
The social processes by which the person's behavior is adapted to the group. External restraints, roles, self control. Analysis and measurement of behavior in the context of socially defined fields. Prereq: 9 hours of sociology, including 101 or 403 and 301.

402 **Collective Behavior** (II) 3 hours
The study of the processes of growth and change within unstable and transitory groups including crowds and associated phenomena, diffuse collectivities, advertising and propaganda aggregates in mass society, publics, and social movements. Prereq: 9 hours sociology including 101 or 403 and 301.
403  **Advanced General Sociology**  
(I, II, S) 3 hours  
A survey of the principles of sociology including interaction, groups, institutions, social organization, and change. Consideration is also given to sociological techniques, major specialties, and classes of data. Prereq: Junior/senior standing or permission. Not open to anyone who has recent credit in Sociology 101. (Does not carry graduate credit in sociology.)

410  **The Community**  
(I) 3 hours  
A basic course in community sociology. Sociological theory and the techniques of empirical research are applied to published studies of communities in the United States and elsewhere. The comparative social scientific method is elaborated as it pertains to data derived from community investigation. Prereq: 9 hours sociology including 101 or 403.

412  **Urban Geography** (Same as Geography 412)  
(I, II) 3 hours  
A geography of the city from the viewpoint of history, site, and situation, external relations, internal relations, and the comparative study of cities. Prereq: junior standing and 6 hours of geography or sociology.

413  **Sociology of Deviant Behavior**  
(I) 3 hours  
A theoretical analysis of the relation of deviant group behavior and subcultures to community standards of conventional behavior as expressed in law and norms. Prereq: 9 hours sociology including 101 or 403.

414  **Urban Sociology**  
(I, II) 3 hours  
A course in the sociology of cities and the social characteristics of urban life, stressing its historical, demographic, ecological, social psychological, and institutional aspects. The unique problems of the modern metropolitan complex, both as to effective functioning and as an environment for human beings, are discussed. Prereq: 9 hours sociology including 101 or 403.

415  **American Family Problems**  
(I, II) 3 hours  
(1) A theoretical treatment of the family as a social institution outlining the essential functions it provides for its members and the society. (2) An analysis of failures of function and attendant problems in a variety of American families: parent-youth tensions, problems of sexual adjustment, role conflicts, multi-problem families, desertion, divorce, others. Prereq: 9 hours sociology, including 101 or 403 or permission of the instructor.

451  **Methods of Social Research**  
(I, II) 3 hours  
Relationships of theory, method, and the data in sociological investigation. Major techniques and instruments employed in social research, how developed, and where appropriately used. Formulation of research problems, use of statistics in analysis. Practical problems and limitations. Prereq: 12 hours sociology including 101 or 403 and 213.
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462 **Complex Social Organizations** (II) 3 hours
Analysis of social structure in complex organizations. Processes involved in the integration and disintegration of complex social organizations. An introduction to organizational analysis in medical, military, governmental, educational, and business settings. Implications of large scale bureaucratization for social functioning. Prereq: 9 hours sociology including 361.

471 **Development of Sociological Theory** (I) 3 hours
An intellectual history of sociology as an academic discipline surveying outstanding contributions to its body of theory. Stress is placed on the development of sociology as a science with illustrative materials drawn from the established works of recent decades although backgrounds to these are traced to their ancient and medieval antecedents where applicable. Prereq: 12 hours sociology and senior standing.

472 **Contemporary Sociological Theory** (II) 3 hours
A thorough and detailed presentation of a major theoretical integration of contemporary sociological research and theory with shorter descriptive presentations of alternative positions indicating similarities and differences. Principles of theory construction and a review of major sociological concepts and writers. Prereq: 12 hours sociology and senior standing.

475 **Social Change** (II) 3 hours
A discussion of the theories and the basic models of social change illustrated by use of examples from contemporary and historical data. Emphasis is placed upon understanding causes and effects of social processes current in American society and the response of the individual to these. Prereq: Soc. 101 or 403 and 6 hours sociology or history.

485 **Sociology of Religion** 3 hours
Analysis of religious behaviors from a sociological and social-psychological perspective, and utilizing both theoretical and empirical materials. The class is designed as an introductory approach to the sociology of religion, and the first in a two-step sequence, undergraduate and graduate. Prereq: Soc. 101 or 403 or permission of instructor.

491 **Internship in Local Government** (Same as Political Science 491) (I, II, S) 2-6 hours
Internship in Local Government offices: Participation in the policy-making and administrative processes of Local Government; discussions and reports. Prereq: P.S. 110, 111, 301, 317, or their equivalents, and senior standing. (Also listed under Economics, Political Science, Geography, and History.)

499 **Independent Study** 1 to 3 hours
Guided reading in special topics under the supervision of a faculty member. Prereq: Senior standing and permission of the instructor.
COURSES THAT REQUIRE GRADUATE STANDING*

Each graduate student in sociology is required to attend, without credit, the departmental colloquia as scheduled.

501 **General Seminar in Sociology**  3 hours
This seminar, required of departmental graduate students, gives a basic orientation to the profession, its leading figures, publications, organizations, and university departments. It emphasizes critical discussion of issues in the discipline and selected substantive problems of sociology.

505 **Seminar in Social Psychology**  3-6 hours
Assigned reading, discussion, specialized individual work leading to the writing and presentation of a paper applicable to a general topic in social psychology selected by the instructor.

510 **Seminar in Applications of Sociology**  3-6 hours
Sociological theory and method applied to a practical problem of relevance to general social issues.

511 **Social Problems of the Disadvantaged**  3 hours
A survey of the social problems existing in disadvantaged communities. The effects upon individuals of such settings. The subculture of poverty.

550 **Seminar in Research Methods**  3-6 hours
A complete research project carried out under the supervision of an instructor particularly qualified in the area of concern. Students participate in the background work, question formulation, selection of (or construction of) test instruments, data gathering by methods such as interviewing and participant observation, and analysis.

555 **Seminar in the Sociology of Religion**  3-6 hours
A seminar dealing with religion as a social and cultural phenomenon. The study theme will vary from time to time in keeping with the special interests of the instructor.

560 **Seminar in Social Organization**  3-6 hours
Assigned reading, discussion, specialized individual work leading to the writing and presentation of a paper applicable to a general topic in social organization selected by the instructor.

570 **Seminar in Sociological Theory**  3-6 hours
Assigned reading, discussion, specialized individual work leading to the writing and presentation of a paper applicable to a general topic in sociological theory selected by the instructor.

571 **Population Seminar** (Same as Geography 571)  (S) 3 hours
The significance of differences from place to place in the number, kind, and qualities of human inhabitants and changes through time. Prereq: Permission.

*As seminar topics change these course numbers may be repeated in a student's program without implying duplication.
580 Independent Study in Topics on Urbanism 1-3 hours
Graduate student research on an individual basis under faculty supervision in topics pertaining to urbanism. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under economics, geography, and political science.)

583-584 Interdisciplinary Seminar on the Urban Community 3-6 hours
An interdisciplinary course on the metropolitan community in which various departmental and college offerings concerned with urban problems are put in broad interrelated focus. Prereq: Undergraduate major in one of the social sciences plus 6 hours of graduate work in one of the social sciences. (Also listed under economics, geography, and political science.)

585-586 Urban Economics (See Economics 586) 3-6 hours

595-596 Practicum in Applied Sociology Each 3 hours
A practical work experience under supervision which provides opportunity for applying principles from the student's academic area of concentration.

601-602 Thesis Each 3 hours

ANTHROPOLOGY

105 Introduction to General Anthropology (I, II) 3 hours
Man, his achievements, potential, how he came to be, and his place in nature. An introduction to the techniques and methods used in the scientific study of man. Prereq: None.

321 Cultures of African Peoples (I,II) 3 hours
An introduction to cultures and societies of Africa. Analysis of kinship systems; political, economic and religious institutions; social change. Emphasis on the dynamics of social organization of African peoples. Prereq: Anthropology 105 or consent of instructor.

322 Indians of North America (II) 3 hours
A survey of the Indians of North America, their culture past and present. Analysis of the economic, political, religious, technological and kinship systems of selected Indian groups. Prereq: Anthropology 105 or consent of instructor.

391 Introduction to Physical Anthropology (II) 3 hours
An introduction to physical anthropology through an examination of theories related to the origin and differentiation of races. The history of the concept of race is contrasted with findings in the field of population genetics and comparative anatomy. Prereq Anthr. 105.

421 Cultural Anthropology (I) 3 hours
Family, art, war, maintenance, prestige, religion approached as parts of an integrated whole, a way of life of preliterate human society. Illustrations from a number of simple societies, anthropological theories, methods of study. Prereq: Anthr. 105 or permission of the instructor.
422 **North American Archaeology**  (I) 3 hours
American Indian culture history in North America, with emphasis on the peopling of the New World, origin and development of New World agriculture, development of Middle American Civilizations and their impact on core areas of village-farming in the continental United States; introduction to archaeological investigation techniques, dating methods, and taxonomic concepts. Prereq: Anthr. 105 or 421.

492 **Seminar in Anthropological Problems**  1-3 hours
A course designed to allow students to pursue individual interests in various aspects of anthropology. Work with the instructor in projects designed to increase the student's depth of knowledge in individual areas. Prereq: 9 hours of previous anthropology courses completed with a grade of "B" or above or consent of the instructor.

**SOCIAL WORK**

Students preparing themselves for recommendations for post-graduate training in Social Work or employment in social work agencies, social service programs, church service programs, youth services or community services agencies, may qualify by fulfilling the following requirements:

Completion of the following courses with a grade of "C" or higher:

I. Sociology 345—Introduction to Social Welfare
   Sociology 346—Community Social Welfare Resources
   Sociology 445—Methods of Social Work
   Sociology 446—Field Experience in Social Welfare
   Sociology 447—Advanced Field Experience in Social Welfare

II. Completion of the requirements of a major field.

III. It is recommended that the student select at least nine hours of behavioral sciences other than the major field.

IV. Graduation with a B.A., B.G.E., or B.S. in Education or any other Bachelor's degree.

V. Recommendation of the Social Work teaching staff.

345 **Introduction to Social Welfare**  3 hours
The initial course of study in a social welfare sequence. The historical development of social welfare and the emergence of the social welfare perspective and philosophy. Basic issues and problems in social welfare with emphasis on how these relate to cultural values and social structure; strategies of intervention and social change. Prereq: Sociology 101 or permission.

346 **Community Social Welfare Resources**  3 hours
An analysis of social work practice in contemporary settings; the division of responsibilities and functions among the fields of social work. Emphasis on generic principles, techniques, and skills of the social work processes in a wide spectrum of public and private services and careers. Prereq: Social Work 345.
Methods of Social Welfare Service  3 hours
This course will be directed to a study of the generic philosophy and the principles of the social work processes. Stress will be placed upon the techniques and skills employed by the social worker in the job performance, and professional disciplines will be scrutinized. (Not for graduate credit.) Prereq: Social Work 345.

Field Experience in Social Welfare  3 hours
Field work experience in social agencies which will provide the practical application of classroom theory acquired in the foundation courses of social-welfare-oriented presentations in Social Work 345, 346 and 445. Students will actively participate in a social welfare agency assignment and a weekly seminar to re-examine and evaluate their agency experiences. (Not for graduate credit.) Prereq: Social Work 445 or Permission of the instructor.

Advanced Field Experience in Social Welfare  3 hours
Extension of supervised field work experience in social agencies: to broaden and to deepen the student's understanding of the functions and mechanics of the agency's work; to allow more significant involvement in its operations; to enhance professional skills; and to provide more opportunity for the student to internalize and to synthesize the theoretical foundation with practical experience. A weekly seminar will discuss and evaluate the agency experiences. (Not for graduate credit.) Prereq: Social Work 446.

SPEECH

PROFESSORS BRILHART (Chairman), CARTER, CLARK; ASSOCIATE PROFESSOR MANSON; ASSISTANT PROFESSORS ASCHENBRENNER, BORGE, CARLSON, COMBS, MOORE, WELK; INSTRUCTORS FUS, GARRY, SIMMONS, STOWE, VESPER, WANZENRIED, WILLIAMSON

To secure a Bachelor of Arts degree in Speech without teacher certification requires a minimum of 34 hours and a maximum of 44 hours of credit in the department. Unless given a special waiver, the student must successfully complete each of the following courses: 100, 101, 171, 220, 230, and 351 (16 hours total). The additional credit hours must include the courses specified below for one of four areas of concentration in the Department. The student's transcript will certify his area of specialization as Speech-Communication, Speech-Dramatic Arts, Speech-Broadcasting, or Speech-Education.

SPEECH-COMMUNICATION
1. 112 “Argumentation and Debate,” or 3 hours
2. 211 “Forms of Public Address” 3 hours
3. 241 “Discussion”
3. 410 "Rhetorical Criticism," or 411 "Greek and Roman Rhetoric and Oratory" 3 hours
4. 412 "Studies in American Public Address" 3 hours
5. 451 "Persuasion" 3 hours

6. At least two other speech-communicative courses at the 300-or 400-level are required.

Public address majors are urged to take courses in history and political science. Communication majors are urged to take Psychology 101 and 213.

**SPEECH-DRAMATIC ARTS**

1. 223 "Stagecraft" 3 hours
2. 227 "Stage Costuming and Make-up" 3 hours
3. 320 "Theatre Production Practicum" 4 hours
4. 321 "Acting, Theory and Techniques" 3 hours
5. 420 "History of Theatre" 3 hours
6. 426 "Play Direction" 3 hours
7. At least one additional course at the 300- or 400-level.

**SPEECH-BROADCASTING**

1. 330 "Television and Radio News Presentation" 3 hours
2. 331 "Television Techniques I" 3 hours
3. 336 "Radio Technique and Production" 3 hours
4. 401 or 402 "Advanced Projects," internship work with no more than two hours in any one activity. 3 hours
5. 434 "Television and Radio Programming and Sales" 3 hours
6. 435 "Broadcasting and the Public" 3 hours

**SPEECH-EDUCATION**

To secure a Bachelor of Arts degree with a major and certification in Speech, the student must complete a minimum of 35 hours in Speech, including the following courses (unless specifically exempted:) 100, 101, 112, 171, 220, 241, 242 (1 credit), 351, 451, 461; and at least 9 credit hours in approved courses in Speech-Communication or Dramatic Arts, of which 3 hours must be at the 400 level.

Details of requirements for the first and second teaching field with a B.S. in Education may be obtained from the Department Head.

All students majoring in Speech and Drama or securing certification must participate in a minimum of two different extracurricular activities in Speech. They are advised to enroll in Speech 100 at the earliest possible date.

Speech 361 and Speech 312 may not be counted as credit toward a major or teaching field in Speech.

A speech major wishing to be exempted from Speech 101 or any other required course should consult with the Department Head.

A student enrolled in the College of Arts and Sciences who wishes to be exempted from Speech 101 in order to take a different course for the Oral Communication requirement may take the exemption test offered by the Department. Courses which can be accepted for the oral communication requirement are: 101, 112, 171, 211, 241, 312, 313, and 351.
Speech Improvement (I, II) 3 hours
This course is designed to aid students in the improvement of the speaking voice. It will consist of individual and small group speech improvement lab sessions and classroom lecture. It will carry no credit in hours toward a degree.

The Field of Speech (I, II) 1 hour
An introduction to the areas of specialization in Speech and Drama, library resources, departmental courses and activities, prominent personalities, graduate study, and career opportunities. Limited to freshmen and sophomores, unless by permission.

Fundamentals of Speech (I, II, S) 3 hours
The basic principles, components, and skills of effective speaking and listening; guided practice in informal speaking, public speaking, discussion and listening.

Argumentation and Debate (I, II) 3 hours
The analysis of argumentation and debate and application of these principles to platform debating.

Oral Interpretation of Literature (I, II, S) 3 hours
The basic principles of oral interpretation of different types of literature.

Forms of Public Address (I, II) 3 hours
Theory, techniques, and practice in a variety of forms of public speaking appropriate to differing audiences and situations. Prereq: Speech 101 or equivalent.

Introduction to the Theatre (I, II, S) 3 hours
A survey course designed to acquaint the student with the theatre. All phases and periods of theatre art will be explored and studied.

Stagecraft (I, II, S) 3 hours
Theories and techniques of the construction and painting of stage settings; organization and operation of production crews; care and handling of power and hand tools. Prereq: Speech 220.

Stage Costuming and Makeup (I) 3 hours
The theory and practice of theatrical costume construction and the art of stage makeup. Laboratory to be arranged. Prereq: Speech 220 or equivalent, or permission.

Introduction to Radio and Television (I, II, S) 3 hours
A survey and basic study of the radio and television industry; its history, organization and social significance. Prereq: Speech 101.

Discussion (I, II) 3 hours
Discussion theory; preparation, participation, and leadership in small group discussion in business, school, and the community.
242 **Parliamentary Procedure**  
(I, II) 1 hour  
Theory and practice of parliamentary procedure; forming organizations and drawing up constitutions and by-laws.

312 **Persuasive Speaking**  
(I, II, S) 3 hours  
Instruction and practice in preparation, delivery, and evaluation of persuasive speaking. For non-speech majors only. Prereq: Speech 101 or equivalent.

313 **Oral Communication in Business and the Profession**  
3 hours  
The role of modern communication theory and practice in business and industrial management and the professions. Instruction and practice in oral technical reporting, persuasion and sales techniques, conferences, and interviews. Study and analysis of representative communication cases. Prereq: Speech 101 or Instructor permission; Sophomore Standing.

315-316 **Intercollegiate Debate**  
(I, II) 1-3 hours  
A course for those who wish to participate in intercollegiate debate. Prereq: Permission of department head.

320 **Theatre Production Practicum**  
(I, II, S) 1 hour  
Supervised practicum involving significant participation in theatrical production. Projects may include work in acting, directing, designing, costuming or technical production. Prereq: Sophomore standing and permission of instructor.

321 **Acting, Theory and Techniques**  
(I, S) 3 hours  
Acting techniques in theory and practice; methods and procedure in building characterization for plays, individual and group rehearsal and performance. Prereq: Speech 220.

322 **Acting, Rehearsal and Performance**  
(II, S) 3 hours  
Application of acting theory and technique to the specific acting problems of selected plays. Prereq: Speech 321.

330 **Television and Radio News Production**  
(II) 3 hours  
The preparation, production, and delivery of news for both media. Prereq: Speech 230 and Journalism 215, or permission of department head.

331 **Television Techniques I**  
(I) 3 hours  
The presentation of the fundamental skills of television production. Prereq: Speech 230 or permission of department head.

332 **Television Techniques II**  
(II) 3 hours  
A continuation of Speech 331 with emphasis on advanced television production and performance techniques. Prereq: Speech 331 or permission of department head.

333 **Newsfilm and Documentaries**  
(Crosslisted as Journalism 315)  
(I, II) 3 hours  
Techniques for filming and producing television newsfilm and documentaries. Prereq: Journalism 311 or permission.
336 Radio Technique & Production (I, II) 3 hours
The basic skills, and techniques of contemporary Radio Broadcast production. This course places emphasis on guided practice in Radio speaking, writing, directing, and editing. Prereq: Speech 101 and 230.

337 Radio Technique and Production II (II) 3 hours
A continuation of Speech 336 with emphasis on advanced radio production and programming. Performance techniques of acting and directing are stressed through participation in on-the-air productions. Prereq: Speech 336 or Permission of Instructor.

351 Voice and Phonetics (I, II) 3 hours
Anatomy, physiology, and acoustics of speech and hearing; effective breathing, phonation, pitch, rate, quality, articulation and pronunciation; broad transcription in the International Phonetic Alphabet. Prereq: 3 hours Speech or permission of department head.

361 Oral Communication for Teachers (I, II) 3 hours
*(Crosslisted as F.E.D. 361)*
The application of principles and techniques of speaking and listening to problems of communication with pupils and parents and to enhancement of productive communication growth in pupils. Prereq: Junior standing and admission to teacher education program.

401-402 Advanced Projects in Speech (I, II, S) Each 1-3 hours
Special projects in speech supplementing regular courses; individual research projects; combined study and practicum. Prereq: Junior or Senior Standing; at least 9 hours of work in the general area of Speech to be studied.

410 Rhetorical Criticism (I) 3 hours
Significant movements in the development of rhetorical criticism from antiquity to the present. Prereq: 6 hours of Speech and Junior Standing.

411 Greek and Roman Rhetoric and Oratory (I) 3 hours
The origin and development of rhetorical theory and practice in antiquity. Prereq: 6 hours Speech and Junior Standing.

412 Studies in American Public Address (II) 3 hours
Study of representative American speakers from the Eighteenth Century to the present. Prereq: 9 hours of Speech and Junior Standing.

420 History of the Theatre (I) 3 hours
A survey of the great periods of theatrical history, and the playwrights, producers and actors who were responsible for this growth and development. Prereq: Speech 220 and Junior Standing.

* Not acceptable toward a speech major.
421-422 **Acting: Historical Periods and Styles** (I, II) Each 3 hours
The fundamental theories and practices of major styles of acting from Ancient Greece to the present, including interpretation of outstanding dramatic literature. Prereq: Speech 321-322 or permission of department head and Junior Standing.

423 **Scene Design** (I) 3 hours
Principles of composition, perspective and color for the stage; the designer's approach to the play, production of ground plans, elevations and sketches. Prereq: Speech 220, 223, and Junior Standing.

424 **Stage and TV Lighting** (I, S) 3 hours
Characteristics and control of light and color and their application to the theatre and television; elementary electricity; lens systems; reflectors; lamps; control systems. Prereq: Speech 220, 223, and Junior Standing.

426 **Play Direction** (II) 3 hours
A practicum in play selection, analysis, casting, directing and performing. Prereq: Speech 220, 223, and 321 or permission of department head and Junior Standing.

427 **Costume History and Design** (II) 3 hours
The history of human adornment from pre-historic to modern man. Theory and practicum in theatrical costume design. Prereq: Junior, Senior or Graduate Standing and Speech 227, or Permission.

434 **Television and Radio Programming and Sales** (I) 3 hours
A study of contemporary broadcast programming, sales, and advertising techniques. Prereq: Speech 230 or permission of department head and Junior Standing.

435 **Broadcasting and the Public** (II) 3 hours
A study of the effects of broadcasting and its relationship to other mass media; emphasis on the sociological, economic, and legislative aspects of the medium. Prereq: Speech 230 or permission of department head and Junior Standing.

450 **Introduction to General Semantics** (II, S) 3 hours
An introduction to the system of general semantics, considering both limitations and practical applications to perception, thinking, and communicating. Prereq: 6 hours of Speech and 3 hours of Psychology, and Junior Standing.

451 **Persuasion** (I, II, S) 3 hours
Basic principles and psychological processes underlying persuasive communication; a review of various source, message, channel, and receiver variables and their influence on communication effectiveness. Prereq: Speech 101 and 3 hours Psychology or Sociology or permission.

452 **Introduction to General and Experimental Linguistics** 3 hours
(Crosslisted as Psychology 452)
A broad survey of generative syntax, phonology, and pragmatics and of related material in linguistic and paralinguistic
perception, memory, and communication. Individual papers required in areas of student interest. Designed primarily for students wishing to apply linguistic methods and thought in the behavioral and communication sciences. Laboratory to be arranged. Prereq: Senior or graduate standing in psychology or speech or permission.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>461</td>
<td><strong>History and Problems in Speech Education</strong></td>
<td>(II)</td>
<td>3</td>
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<tr>
<td></td>
<td>A study of the development of speech as an academic discipline. Recent movements in speech and the contribution of quantitative methodology to speech research and education. Prereq: 6 hours of Speech and Junior Standing.</td>
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<th>Course Code</th>
<th>Course Title</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>462</td>
<td><strong>Directing Forensics</strong></td>
<td>(S)</td>
<td>3</td>
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<tr>
<td></td>
<td>To provide students planning to teach speech in high school or college with a philosophy and detailed knowledge of how to direct a forensic program. Prereq: Junior standing and Speech 112 or permission.</td>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>471</td>
<td><strong>Advanced Oral Interpretation</strong></td>
<td>(II)</td>
<td>3</td>
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<td></td>
<td>Theories and forms of interpretation from antiquity to the present. Preparation and presentation of a recital. Prereq: 6 hours of Speech, including Speech 171 and Junior Standing.</td>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>501</td>
<td><strong>Introduction to Research in Speech</strong></td>
<td>(I)</td>
<td>3</td>
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<tr>
<td></td>
<td>Basic components, functions, and spirit of research; research methods in the arts and sciences of oral communication; preparation of a thesis proposal. Prereq: Admission to Graduate Study.</td>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>511</td>
<td><strong>Seminar: Modern Public Address</strong></td>
<td>(II)</td>
<td>3</td>
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<tr>
<td></td>
<td>Studies in figures, movements and institutions prominent in modern public address. Prereq: Graduate standing and permission.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Type</th>
<th>Hours</th>
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<tbody>
<tr>
<td>520</td>
<td><strong>Dramatic Theory and Criticism</strong></td>
<td>(I)</td>
<td>3</td>
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<tr>
<td></td>
<td>For advanced students of dramatic literature. The course will explore the important dramatic theories and criticism from Aristotle to contemporary drama. Prereq: Admission to Graduate Study and Speech 220.</td>
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<th>Hours</th>
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<tbody>
<tr>
<td>521</td>
<td><strong>Contemporary Theatre Aesthetics</strong></td>
<td>(II)</td>
<td>3</td>
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<tr>
<td></td>
<td>Research and dialogue in the aesthetic theories and movements in the contemporary theatre. Emphasis on the sources, background, and configuration of theatrical styles in this century. Prereq: Graduate standing and Speech 220, Speech 420, and English 252 or permission.</td>
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<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>550</td>
<td><strong>Seminar in Communication Theory</strong></td>
<td>(I, II)</td>
<td>3</td>
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<td></td>
<td>Analysis of current approaches to the study of communication, with emphasis on theoretical models and their application to various professional interests. Prereq: Basic statistics; or by permission of instructor.</td>
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<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>601-</td>
<td><strong>Thesis</strong></td>
<td>1-3</td>
</tr>
<tr>
<td>602</td>
<td>Independent research project written under the supervision of an advisor.</td>
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</table>
COLLEGE OF BUSINESS ADMINISTRATION
GEORGE G. HEATHER, Dean

SCHOLARSHIPS

Certain scholarships and awards are available specifically to students registered in the College of Business Administration. Detailed information concerning the requirements of these scholarships and awards may be secured from the Chairman of the Scholarships and Awards Committee or from the Dean of the College of Business Administration.

Accounting: The Wilbur R. Irwin Memorial Scholarship Fund provides one scholarship of $200 each year. The recipient must be a junior or senior student who is specializing in Accounting.

Accounting: A scholarship of $150 has been provided by the Nebraska Society of Certified Public Accountants which is awarded to a junior student specializing in Accounting.

Accounting: The Chriss-McKay Memorial Scholarship in the amount of $200 is available to a qualified junior or senior student who is specializing in Accounting.

Business Administration: The Robert H. Kooper Scholarship of $300 has been established for a junior or senior student who is following a degree program in the College of Business Administration. Preference will be given to a student specializing in the area of Real Estate.

General: The Paul T. Crossman Memorial Scholarship provides $300, divisible on a semester basis, for one year for a junior or senior student enrolled in one of the approved curricula of the College of Business Administration.

General: The Murray Longworth Memorial Scholarship of $500 is available to students in the College of Business Administration who have performed academically at a high level of scholarship and give potential of continuing such performance. Preference is given to students who are specializing in the area of Insurance.

Insurance: The Omaha Association of Insurance Agents has established a scholarship of $200 for a male junior or senior specializing in Insurance. He must be a Nebraska resident and meet all other requirements prescribed in the scholarship agreement.

Real Estate: The Daniel G. Cary Foundation $250 Scholarship, divisible by semesters, awarded to an outstanding junior or senior specializing in the field of Real Estate.

Real Estate: The Omaha Real Estate Board has established two scholarships of $200 each to be awarded to outstanding juniors specializing in the field of Real Estate.

Real Estate: The Nebraska Real Estate Association provides two scholarships of $200 each. These scholarships are available to junior and senior students who are specializing in Real Estate.

Real Estate: The Martin M. Staenberg Memorial Scholarship in the amount of $150 is available to a senior student who is enrolled in a course in Real Estate Investments.
Real Estate: The Nebraska Chapter No. 23 of the American Institute of Real Estate Appraisers has established a scholarship of $100 to be awarded to outstanding juniors or seniors specializing in the field of Real Estate.

Real Estate: C. Glenn Lewis Scholarship of $100 provided by Michael T. Blacker for a student concentrating in the area of Real Estate.

Real Estate: A. A. Allwine Scholarship in Real Estate. An annual scholarship of $100 available to a junior or senior specializing in real estate.

Real Estate: The United-Mutual of Omaha Scholarship in Real Estate in the amount of $100 is available to a junior or senior specializing in Real Estate.

Real Estate: The Building Owners and Managers of Omaha Scholarship of $100 for students specializing in Real Estate.

Real Estate: The Nebraska Mortgage Association has established a scholarship of $100. This scholarship is available to the student majoring in Real Estate whose work in the Real Estate Finance course is of superior quality.

Retailing: Four Arthur Brandeis Scholarships in Retailing of $250 each are available to students enrolled in the College of Business Administration. These scholarships are renewable.

Retailing: The Hinky-Dinky Stores Company has established four scholarships of $250 each for students interested in food distribution who are enrolled in the College of Business Administration. These scholarships are renewable.

AWARDS

Accounting: The Paul T. Crossman Memorial Award of a plaque is given to a senior accounting student who is outstanding in citizenship and scholarship. The plaque is provided by Gamma Eta Chapter of Delta Sigma Pi.

Accounting: The Beta Alpha Psi Scholarship Certificate is awarded by the national council to the graduating senior who has attained the highest cumulative grade point.

Delta Sigma Pi Scholarship Key: Gamma Eta Chapter of Delta Sigma Pi makes available to the faculty of the College of Business Administration a gold key for presentation to the male senior in the College of Business Administration who upon graduation ranks highest in scholarship for his entire course of study.

General: The Wall Street Journal Award of a medallion and subscription to the Wall Street Journal is available to an outstanding senior.

Real Estate Management: The Omaha Chapter No. 12 of the Institute for Real Estate Management has established an award of $50 to be given to the junior student majoring in real estate who displays an exceptional interest and performance in the course Real Estate Management.

Urban Land Uses: The Eastern Nebraska Chapter No. 111, Society of Real Estate Appraisers has established an award of $50 to be given to the student majoring in real estate who does superior work in the course Urban Land Uses.
Women in Real Estate: The Council of Real Estate Women of Omaha annually presents a $50 award at one of their professional meetings to the outstanding woman student in Real Estate at the University of Nebraska at Omaha.

DEGREES AND CURRICULUM REQUIREMENTS

Degrees are granted, upon application, to students who successfully complete the prescribed requirements for one of the four-year curricula offered by the College of Business Administration. The degree Bachelor of Science in Business Administration is offered with a choice of an area of specialization.

All students must meet the University and College entrance requirements (see pages 7-8); must earn a minimum of 125 credit hours in courses acceptable to the College with an average grade of “C” (two quality points) or above; and must complete the curricula requirements for the degree as outlined or otherwise stated. Students must achieve at least a 2.0 quality point average for all work taken in the College.

Grades in course work completed to satisfy the specialization (major) area must be “C” or better. For any such course in which a “D” is earned, the student must arrange with the departmental adviser for a suitable substitute.

Upon the recommendation of the appropriate chairman of a department, the Curriculum Committee of the College of Business Administration may grant exemption from the 125-hour requirement for graduation to the extent of 24 hours. Such recommendation will be based on a student’s performance in the advanced placement examinations of the College Entrance Examination Board as stated in the 1962-63 publication prepared by a committee of this organization.

All grades reported by the faculty to the Registrar at the end of each semester become a part of the student’s permanent record and are included in the computation of his quality points earned and his grade point average.

• Sixty of the credit hours presented for the degree must be earned in Upper Division courses in the 300 and 400 series.
• The last 34 hours required for the degree must be registered for and carried in residence in the College of Business Administration at the University of Nebraska at Omaha.
• Registration in courses more than one number removed from the student’s class standing requires permission of the Dean.
• Students must earn credit in English 112 or pass a proficiency test in English equivalent to English 112. English 109 will be required if the score on the English placement test indicates a need for training in elementary English.
• English 109, any skills development, reading improvement, or orientation courses may not be counted as a part of the minimum 125 hours in the degree programs.
• Students who elect to take the proficiency examination in English must do so during the first year of residence.
• Deficiencies in High School Algebra must be removed during the first year of residence.
• A maximum of eight semester hours credit in music laboratory courses such as band, chorus, madrigal singers or orchestra, either singly or in any combination, may be applied toward the degree.
• A maximum of four semester credit hours of physical education, limited to general physical education courses for men and women, may be applied toward the degree.
• A maximum of 12 semester credit hours of approved courses taken in any one department outside the College of Business Administration, except economics, may be applied toward the degree.
• Humanities: This requirement may be fulfilled by courses from the 100 and 200 level in art, English (other than 109, 111, 112, and 240), foreign languages (beyond the first year), music (other than laboratory courses), philosophy, religion, humanities 101 and 102, and not more than three hours in speech. Skill and technique courses may not be used to meet the Humanities requirement.
• Natural Science and Social Science: This requirement may be fulfilled by courses from the 100 and 200 level in biology, chemistry, mathematics (beyond basic requirements), physics, geography, history, political science, the introductory courses in the natural sciences, and not more than three hours in psychology or sociology. Skill and technique courses may not be used to meet the Natural Science and Social Science requirement.
• Professional courses in the College of Education will be accepted only if the student qualifies for a teaching certificate.
• At least 40 percent (50 credit hours) of the total hours required for the Bachelor of Science degree must be taken in business and economics with a major portion of these courses in the College of Business Administration.
• At least 40 percent (50 credit hours) of the total hours required for the Bachelor of Science degree must be taken in subjects other than business and economics; however, economic principles and economic history (to a maximum of 9 hours) may be included in either business or non-business hours required.
• Non-business elective credit hours which will be accepted toward the Bachelor of Science degree will be determined by the faculty of the College. The student, in conference with his adviser, will select the courses in this category most suitable for his program.

**SELECTION OF A CATALOG**

A student registering in the College of Business Administration of the University of Nebraska at Omaha for the first time may, except for the limitations described below, complete his work for the degree according to (1) the requirements of the catalog of the year in which he entered the College or (2) a subsequent catalog (only) with the approval of the Dean.

The earliest catalog available to an intra-University transfer will be that applicable at the time the student transfers to the College of Business Administration.
Students entering the College for the first time in the summer will be subject to the catalog for the academic year immediately following.

Failure to complete the requirements for the degree within seven years after the date the student first enters the College will subject him to graduation under the requirements of a later catalog to be approved by the Dean.

The College reserves the right to institute and make effective, after due notice, during the course of a student's work toward a degree, any new ruling which may be necessary for the general good of the College, and to substitute courses currently offered for those no longer offered.

**DEGREE REQUIREMENTS**

**Bachelor of Science in Business Administration**

For adviser see area of specialization

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
<td><strong>SECOND SEMESTER</strong></td>
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<tr>
<td>Acc. 101, Prin. of Acc.</td>
<td>3</td>
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<tr>
<td>B.A. 128, Intro. to Bus.</td>
<td>3</td>
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<tr>
<td>Psych. 101, Intro. to Psych.</td>
<td>3</td>
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<td>Engl. 111, Composition</td>
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<tr>
<td>Non-Bus. Requirement</td>
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<tr>
<td>B.A. 120, Bus. Career Devl.</td>
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<tr>
<td><strong>SECOND YEAR</strong></td>
<td><strong>THIRD YEAR</strong></td>
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<tr>
<td>Econ 201, Prin. Econ.</td>
<td>3</td>
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<tr>
<td>*Humanities</td>
<td>3</td>
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<tr>
<td>*H. Sci. or Nat. Sci.</td>
<td>3</td>
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<tr>
<td>B.A. 212, Quant. Methods</td>
<td>3</td>
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<tr>
<td>Non-Bus. Requirement</td>
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<td><strong>FOURTH YEAR</strong></td>
<td><strong>FOURTH YEAR</strong></td>
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<tr>
<td>B.A. 446, Govt. and Bus.</td>
<td>3</td>
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<tr>
<td>Econ. 345, Money &amp; Banking</td>
<td>3</td>
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<tr>
<td><strong>Specialization Electives</strong></td>
<td>6</td>
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<tr>
<td>Elective</td>
<td>3</td>
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* With the assistance of his adviser, the student will select appropriate courses from these divisions.

** Specialization Electives**

The student will consult with his major adviser in the planning of an area of professional specialization.
AREAS OF PROFESSIONAL SPECIALIZATION

In addition to the courses prescribed in the core program for the degree Bachelor of Science in Business Administration, the student must select an area of specialization of 15 or more credit hours. The student will then be assigned by the Dean of the College to an adviser in the area of specialization selected.

ACCOUNTING

MR. HOCKETT, MR. BEAMAN, MR. BENECKE, MR. CAMPBELL, MR. HIGLEY, MR. ORTMAN, MR. PIBAL, Advisers

Accounting data are widely used in all types of businesses and by the government. Students who have a broad training in the field of business supplemented by intensive preparation in the field of accounting will find professional opportunities in public and private accounting, or in governmental or non-profit institutional services.

The student who is interested in public accounting may prepare for the C.P.A. examination which is given twice each year by the State Board of Examiners of Certified Public Accountants. The requirements for taking this examination are established by the State Board; therefore, the student should make inquiry regarding the specific requirements well in advance of the examination dates.

The following courses in accounting are required of all students specializing in this area:

SECOND YEAR

Acc. 303, Intermediate Acc. .......... 3  
Acc. 304, Intermediate Acc. .......... 3

THIRD YEAR

Acc. 305, Cost Acc. ................. 3  
Acc. 306, Administrative Acc. ........ 3

FOURTH YEAR

Acc. 401, Advanced Acc. .......... 3  
Acc. 403, Income Tax Acc. .......... 3  
Acc. 408, Auditing ................. 3

RECOMMENDED ELECTIVES IN ACCOUNTING

Acc. 307, Governmental Acc.
Acc. 404, Advanced Tax Acc.

Acc. 412, Advanced Acc. Problems
Acc. 431, Acc. Internship

FINANCE

MR. HARRIS, Adviser

The extensive and complex financial problems resulting from the rapid increase in the size of business units have presented a demand for persons who are qualified to devise solutions. Institutions interested in employment of persons with a sound background education in Finance include banks, insurance companies, savings institutions, security dealers and brokers, and the treasury departments of many large business corporations.

All students in the Finance area are required to register for:

Fin 340, Investment Principles and Practices
Acc. 300, Managerial Accounting
Fin. 415, Management of Business Finance
On the advice of his adviser, the student will select a minimum of nine credit hours from the following recommended electives:

Acc. 403, Income Tax Accounting
R.E. 344, Real Estate Principles and Practices
Ins. 371, General Insurance
Ins. 572, Life and Health Insurance
R.E. 440, Real Estate Finance
R.E. 439, Real Estate Investments

Econ. 445, Monetary Theory and Policy
Econ. 446, Economics of Commercial Banking
Econ. 456, State and Local Finance
Mkt. 334, Credit Management
Econ. 355, Public Finance

INSURANCE
MR. ROKES, Adviser

Specialization in the field of Insurance gives the student the necessary background for one of many careers in the industry including: underwriting, claims handling, auditing, actuarial, agency or field work, branch or home office management. Students are encouraged to take courses which are helpful in passing examinations for the professional designations, Chartered Life Underwriter (CLU) or Chartered Property and Casualty Underwriter (CPCU).

The following insurance courses are required of all students specializing in this area:

**THIRD YEAR**
Ins. 371, Gen. Ins. ........................................... 3
Ins. 376, Social Ins. .......................................... 3

**FOURTH YEAR**
Ins. 372, Life and Health Ins. ......................... 3
Insurance Elective ........................................ 3
Ins. 374, Property and Casualty Ins. ................ 3

**RECOMMENDED ELECTIVES**
Math 254, Math of Finance
Fin. 340, Invest. Principles and Practices
R.E. 344, Real Estate Principles and Practices

Acc. 403, Income Tax Accounting
Mkt. 432, Sales Management
R.E. 441, Real Estate Appraisal
Mgmt. 404, Human Resources and Management

MANAGEMENT
MR. HILL, MR. ANSTEY, MR. CHAPMAN,
MR. ETTKIN, MR. NEWPORT, Advisers

Managers perform the function of combining and coordinating human and material resources to attain organizational goals efficiently. The management program contains planned options which enable the student to select courses emphasizing either the industrial or personnel aspects of the discipline.

The following courses are required of all students specializing in this area:

**THIRD YEAR**
Mgmt. 351, Pers. Org. & Management 3
Spec. Elective ............................................... 3

**FOURTH YEAR**
Mgmt. 404, Human Resources and Management 3
Spec. Elective ............................................... 3
Mgmt. 410, Org. Theory and Practice 3
Specialization electives are to be selected from the following courses:

B.L. 422, Jurisprudence of Labor Relations
Econ. 315, Labor Problems
Econ. 418, Coll. Bargain.
Psych. 362, Ind. Psych.

Mgmt. 402, Supervisory Management
Mgmt. 405, Production Mgmt.
Mgmt. 438, Ind. Purchas. & Materials Control
Soc. 380, Occupational Soc.

RECOMMENDED ELECTIVES

Jour. 423, Public Relations
I.E. 305, Motion and Time Study

MARKETING

One of the more important problems in business today is the conception, promotion, exchange and physical distribution of economic goods and services. Businessmen are becoming increasingly aware that all activities of the firm must be geared to maximizing the chances of success at the point of sale. Therefore, there is a growing demand for men and women who have the knowledge and management ability to marshal the human and material resources necessary to market effectively the ever-increasing supply of goods and services.

Students selecting the field of Marketing can elect to specialize in either General Marketing or Retail Management. Local businesses offer a number of scholarships to qualified students on a competitive basis.

GENERAL MARKETING

MR. BULL, MR. BROWN, Advisers

Employment opportunities for students who complete the program in General Marketing are found primarily at the manufacturing and wholesale levels in both industrial and consumer goods companies. Managerial positions in sales, procurement, credit, advertising, product planning, marketing research, and top level marketing management are among those available. In addition, employment opportunities exist in advertising agencies, trade associations and certain agencies of the Federal Government.

The marketing courses required for students electing an area in General Marketing are:

Mkt. 430, Marketing Problems

On advice of his adviser, students in the General Marketing area will select a minimum of nine credit hours from the following recommended electives:

Mkt. 333, Retailing
Mkt. 334, Credit Management
Mkt. 336, Advertising
Mkt. 360, Transportation and Physical Distribution
Mkt. 401, Retail Merchandising

Mkt. 407, International Marketing
Mkt. 414, Retail Management
Mkt. 432, Sales Management
Mkt. 438, Industrial Purchasing and Material Control
RETAIL MANAGEMENT
MR. PRESTWICH, Adviser

The objective of the Retail Management Program is to help prepare college students for executive careers in the Retail field. The field offers excellent opportunities in a wide variety of top and junior-level executive positions including buyer, department manager, merchandise manager, fashion coordinator, credit manager, store manager, controller, sales promotion manager, operations manager, personnel manager, and owner-manager in one's own business. The rapidly expanding retail facilities throughout the country demand an increasing number of competent men and women to fill these positions.

The marketing courses required for students electing an area in Retail Management are:

Mkt. 333, Retailing  
Mkt. 401, Retail Merchandising  
Marketing Elective  
Mkt. 430, Marketing Problems  
Mkt. 434, Marketing Research

REAL ESTATE
MR. LEWIS, Adviser

Professional training in real estate prepares the student for a wide variety of real estate activities, such as brokerage, management, appraisal, investment, finance, operations in equities, building construction, and government service such as Federal Housing Administration and taxation boards.

Upon completion of R.E. 345, Real Estate Management, a student may request the Institute of Real Estate Management Comprehensive Examination 1 for credit toward the C.P.M. designation.

Upon completion of R.E. 441, Real Estate Appraisal, a student may request the Appraisal Institute Comprehensive Examination 1 for credit toward the M.A.I. designation.

The following real estate courses are required of all students specializing in this area:

THIRD YEAR

R.E. 344, Real Estate Principles and Practices ........................................3

B.L. 346, Real Estate Law ........................................3

FOURTH YEAR

R.E. 440, Real Estate Finance .........................3

R.E. 441, Theory of Real Estate ..........................3

R.E. 439, Real Estate Investments ..........................3

REAL ESTATE ELECTIVES

B.A. 450, Special Problems  
B.A. 451-452, Internship  
B.L. 423, Urban Law  
R.E. 345, Real Estate Management  
R.E. 347, Urban Land Uses  
R.E. 348, City Planning  
R.E. 439, Real Estate Investments

RECOMMENDED ELECTIVES

Acc. 403 Income Tax Accounting  
Ins. 371, General Insurance  
Ins. 374, Property and Casualty Ins.  
Mkt. 336, Advertising  
Mkt. 432, Sales Management
BUSINESS ADMINISTRATION AND LAW

MR. FORBES, MR. LEWIS, Advisers

There is a growing recognition of the importance of a business administration background in preparation for the practice of law. Lawyers today are called upon to advise the businessman on his problems concerning taxation, fair trade practices, labor relations, government contracts, and other matters requiring legal counsel. Such a combination program would be especially useful for those students who desire to affiliate with a corporation.

By following the prescribed program and conditions stipulated, a student may receive the degree Bachelor of Science in Business Administration with an area of specialization in law.

• Successful completion of 96 hours in the Business Administration and Law program of the College of Business Administration with an average of “C” or better. The last 66 of these credit hours must be carried in residence in the College of Business Administration, University of Nebraska at Omaha. All requirements of this program must be completed prior to registration in law school.

• B.L. 323 and 324 may not be presented for degree credit in this program.

• Successful completion of the first full year’s requirements of not less than 29 semester credit hours with a grade of “C” or better in each course in any law school recognized and accredited by the American Bar Association.

• A student must advise the Dean of the College of Business Administration of the name of the law school in which he matriculates and report to his adviser the grades earned in each course at the close of each semester. It will be the responsibility of the student to have certified to the Registrar of the University of Nebraska at Omaha the completion of the required credits in law school by providing an official transcript.

• A student must meet such other requirements for the degree Bachelor of Science in Business Administration as are prescribed.

### FIRST YEAR

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>Acc. 101, Prin. of Acc.</td>
<td>3</td>
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<td>B.A. 128, Intro. to Bus.</td>
<td>3</td>
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<tr>
<td>Psych. 101, Intro. to Psych.</td>
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</tr>
<tr>
<td>Engl. 111, Composition</td>
<td>3</td>
</tr>
<tr>
<td>Non-business Requirement</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 201, Prin. of Econ.</td>
<td>3</td>
</tr>
<tr>
<td>*Humanities</td>
<td>3</td>
</tr>
<tr>
<td>*Nat. Sci. or Soc. Sci.</td>
<td>3</td>
</tr>
<tr>
<td>B.A. 212, Quant. Methods</td>
<td>3</td>
</tr>
<tr>
<td>Non-business Requirement</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 202, Prin. of Econ.</td>
<td>3</td>
</tr>
<tr>
<td>*Humanities</td>
<td>3</td>
</tr>
<tr>
<td>*Nat. Sci. or Soc. Sci.</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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<tr>
<td>Non-business Requirement</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

*With the assistance of his adviser, the student will select appropriate courses from these divisions.*
THIRD YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A. 319, Bus. Comm. &amp; Reports</td>
<td>2</td>
</tr>
<tr>
<td>Mkt. 331, Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 349, Prin. of Mgmt.</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 325, Corp. Finance</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 345, Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>B.A. 313, Statistics</td>
<td>3</td>
</tr>
<tr>
<td>B.A. 320, Bus. Comm. &amp; Reports</td>
<td>2</td>
</tr>
<tr>
<td>B.A. 425, Bus. Cycles</td>
<td>3</td>
</tr>
<tr>
<td>B.A. 448, Bus. Policy &amp; Admin.</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

FOURTH YEAR

Successful completion of the first full year's requirements of not less than 29 semester credit hours with a grade of "C" or better in each course in any law school recognized and accredited by the American Bar Association.

RECOMMENDED ELECTIVES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acc. 300, Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Acc. 303-304, Interm. Acc.</td>
<td>3</td>
</tr>
<tr>
<td>R.E. 344, Real Estate Principles and Practices</td>
<td>3</td>
</tr>
<tr>
<td>Ins. 371, General Insurance</td>
<td>3</td>
</tr>
<tr>
<td>B.A. 446, Government and Business</td>
<td>3</td>
</tr>
<tr>
<td>Hist. 433-434, American Constitutional History</td>
<td>3</td>
</tr>
</tbody>
</table>

GENERAL BUSINESS

MISS MINTEER, MR. FORBES, MR. PIBAL, Advisers

Occasionally, students are interested in giving greater breadth to their education in Business Administration rather than emphasizing an area of specialization. Such students would be interested in taking basic courses in the respective areas of specialization for their useful value and as a means of developing interest in specialized fields. A minimum of 15 credits selected from each of five subject areas is required. These areas are Marketing, Management, Finance, Accounting, Real Estate, and Insurance.

SECRETARIAL

Students enrolled in the College of Business Administration who wish to qualify as an administrative assistant or executive secretary in a commercial, industrial, financial or other institution, may include secretarial science within the general business area to a maximum of six credit hours of upper division courses. These courses may be in addition to the twelve-hour limitation from one department. The remaining nine credit hours may be selected upon the recommendation of an adviser from three subject areas in Business Administration. Suggested courses in secretarial science include:

- Intermediate Typewriting
- Advanced Typewriting
- Office Machines
- Intermediate Shorthand
- Advanced Shorthand
- Secretarial Practices

TEACHER EDUCATION—SECONDARY

MISS MINTEER, MISS HOLLEY, Advisers

Students desiring to qualify for a secondary teaching certificate in connection with the degree Bachelor of Science in Business Administration, may do so by meeting the certification requirements on page 181. Students transferring to this program must earn six credit hours or more in Upper Division courses as prescribed by the academic adviser.
Those students who are candidates for the degree Bachelor of Science in Education but plan to use business administration as their subject major or teaching field should consult with the adviser of this program for specific recommendations.

The minimum course requirements for a major or a teaching field in Business Administration are as follows:

The lower division requirements are:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A. 128</td>
<td>Intro. to Bus.</td>
<td>3</td>
</tr>
<tr>
<td>Acc. 101</td>
<td>Prin. of Acc.</td>
<td>3</td>
</tr>
<tr>
<td>Acc. 102</td>
<td>Prin. of Acc.</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 201</td>
<td>Prin. of Econ.</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 202</td>
<td>Prin. of Econ.</td>
<td>3</td>
</tr>
<tr>
<td>Typewriting or equivalent</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

The upper division requirements are:

Eighteen credit hours selected from upper division courses offered by the College of Business Administration and approved by the adviser.

COURSE NUMBERING SYSTEM

The system of course numbers is arranged to indicate the level of instruction.

100-99—Courses open primarily to freshmen
200-99—Courses open primarily to sophomores
300-99—Courses open primarily to juniors
400-99—Courses open primarily to seniors

DEPARTMENTS OF INSTRUCTION

ACCOUNTING

PROFESSORS HOCKETT (Head), HELMSTADTER, HIGLEY
ASSOCIATE PROFESSORS BEAMAN, BENECKE
ASSISTANT PROFESSOR ORTMAN
INSTRUCTORS CAMPBELL, PIBAL

Acc. 101 **Principles of Accounting**
Accounting cycle; accrual basis of accounting; negotiable instruments; taxes; corporate accounting; analysis and appraisal of the firm. 3

Acc. 102 **Principles of Accounting**
Concepts applied to develop the financial statements; departmental operations; accumulation and use of cost data; funds flow and cash flow; management control. Prerequisite: Acc. 101. 3

Acc. 300 **Managerial Accounting**
Accounting information available to management and other interested parties as a guide to decisions about an enterprise; relates accounting to topics from finance, economics, mathematics, and statistics. Not included in area of specialization. Credit will not be given for this course, if the student has taken Acc. 305 Cost Accounting. Prerequisite: Acc. 102. 3

Acc. 303 **Intermediate Accounting**
A more intensive study of basic accounting theory, corporate accounting problems, accounting statements and ratios. Prerequisite: Acc. 102. 3
Acc. 304 Intermediate Accounting
A continuation of the study of balance sheet items: current assets, tangible and intangible fixed assets, investments, liabilities, funds and reserves, determination of net income, statement of application of funds. Prerequisite: Acc. 303.

Acc. 305 Cost Accounting
Cost accounting records; principles and practices used in accounting for production management; job order and process cost accumulation methods. Credit will not be given for this course, if the student has taken Acc. 300 Managerial Accounting. Prerequisite: Acc. 102.

Acc. 306 Administrative Accounting
Accounting as a guide for management. Consideration of controversial problems of accounting practice. Prerequisite: Acc. 305.

Acc. 307 Governmental Accounting
A study of accounting techniques as applied to the accounting systems for a governmental unit; emphasis is placed upon fund accounting as distinguished from profit motive accounting. Prerequisite: Acc. 102.

Acc. 401 Advanced Accounting
A detailed study of partnerships, joint ventures, consignment and installment sales, insolvency and receivership, branch, parent and subsidiary relationships. Prerequisite: Acc. 102.

Acc. 403 Income Tax Accounting
A familiarization with the federal income tax as it applies to individuals, partnerships, corporations, estates and trusts. Prerequisite: Acc. 304.

Acc. 404 Advanced Tax Accounting
Specialized areas in income tax accounting, social security, federal estate and gift taxes are covered to prepare the accountant for tax planning, research and solution of problems encountered in tax practice. Prerequisite: Acc. 403.

Acc. 408 Auditing
Auditing standards, principles, procedures, and techniques; internal control; audit programs, working papers, and reports; professional ethics and legal responsibility. Prerequisite: Acc. 401.

Acc. 412 Advanced Accounting Problems
Discussion and problems are used to develop and refine problem-solving techniques for areas frequently recurring in the C.P.A. examination and in accounting practice. Prerequisites: Acc. 306 and 401.

Acc. 451 Accounting Internship
A course for the senior student in accounting which permits him to apply his professional knowledge in a part-time employment situation with a public accounting firm. Supplemental reading
and reporting from book and periodical materials will be a requirement for the course. Prerequisites: Senior standing; permission of major adviser and department head.

**BUSINESS ADMINISTRATION**

PROFESSORS HEATHER (Head), CONWAY, HARRIS, LEWIS, MINTEER;

ASSOCIATE PROFESSORS BALL, FORBES, JAMES, MOGHRADI

**B.A. 120 Business Career Development**

Development and understanding of the professional careers available to students in various colleges of business administration. Special attention is devoted to help a beginning student select a course of study in business in which he can utilize his strongest aptitudes and interests.

**B.A. 128 Introduction to Business**

A survey and operational analysis of business administration and organization. Consideration is given to such topics as: legal forms of business, management, marketing, risk, accounting, statistics, and governmental regulation.

**B.A. 212 Quantitative Methods**

A study of quantitative methods and their applications in business; including linear programming, game theory, probability theory, inventory models, and finite mathematics. Prerequisite: one year of H.S. Algebra.

**B.A. 313 Introduction to Statistics**

Methods of collection, presentation, analysis, and interpretation of quantitative business data; frequency distributions, averages, dispersion, statistical inference, index numbers, business fluctuations, simple correlation, and quality control. Prerequisites: Math 111 and Econ. 201 and 202.

**B.A. 319 Business Communications and Reports**

Study of the business letter and its role in communication and human relations, problems faced by the letter writer, practice in writing various types of letters with emphasis on planning, organization, and presentation based on the reader's viewpoint. Prerequisites: Engl. 112 and Junior standing.

**B.A. 320 Business Communications and Reports**

Study of business reports from the very formal to the memorandum, and practice in writing them with emphasis on planning, patterns or organization, adaptation to various readers, and mechanics. Some letter writing with primary attention given to the letter of application and resume. Prerequisites: B.A. 319 and Junior standing.

**B.A. 425 Business Cycles**

A study of business fluctuations in the aggregate economy, their causes as seen by economic theorists, measures which aid in stabilization of fluctuations, and macroeconomic forecasting. Prerequisites: Econ. 345 and Senior standing.
B.A. 446 Government and Business
National policy in controlling economic concentration by maintaining competition or providing regulatory legislation. Changing relationships between government and industry, contemporary developments, the role of the administrative agencies. Prerequisite: Senior standing.

B.A. 448 Business Policy and Administration
Problems of business policy making. The course emphasizes current business topics, cases, lectures by prominent business leaders, and computer simulation exercises. Prerequisites: B.A. 325, Mkt. 331 and Mgmt. 349. Senior standing, College of Business Administration.

B.A. 450 Special Problems in Business Administration
Individual investigation of specific problems in the fields of Accounting, Finance, Insurance, Management, Marketing, Real Estate, and Retail Management. Prerequisites: Senior standing and permission of the instructor.

B.A. 451-452 Business Administration Internship
Correlation of theory and practice in the student's area of specialization through part-time employment and weekly seminars; required readings. Prerequisite: Permission of major adviser.

BUSINESS LAW

B.L. 322 The Nature of the Law
The structure of our legal system; considering the economic, social and political implications as they influence the development of a rule of law. Historical and present legal controversies will be examined. Prerequisites: Junior standing.

B.L. 323 Business Law I
Introduction to law, the court system, unfair competition, trade regulation, contracts, agency, bailments, carriers, sales. Major emphasis on Uniform Commercial Code when applicable. Prerequisites: Econ. 201 and 202.

B.L. 324 Business Law II
Commercial paper, partnerships, corporations, bankruptcy, personal property, real property, trusts, mortgages, transfer by will, intestate succession, administration of estates. Major emphasis on Uniform Commercial Code when applicable. Prerequisite: B.L. 323.
B.L. 346 Real Estate Law
Estates in land, deeds, leases, mortgages, easements, zoning ordinances, covenants, trespass, nuisance, trespassers, licensees, invitees, real estate brokers, descendant's estates. Prerequisite: R.E. 344.

B.L. 422 Jurisprudence of Labor Relations
The regulation of industrial relations with special emphasis on recent labor cases and legislation; strikes, picketing, and boycotts; establishment of the collective bargaining relationships; union and management responsibilities and duties. Prerequisites: Econ. 201 and 202.

B.L. 423 Urban Law
Common law, U.S. courts, consumer problems, bankruptcy, housing, landlord and tenant, public housing, domestic relations, social benefits; law: constitutional, criminal, enforcement. Prerequisite: Junior Standing.

FINANCE

Fin. 228 Personal Finance
A practical study of methods of solving financial problems which people encounter in managing their individual and family affairs; among topics covered are: insurance, home buying, use of credit, personal taxes, savings, investment in securities, and estate planning.

Fin. 325 Corporation Finance
The financial process from the viewpoint of management in planning, directing, evaluating, and taking remedial action in providing management of money capital for the business firm. Prerequisites: Econ. 201 and 202; Acc. 101 and 102; and Junior standing.

Fin. 334 Credit Management
A study of credit functions, instruments, risk, organization and management, sources of information, adjustments, bankruptcy, credit limits and credit and collection control. Prerequisite: Mkt. 331.

Fin. 340 Investment Principles and Practices
A study of a systematic way of thinking about problems of investment policy, management of a securities portfolio, and an introduction to the field of security analysis. Prerequisites: Fin. 325 and Junior standing.

Fin. 415 Management of Business Finance
This course develops ability to analyze and solve problems in the management of business finance, including current financing, long-run financial needs, reserve and dividend policies, promo-
tion and the financing of expansion and combination, through the use of case studies. Prerequisites: Fin. 325 and Senior standing.

Fin. 440 Real Estate Finance
Methods of financing various types of real estate, funds sources, analysis of mortgage risks, F.H.A. underwriting, influences of governmental agencies. Prerequisite: R.E. 344.

REAL ESTATE

R.E. 344 Real Estate Principles and Practices
Character of land, real estate markets, ownership, interests; legal instruments, contracts, closing transfers; financing, brokerage; management; appraising; development and ownership. Prerequisites: Econ. 201 and 202.

R.E. 345 Real Estate Management
Urban: residential, office, commercial, special purpose buildings; merchandising, maintenance, tenant and public relations. Farm: tenants, crops, fertilizers, soil conservation, livestock, budgets: Records, research. Prerequisite: R.E. 344.

R.E. 347 Urban Land Uses
Institutionalization of urban life: mission of city, social control, moral power, metropolis and mental life, urban policy, power structure. Transit: mass, auto. Housing: public, slum, for aged, design, production, acquisition, consumption, research. Prerequisite: Econ. 201 and 202.

R.E. 348 City Planning

R.E. 439 Real Estate Investments
A study of the feasibility and the analysis of long term investment characteristics of condominiums, dormitories, apartments, housing complexes, office buildings, shopping centers, industrial properties, farms and subdivisions. Prerequisite: R.E. 344.

R.E. 440 Real Estate Finance
Methods of financing various types of real estate, funds sources, analysis of mortgage risks. F.H.A. underwriting, influences of governmental agencies. Prerequisite: R.E. 344.

R.E. 441 Theory of Real Estate Appraisal
Valuation theories applied to land, residential, commercial and leasehold real estate; three approaches to value; depreciation, capitalization; a residential appraisal required. Prerequisite: R.E. 344.
INSURANCE
PROFESSOR ROKES (Head)

Ins. 371 General Insurance
Basic risk analysis; introduction to fire, casualty, life and health coverages; business and personal insurance needs; company organizations and industry practices; the liability peril; automobile insurance laws; claims procedure; government regulation. Prerequisites: Econ. 201 and 202.

Ins. 372 Life and Health Insurance
Analysis of individual and group contracts; human life values and insurance needs; estate planning and the impact of taxation; business continuation agreements and insurance; pensions and annuities for business and individual retirement programs. Prerequisites: Econ. 201 and 202.

Ins. 374 Property and Casualty Insurance
Concentrated analysis of coverages; insurance management problems facing specific types of business and personal risks; multiple-line policies; legal interpretation and analysis; practical case problems in liability and direct loss situations. Prerequisites: Econ. 201 and 202.

Ins. 376 Social Insurance
Public measures against economic insecurity; analysis of political issues; social security and public assistance; workmen's compensation; problems of unemployment; fair labor standards. Prerequisites: Econ. 201 and 202.

MANAGEMENT
PROFESSORS J. HILL (Head), NEWPORT
ASSISTANT PROFESSOR ANSTEY
INSTRUCTORS CHAPMAN and ETTKIN

Mgmt. 349 Principles of Management
A systematic analysis of the managerial functions; planning, organizing, staffing, directing, and controlling. Prerequisites: Econ. 201 and 202.

Mgmt. 351 Personnel Organization and Management
Manpower management theory and practice are studied through an analysis of the employment setting in business. Prerequisite: Mgmt. 349.

Mgmt. 402 Supervisory Management
A student project course which emphasizes the development and application of supervisory management methods. Prerequisite: Mgmt. 351.

Mgmt. 404 Human Resources and Management
A comprehensive study of the behavior of industrial man and the management processes used to develop better worker and employer relationships. Prerequisite: Mgmt. 349 or permission.
Mgmt. 405 Production Management
Operations analysis is presented through construction and study of basic production models. Prerequisites: Mgmt. 349 and B.A. 313.

Mgmt. 410 Organization Theory and Practice
A behavioral approach to the study of goal formation, social systems, formal and informal structure, decision-making, adaptation, control, and other facets of modern organization theory. Prerequisite: Mgmt. 349.

Mgmt. 438 Industrial Purchasing and Materials Control
A case course which emphasizes the functional analysis of purchasing systems, their development and operation. May not also have credit for Mkt. 438. Prerequisite: Mgmt. 349.

MARKETING
PROFESSORS BULL (Head), BROWN, HEATHER, LUCAS, PRESTWICH

Mkt. 105 Retail Selling
Role of selling in our society; retail sales promotion mix; requirements for successful selling; analysis of customers, buying motives, communicative skills, and selling principles and techniques.

Mkt. 331 Marketing
Survey of the field of marketing: functions, methods, policies and problems of manufacturers and middlemen; emphasis on principles and policies in relation to marketing efficiency. Prerequisites: Econ. 201 and 202.

Mkt. 333 Retailing
An introductory, management-oriented course which considers the basic decision areas in the retailing mix such as initial requirements and facilities, merchandise planning and control, pricing, physical distribution, sales promotion, and expense management. Prerequisite: Mkt. 331.

Mkt. 334 Credit Management
A study of credit functions, instruments, risk, organization and management, sources of information, adjustments, bankruptcy, credit limits and credit and collection control. Prerequisite: Mkt. 331.

Mkt. 336 Advertising
Social and economic aspects of advertising; planning of advertising programs including research, budgets, organizing and managing advertising activities. Prerequisite: Mkt. 331.

Mkt. 360 Logistics
Economic aspects of the modes of domestic transport. Physical distribution including channel selection, plant location, inventory control, material handling, and cost analysis. Prerequisites: Mkt. 331.
Mkt. 401 Retail Merchandising  
Merchandising objectives, policies, and strategy; demand analysis, merchandise budgets, pricing methods, inventory management methods, profit and loss statement analysis, and other merchandise management tools. Case method, supplemented with merchandising executive contact and current literature utilized. Prerequisite: Mkt. 333.

Mkt. 407 International Marketing  
Principles and practices in foreign trade including foreign exchange, documentation, organization, foreign market surveys and foreign marketing service. Prerequisite: Mkt. 331.

Mkt. 414 Retail Management  
A case course requiring student decisions in the various areas of retail management such as location, store operations, personnel management, merchandise management, pricing, and sales promotion. Prerequisite: Mkt. 333.

Mkt. 430 Marketing Problems  
Analysis of a variety of marketing problems including consumer motivation, selection of channels, product development, promotion and pricing. Prerequisite: Mkt. 331.

Mkt. 432 Sales Management  
Organization and management of sales departments. Sales planning, forecasting, and analysis. Selection, training, motivation, compensation, and control of salesmen. Prerequisite: Mkt. 331.

Mkt. 434 Marketing Research  
Application of analytical tools to marketing problems including markets, products, distribution channels, sales effort, and advertising. Emphasis on planning, investigation, collections, interpretation of data and presentation of results. Prerequisites: B.A. 313 and Mkt. 331.

Mkt. 438 Industrial Purchasing and Materials Control  
A case course which emphasizes the functional analysis of purchasing systems, their development and operation. May not also have credit for Mgmt. 438. Prerequisite: Mkt. 331.

PART-TIME FACULTY

ALDEN AUST ......................................................... Business Administration  
B.S., University of Wisconsin 1938, Instructor part-time

WILLIAM F. BACHMAN ......................................... Management  
M.S., Creighton University 1964; Instructor part-time

DANIEL R. BAUER ............................................. Accounting  

HOWARD CHRISTENSEN ..................................... Accounting & Insurance  
M.A., University of Nebraska, 1967; Instructor part-time

PAUL J. DUCHARMEE .......................................... Management  
M.B.A., Harvard University, 1947; Instructor part-time
JOSEPH KIRSHENBAUM .............................................. Business Administration
B.S., University of Omaha, 1953; Instructor part-time

CHARLES J. LEISE ....................................................... Business Administration
B.A., Wayne State Teachers College, 1963; Instructor part-time

LOREN B. MEANS ........................................................... Business Administration
B.S., University of Omaha, 1962; Instructor part-time

ALEX A. MORAR, JR. ...................................................... Business Administration
B.S., University of Nebraska at Omaha, 1952; Instructor part-time

ARTHUR J. NEVINS ...................................................... Insurance
A.B. & LL.B., University of Nebraska, 1932; Instructor part-time

LYLE A. RODENBURG ....................................................... Business Administration
J.D., Creighton University, 1968; Instructor part-time

IRVING T. SHEPPARD ...................................................... Management
M.S.A., George Washington University, 1969; Instructor part-time

NORMAN E. SMITH ...................................................... Business Administration
A.B., Colorado State, 1950; Instructor part-time

R. WAYNE WILSON ...................................................... Business Administration
B.S. & LL.B., University of Illinois, 1947; Instructor part-time

MALCOLM D. YOUNG ...................................................... Business Administration
LL.B., Duke Law School, 1948; Instructor part-time
COLLEGE OF CONTINUING STUDIES

WILLIAM T. UTLEY, Dean

The activities of the College of Continuing Studies are administered primarily through two divisions: I. Academic Studies, and II. Non-Credit Community Services. General descriptions of the programs of both divisions appear in the following pages. Each division has prepared literature dealing with specialized aspects of its program, and interested adults are encouraged to request additional information by mail, by telephone, or in person.

For information about credit programs (college degree credit courses), write to: CCS-Credit, University of Nebraska at Omaha, Omaha, Nebraska 68101, or telephone 553-4700, extension 364. For information about non-credit programs (including conferences, institutes, and workshops), write to: CCS-Conference Center, University of Nebraska at Omaha, Omaha, Nebraska 68101, or telephone 553-4700, extension 391.

I. DIVISION OF ACADEMIC STUDIES

MR. THOMPSON, Assistant Dean

GENERAL INFORMATION

Mission and Clientele

The Academic Studies Division of the College of Continuing Studies concerns itself primarily with adults who are taking undergraduate college courses for credit. In order to provide a full range of services to its varied clientele, "CCS-Credit" performs two major functions. On the one hand it provides general administrative or "housekeeping" services for many categories of the University’s students. On the other it provides specific academic and "degree college" services for its own students.

As an administrative service unit, CCS-Credit coordinates the credit courses offered by all colleges of the University during late afternoon, evening, and Saturday morning hours, primarily for the benefit of adult, part-time students. Any degree granted by the University may be pursued through these "extended hours" offerings.

In the same capacity, CCS-Credit "houses" and provides basic program advisement for all part-time evening students, regardless of their age or ultimate academic objective who have not yet earned the 58 credits required for acceptance by the college of their choice. Similarly, CCS-Credit serves all part-time, adult students, whether in day or evening attendance, who are not acknowledged degree candidates. Groups served include the typical "evening college" population of full-time workers who are part-time students, usually in the evening, but frequently in the daytime if housewives or shift workers. Also included is the "special student," the adult who already has a degree, but who returns to take more undergraduate courses for personal or professional reasons.

As a degree-granting college, CCS-Credit administers two degrees. These are the Bachelor of General Studies degree, especially developed for and restricted to adults; and the Bachelor of Science in Law Enforce-
ment and Corrections degree, open to the college-age population as well as to adults. Detailed specifications of these degrees appear in this section. Associate Titles are also available in both areas.

**Special Features**

Several programs of the Academic Studies Division deserve special mention.

**Bachelor of General Studies Degree Program.** This degree program is open only to adults. That is, only men and women who are firmly established in the socio-economic structure of the community are accepted as candidates. The BGS degree has been developed in keeping with a philosophy which holds that, as students, adults differ in many respects from college-age youths, and that, therefore, a degree program for adults not only could, but should, be different. These differences appear in its liberal provisions for translating the general knowledge acquired by adults through informal experiences into college degree credit, and in its flexibility, whereby any useful combination of liberal arts and professional courses is acceptable. A special feature of this degree program is an academic amnesty policy whereby able adults may earn relief from disabling qualitative deficiencies acquired in earlier attempts at college.

**Bachelor of Science in Law Enforcement and Corrections Degree Program.** Professional law enforcement and correctional services demand individuals who have availed themselves of educational opportunities in preparation for career service. Based upon this recognition, the University of Nebraska at Omaha has designed a program which will develop graduates with a high degree of professional competence in their career field and which will also provide their communities with an educated citizen. The program is designed to serve the needs of the young person seeking total education to prepare for a career in law enforcement, as well as the needs of men who have law enforcement experience and want to enhance their progress in the profession. The courses are not intended to take the place of recruit or normal in-service training, but provide a functional background for this type of service training.

**"Bootstrap" Program.** Based upon the Bachelor of General Studies, this degree-completion program, serving active duty, separated and retired military personnel, is the largest such operation in the nation. Each year it brings to this campus, from virtually every branch of the service, hundreds of men and women for a final period of full-time study in their pursuit of a college degree. Since 1952, over 10,000 career military personnel, both enlisted and commissioned, have earned baccalaureate-level degrees in the "Bootstrap" program. Interested parties may obtain preliminary information from their Education Officer, or by writing to the Director of the program at this University.

**Offutt Air Force Base Program.** Since 1952 the College of Continuing Studies has provided courses during off-duty hours for military personnel, their dependents, and civilian employees at Offutt Air Force Base, Headquarters of the Strategic Air Command. This operation has been cited by the Air Force as a model program. In fact, officials from
a number of other schools have visited the Base and this campus to learn how they might set up similar activities.

**TV Classroom.** The College of Continuing Studies pioneered in the development of instructional television. TV Classroom began in 1952 as a joint venture with station KMTV in Omaha, and has continued uninterrupted. Since the completion of KYNE-TV, the education television station located on campus, each TV Classroom program is broadcast twice for viewers in the Omaha area, once on KMTV (Channel 3), and once on KYNE-TV (Channel 26).

**Entrance Requirements**

Any adult who can profit from college-level work may enroll in the College of Continuing Studies. Entrance into the College is arranged by first contacting the Director of Admissions and supplying that office with a completed Application for Admission plus all required supporting credentials. Note especially that ADVANCE APPLICATION IS REQUIRED OF ALL PROSPECTIVE CCS STUDENTS, including all former students who are re-entering. All credentials must be on file in the Admissions Office at least two weeks prior to the official beginning of the semester or term. See the University calendar elsewhere in this catalog for these official dates.

Adults who have not completed high school, but who wish to work toward a degree, should prepare for and take high school equivalency examinations (high school level GED). One of the agencies administering these tests is the University's Department of Academic Testing.

For information about the high school level GED tests and about special courses designed to prepare adults for success on these tests, contact your local high school principal, or if a resident of Omaha, the Principal of the Omaha Adult High School, or the Director of the UNO Testing Center.

Acceptance into the College of Continuing Studies does not imply acceptance as a degree candidate. The separate steps which must be taken to qualify for degree candidacy are specified below in the Baccalaureate Degrees section.

**Academic Counseling**

Counseling, since it affords a vital sense of direction, is the key to a satisfying experience for the college student. CCS counselors are prepared (1) to discuss University course offerings and degree programs as they relate to an individual's personal and vocational objectives, (2) to inventory a student's past record and experience in connection with the College's own degrees, and (3) to provide program advisement to all students in the college who have accumulated less than 58 credits, as well as all students who, regardless of credits earned, have been accepted as candidates for CCS degrees.

The timing of counseling sessions is critical. It is impossible for the counselors to provide full-dress record reviews or to assist with long-range planning during September, January, and June when involved with the heavy demands of registration.
The thoughtful student realizes that long-range planning is one thing, and that course selection for a given semester is another. He does not wait for the next term's schedule to appear before he requests a complete program evaluation. Instead, he comes in during the middle of the semester when counselors are readily available. He knows that once he has had a thorough evaluation, course selection is usually a routine do-it-yourself matter. The simple question or two he might have at registration time will then be viewed as a reasonable request.

Prospective students, including all transfer students and all former University of Nebraska at Omaha students whose most recent registration was in some college other than CCS, must bring to counseling sessions their personal (unofficial) copies of transcripts covering all previous college work. For this reason, transfer students should order an additional, unofficial copy of each college transcript for their own files at the same time they order an official copy to be sent directly to the UNO Admissions Office.

Students who fit into one of the categories served by CCS faculty and staff counselors need only to locate the proper counselor. Professor Kuchel and his LEC faculty counsel Law Enforcement students. Mr. Russell and Mr. West counsel "Bootstrappers." Mr. Shacklette counsels Offutt personnel on base and on campus.

Civilian students-at-large and BGS degree candidates are counseled primarily by Mr. Fling, assisted by Messrs. Shacklette, Thompson, and West, all of whose offices are in Room 184 of the Administration Building. Appointments are required and are available both day and evening. To schedule an appointment, call 553-4700, extension 347, during regular business hours. Students currently enrolled in CCS should call approximately a week in advance of the desired counseling session so there will be time to make sure their file is complete and current.

While nearly all part-time, lower division, evening students are assigned to the College of Continuing Studies as a matter of University policy, many such students are working toward degrees which are under the jurisdiction of other colleges. The first responsibility of such students is to familiarize themselves with the requirements of their desired degree program as published in the University catalog. If assistance is still needed, the CCS staff will help with the relatively uncomplicated issues of the first half of the degree program. But upon attaining upper division standing (58 or more credits and at least a 2.0 cumulative grade point average), a formal transfer (change of college) should be made, thereby insuring that the specialized advisement needed can be obtained from the faculty of the college which administers the degree.

Students who wish to continue beyond the BGS degree with graduate study should discuss any such plans with their CCS counselor at an early stage in their program. As is the case with any other baccalaureate degree, the chances of acceptance into any graduate program with a BGS degree depend almost entirely on two factors: the course content of the undergraduate degree and the quality of the work done. To ensure optimum course content for specific graduate school objectives, the prospective graduate student should also be sure to consult the relevant UNO department head.
Special Counseling

Services of the University Counseling and Testing Center, Room 213 Administration Building, are available to CCS students by appointment during evening hours. No fee is charged. These services are designed to help students or prospective students evaluate their academic potential and to help them achieve maximum benefits from their University experience. Counselors also may be consulted for assistance in formulating educational or vocational plans. Aptitude tests and vocational interest inventories are available and are frequently helpful. CCS students are encouraged to take advantage of these services and to inform other prospective students of their availability.

Appointments may be made in person at Room 213, Administration Building, or by telephoning 553-4700, extension 509, during regular business hours.

Programming Suggestions

The entering student is strongly urged to take English 111, English Composition, as his first course. This required course, with its emphasis upon ability to express one's own ideas and to interpret the writing of others, supplies basic communications skills which each student should have working for him throughout his college career.

If an entering student wishes to take two courses, the second can be almost any course for which the word "none" appears in the Prerequisite column of the semester Class Schedule. Usually students choose the introductory course in the discipline in which they would like to concentrate.

An entering student should avoid four and five credit courses as found in foreign languages and sciences, unless assured by an advisor that his particular circumstances qualify him. These more demanding experiences are best reserved until after the initial adjustment to college-level study has been made.

Study Load

Students holding full-time jobs while pursuing their college work will not have sufficient study time, ordinarily, to maintain satisfactory scholastic standing in more than two courses (six or seven hours of credit) in a given semester. Therefore, seven credits is considered the maximum standard study load for College of Continuing Studies students in a regular semester, with three credits (total) the standard load in the summer.

Overload Approval

Any student in the College of Continuing Studies who wishes to take more than seven semester hours of credit in a regular semester or more than three credits during the entire summer must obtain WRITTEN PERMISSION from one of the professional staff members of the College of Continuing Studies IN ADVANCE OF REGISTRATION. Since such permission will be based on demonstrated academic competence in courses taken at this University, students in good standing who have previously attended UNO may expect to have such requests approved. New and transfer students are cautioned not to expect to be allowed to carry in excess of seven credits until they have completed at least one
semester in residence. Students on probation are not eligible to carry in excess of the standard loads as defined above, unless they have earned academic amnesty.

A special "Overload Request" procedure has been established. Students applying for overload approval for the first time are urged to see their CCS counselor so this can be done as part of an over-all program evaluation. After that, the procedure provides for "remote" servicing by the simple expedient of calling the CCS Receptionist at 553-4700, extension 364, or by making out an Overload Approval Card at the CCS reception desk in Room 184, Administration Building, any time up to one week before registration begins.

**Emergency Withdrawal**

Adult students, by definition, have a range of priority concerns which on occasion may require them to interrupt their studies. Recognizing this, the College of Continuing Studies has developed a special procedure which is designed to protect students who are in good academic standing at the time of leaving their course(s) against the automatic penalty of an "F" grade for which they otherwise would be liable, if they withdraw past the middle of a term. Any CCS student who, under pressure of circumstances, withdraws from any or all of his courses after the deadline date may take advantage of this "emergency withdrawal" procedure, which works as follows:

1. The student withdraws. Preferably this is done using the appropriate UNO form. In such cases, the student must be certain his CCS counselor clearly understands that the emergency withdrawal procedure is being requested. If the student cannot come to campus, an explanatory letter addressed to the Assistant Dean for Credit Programs, College of Continuing Studies, University of Nebraska at Omaha, Omaha, Nebraska 68101, will be acceptable. (Since full responsibility rests with the student in such cases, the use of certified mail is highly recommended.)

2. At the same time, a "Certificate of Necessity" (normally a brief letter from the student's physician, employer, etc., addressed as above) should be arranged for, if possible. (Such a certificate, while not required, helps put the request for emergency withdrawal in perspective.)

3. CCS initiates the "Emergency Withdrawal" (E/W) form, which is sent to the student's instructor(s), along with a copy of the "Certificate of Necessity," if any. The E/W form requests the instructor to assign a "W" (official withdrawal) grade, carrying no academic penalty, if the student was in good standing at the time of leaving the course. Alternatively, if the student was not in good standing, the instructor is asked to confirm the appropriateness of an "F" (failure) grade.

**Credit by Examination**

College of Continuing Studies students can earn credits toward CCS degrees by achieving acceptable scores on two types of examinations. The intention of these examinations is to provide adults with a means of translating knowledge they have acquired informally into college degree credit. By earning advanced standing credit, the adult may qualify to receive his degree in a shorter period of time.
One avenue is the University of Nebraska at Omaha's Special Examination procedure. Essentially this involves "challenging" one of the subjects taught at this University by attempting an end-of-course examination. Details of this procedure appear in the General Academic Regulations section elsewhere in this catalog.

The other avenue is the General Examinations battery of the College-Level Examination Program (CLEP). Subject areas covered are English Composition, Social Sciences, Natural Sciences, Humanities, and Mathematics. Credit is granted for acceptable scores on each of the five parts, independently, in the amount of six credits per part. To avoid loss of credit, students should note those academic courses which eliminate eligibility for CLEP credit through direct duplication.

### Courses Which Duplicate CLEP Credit

<table>
<thead>
<tr>
<th>CLEP General Examinations Test</th>
<th>General Title</th>
<th>Specific UNO Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Freshman English</td>
<td>English 111-112</td>
</tr>
<tr>
<td>Social Science</td>
<td>Social Science Survey</td>
<td>None</td>
</tr>
<tr>
<td>Natural Science</td>
<td>General Biology (3) and Physical Science Survey (3)</td>
<td>Biology 102, Physics 101</td>
</tr>
<tr>
<td>Humanities</td>
<td>Humanities Survey</td>
<td>Humanities 101-102</td>
</tr>
<tr>
<td>Mathematics</td>
<td>College Algebra (3) and Trigonometry (3)</td>
<td>Mathematics 111, Mathematics 112</td>
</tr>
</tbody>
</table>

Since the purpose of the CLEP General Examinations battery is to credit adults for the knowledge they have acquired informally, eligibility for such credit is reduced by the amount of any college credit which the student has earned already in the respective "core" areas. Also in keeping with the philosophy underlying the CLEP program are the rules that (1) only the scores earned on the student's first attempt at each test will be considered, and (2) that in order to be eligible for CLEP credit, the student must take the CLEP battery within one calendar year of his first enrollment in the College of Continuing Studies.

The UNO Testing Center, 213 Administration Building, is an authorized CLEP test administration center. The CLEP General Examinations battery is given on the third Saturday of each month to those whose applications are on file by the first of the month. The fee is $15.00 for the entire battery or any portion thereof. CCS students are required to secure a statement of credit eligibility from their CCS counselor before applying for the CLEP General Examinations battery.

Note that credit by examination may constitute no part of a CCS degree candidate's terminal residency requirement. Furthermore, since the granting of credit by examination does not by itself guarantee that the prerequisite for any particular course has been met, students who earn such credit should consult their CCS advisor before registering for advanced study in the same discipline.

### Military Service Credit

Further in keeping with its explicit policy of translating informally acquired knowledge into college credit are the provisions the College of Continuing Studies makes for the allowance of degree credit for military service experiences. All such allowances are based on recommendations of the Commission on Accreditation of Service Experiences of the American Council on Education.
Twelve semester hours of credit is the basic allowance for six months of active duty service. Those who have earned commissions or who have satisfactorily completed United States Armed Forces Institute college-level courses or accredited technical school programs operated by the military services may be eligible for additional credit. Check with your CCS counselor as to the procedures whereby you may establish a claim to military service credit.

Note that the basic twelve hours of credit is considered to be the equivalent of four credits of freshman and sophomore “general activities” physical education, plus eight credits of freshman and sophomore military science (ROTC). College credits earned in these areas will correspondingly reduce (on grounds of duplication) the basic military service credit allowance.

Probation and Suspension

It is the intention of the College to provide the adult with every opportunity to pursue academic work. However, should a student demonstrate his inability or unwillingness to maintain a satisfactory level of performance, it is no favor to that student, his fellow students, or the University to permit him to continue indefinitely.

It is the policy of the College to review a student’s work each semester, once he has accumulated 12 semester hours. All students in the College of Continuing Studies must meet the same standard for “normal progress” as shown in the Academic Standing section of this catalog.

Baccalaureate Degrees

Bachelor of General Studies Degree

MR. FLING, Director, Adult Academic Programs
MR. RUSSELL, Director, Military Programs
MR. SHACKLETTE, Assistant Director, Military Programs
MR. WEST, Counselor, Military Programs

Program Rationale

The Bachelor of General Studies degree is deliberately designed to afford adults a program having flexibility in several respects not provided for by traditional Bachelor of Arts or Bachelor of Science degree programs. Experience has demonstrated the value of this concept. Some students have used it to assemble unique “packages” from a variety of disciplines to meet specific career requirements. Others have used it to build programs of maximum academic strength in preparation for graduate study.

Because the Bachelor of General Studies is a non-traditional degree, BGS candidates are not eligible for admission to the professional education sequence of courses in the UNO College of Education which leads to certification to teach at the elementary or secondary school levels. Students who are interested in a teaching career at one of these levels should discuss their plans with their CCS counselor at an early stage in their program.

Admission to Candidacy

College of Continuing Studies students who wish to earn the Bachelor of General Studies degree must apply for and be formally admitted to
candidacy as a specific prerequisite for the degree. Students apply by securing, on a form provided for this purpose, the recommendation of their CCS counselor and the approval of the Dean. Note that acceptance as a Bootstrap student automatically fulfills this requirement.

It is recommended that the part-time student apply for acceptance as a degree candidate approximately two years before his anticipated graduation date. In any case, however, application should be made before the student completes 101 credits, since the last 24 semester hours of credit toward the Bachelor of General Studies degree must be earned as an accepted BGS degree candidate.

To apply, schedule an appointment with Mr. Fling, Director of Adult Academic Programs. Be sure to specify your purpose, so that your appointment will be scheduled for the full hour normally required to make a complete academic inventory and to develop the statement of remaining degree requirements, both of which are provided as an integral part of the acceptance procedure.

Specific eligibility requirements are:

1. Functional adult status. (Counselors, in making this determination, will look for sustained experience as a contributing member of society in a full-time job, in military service, or as a home-maker. Normally, a minimum period of two consecutive calendar years when not a full-time student will be required.

2. A minimum of 58 credits applicable to the Bachelor of General Studies degree.

3. A 2.0 cumulative grade point index ("C" average).

4. As an alternative to the 2.0 cumulative average requirement, the student must have qualified for academic amnesty as a "returning adult" under the College of Continuing Studies' "second chance" policy.

**Academic Amnesty**

One of the most significant features of the Bachelor of General Studies degree program is its provisions for academic amnesty. It is well known that many able young people fail in their initial attempts at college. Some accumulate academic deficits so large that it is virtually impossible to "earn back" the lost quality points.

By the terms of the CCS/BGS amnesty policy, an adult who demonstrates that he can now perform for a sustained period at better than the minimum degree standard can earn what amounts to forgiveness from a poor record acquired in earlier years. For some adults this policy represents the only practical hope for freeing themselves from a severe qualitative deficit. Adults in such circumstances are urged to contact their CCS counselor for a full explanation of the terms of the amnesty policy.

**General Requirements—BGS Degree**

Of the 125 semester hours of credit with an average grade of "C" required for the Bachelor of General Studies degree, a minimum of 24 of the last 30 credits must be earned in residence in the College of Con-
tinuing Studies as an accepted candidate for the Bachelor of General Studies degree. At least nine hours in the Primary Area of Concentration must be taken in University of Nebraska at Omaha courses. No less than 30 hours must be earned in courses numbered 300 or above (upper division, junior-senior level courses). A maximum of 25 credits from extramural sources such as TV Classroom and correspondence courses may be applied toward the BGS degree.

### Course Requirements—BGS Degree

1. **Core Requirements**
   - a. English Composition (as determined by placement test) .......................... 6
   - b. Social Sciences .................................................. 12
      (Economics, Geography, History, Political Science, Psychology, and Sociology)
   - c. Natural Sciences .................................................. 9
      (Biology, Chemistry, Geology, Mathematics, and Physics)
   - d. Humanities ......................................................... 12
      (Art, English Literature, Foreign Languages, Music, Philosophy, Religion, and Speech)

2. **Area of Concentration** .................................................. 30
   - a. Primary Concentration: 21 (minimum) to 30
   - b. Allied Field (optional): 0 to 9 (maximum)

3. **First Subject Field** .................................................. 12
4. **Second Subject Field** .................................................. 12
5. **Electives** .................................................................. 32

Total .................................................................................. 125

### Commentary

The following explanatory notes are keyed to the Bachelor of General Studies degree course requirements in the tabulation above by the corresponding outline designations.

1a. The English Composition requirement is satisfied by English 111 and 112 at this University or by a full year of Freshman English from another school. The English Composition test of the CLEP General Examinations battery may be used instead of academic credit to fulfill this requirement (see the “Credit By Examination” section above).

   Students with no previous background in college English who plan to take English Composition in the evening must register in English 111. A placement test, given at the first class meeting, determines whether the student will stay in 111, go back to 109, or go on to 112 or beyond. Any student planning to take English Composition in the daytime must take the placement test (a part of the group-administered Guidance Examination battery, but also available on an individual basis at the University Testing Center, Adm. 213) before registration. CCS students who test into 112 or beyond should check their standing in respect to the degree requirement with their CCS counselor.

1b. Not more than six credits from a single department (for example, History) may be applied toward the Social Sciences requirement. The CLEP Social Sciences test may be used for six credits toward this requirement.

1c. Certain Geography courses, specified in that Department's listing in the College of Arts and Sciences section of this catalog, may also be counted toward the Natural Sciences requirements, as may Engineering 336, Meteorology. For the purpose of satisfying this requirement, either
one of the five-credit Biological Science Survey and Physical Science Survey courses given at this University may be substituted for six hours of departmental courses, and in combination with any other three-credit science or mathematics course will fulfill the requirement. Either the CLEP Natural Sciences test or the Mathematics test (but not both) may be used for six credits toward this requirement. (Students eligible for credit for both parts may count the six credits for Mathematics as electives.)

1d. Not more than six credits from a single department may be applied toward the Humanities requirement. The five-credit Introduction to the Humanities courses given at UNO may each be substituted for six hours of departmental courses (12 for both) toward satisfying the Humanities requirement. The CLEP Humanities test may be used for six credits toward this requirement, as may the three semester hours of Speech which are granted for one year of active duty service as a commissioned officer in the U.S. Armed Forces. Note that in the definition of Humanities courses appearing in the College of Arts and Sciences section of this catalog, certain Art, English, Journalism, and Speech courses are excluded. Also note, however, that for the CCS degree there is no restriction on the level of Foreign Language courses which may be counted as Humanities, since there is no separate Foreign Language requirement.

2. The term “Area of Concentration” is used in recognition of the fact that adults, as the best judges of their own personal and vocational requirements, are left free (in most instances) to select for themselves the courses which will comprise the main thrust of their BGS degree program. By contrast, the traditional term “major” is reserved for the “professionally packaged” BA and BS programs put together by the faculty in a given department or college as the optimum “general purpose” preparation for young people.

Only in the technically sensitive areas of Biology, Chemistry, Engineering, Mathematics, Physics, and General Science, where a sequence of specific courses is required for adequate performance as a professional in the field, is the Area of Concentration for BGS candidates fully prescribed. (BGS candidates concentrating in these areas must check degree requirements with their CCS advisor.) For similar reasons, all students with a concentration in Business must include a full year of Principles of Economics and at least one semester of Accounting in their programs. In most other areas, the choosing of courses in the Area of Concentration is a do-it-yourself project.

Many BGS candidates, however, very wisely check out the catalog statement defining course requirements for BA or BS majors in their same field. Specifications of entrance requirements for graduate programs are another fruitful source of guidance for Area of Concentration (and Subject Field) course content. The list of undergraduate courses required for acceptance into the Master of Business Administration degree program at the University of Nebraska at Omaha (published in the UNO Graduate College Bulletin) is an excellent example.

2a and 2b. All BGS candidates must select some discipline as an Area of Concentration. In recognition of the fact that work in a closely related
subject sometimes may be at least equally as valuable as further specialization in the original subject, “Allied Fields” have been authorized for some Concentrations. For example, Economics is acceptable as an Allied Field when Business is the “Primary Concentration,” and up to nine hours of Economics credits may be counted toward the thirty hour total.

There is no requirement that a student must use the Allied Field option. For some Concentrations (for example, Mathematics) no Allied Field is even authorized. Where Allied Fields are authorized, this simply increases the student’s options in the interest of enabling him to put together the strongest possible program. A list of available Areas of Concentration and authorized Allied Fields follows this section. (Note that Education is not available as an Area of Concentration.)

3 and 4. A “Subject Field” is essentially the same as a minor in traditional nomenclature. Each of the two Subject Fields required for the BGS degree must be “pure.” That is, all twelve credits must be from the same academic department (e.g., Psychology) or the same professional curriculum (e.g., Forestry). The 12 credits given for six months of active duty military service may be used to fulfill one Subject Field. The discipline chosen for the Primary Concentration cannot be used as a Subject Field. An Allied Field discipline, however, may also be elected as a Subject Field.

5. If the total credit value of courses used to satisfy any of the previous requirements happens to exceed the minimum specification (does not come out to an even 12, for example), any excess is considered elective credit, regardless of where the credit appears on the student’s Worksheet.

Available Programs—BGS Degree

<table>
<thead>
<tr>
<th>Primary Area of Concentration</th>
<th>Authorized Allied Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Business</td>
</tr>
<tr>
<td>Art</td>
<td>None</td>
</tr>
<tr>
<td>Biology</td>
<td>None</td>
</tr>
<tr>
<td>Business (General)</td>
<td>Economics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>None</td>
</tr>
<tr>
<td>Economics</td>
<td>Business, Geography, History, Political Science, Sociology</td>
</tr>
<tr>
<td>Engineering</td>
<td>None</td>
</tr>
<tr>
<td>English</td>
<td>Speech</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>None</td>
</tr>
<tr>
<td>General Science</td>
<td>None</td>
</tr>
<tr>
<td>Geography</td>
<td>Economics, History, Political Science</td>
</tr>
<tr>
<td>History</td>
<td>Economics, Geography, Political Science, Sociology</td>
</tr>
<tr>
<td>Home Economics</td>
<td>None</td>
</tr>
<tr>
<td>Journalism</td>
<td>None</td>
</tr>
<tr>
<td>Law Enforcement and Corrections</td>
<td>Business, Economics, Political Science, Psychology, Sociology</td>
</tr>
<tr>
<td>Library Science</td>
<td>English</td>
</tr>
<tr>
<td>Mathematics</td>
<td>None</td>
</tr>
<tr>
<td>Music</td>
<td>None</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Religion</td>
</tr>
<tr>
<td>Physical Education</td>
<td>None</td>
</tr>
<tr>
<td>Physics</td>
<td>None</td>
</tr>
<tr>
<td>Political Science</td>
<td>Economics, Geography, History</td>
</tr>
<tr>
<td>Psychology</td>
<td>Sociology</td>
</tr>
<tr>
<td>Recreation Leadership</td>
<td>None</td>
</tr>
<tr>
<td>Sociology</td>
<td>Economics, History, Psychology, Religion</td>
</tr>
<tr>
<td>Speech</td>
<td>None</td>
</tr>
<tr>
<td>Urban Studies</td>
<td>None</td>
</tr>
</tbody>
</table>
Bachelor of Science in Law Enforcement and Corrections Degree
ASSOCIATE PROFESSOR KUCHEL (Head)
ASSISTANT PROFESSORS BASSI, SCHULTZ

Program Rationale

The Bachelor of Science in Law Enforcement and Corrections degree is planned to prepare persons for careers in administrative positions in law enforcement, corrections, and rehabilitation. Provision is made for an interdisciplinary approach to sociology, psychology, and political science as they relate to law enforcement and correctional administration.

Admission to Candidacy

College of Continuing Studies students who wish to earn the Bachelor of Science in Law Enforcement and Corrections degree must apply for and be formally admitted to candidacy as a specific prerequisite for the degree. Students apply by securing, on a form provided for this purpose, the recommendations of the Chairman of the Department of Law Enforcement and Corrections and the Dean. Note that acceptance as a Boot-strap student automatically fulfills this requirement.

Application may be made at any time, preferably as soon as the student decides he desires the BS/LEC degree. In any case, application should be made before the student completes 95 credits, since the last 30 semester hours of credit toward the Bachelor of Science in Law Enforcement and Corrections must be earned as an accepted BS/LEC degree candidate. Applicants who are enrolled in other colleges of the University of Nebraska at Omaha must apply for entrance into the College of Continuing Studies, via the change of college procedure, at the same time they apply for acceptance into the BS/LEC degree program.

Individuals proposing to major in Law Enforcement and Corrections must meet all the requirements for admission to the University of Nebraska at Omaha. Applicants must also possess the qualifications necessary in their chosen field. Students planning to seek employment in law enforcement agencies are advised to investigate the physical requirements of such agencies so that they may determine, in advance, their capacity to meet these requirements.

All applicants must be of excellent moral character. Letters of recommendation from the chief law enforcement officer and the high school principal of the applicant's community will be required. High standards of personal and professional conduct will be expected at all times; deviation from these standards may result in dismissal from the program. Applicants must possess the personality and adaptability deemed necessary for professional law enforcement or the specific field in which they plan to concentrate their studies. This will be determined by the applicant's history, references, and through the medium of a personal interview with the Chairman of the Department of Law Enforcement and Corrections.

General Requirements—BS/LEC Degree

Of the 125 semester hours of credit with an average grade of "C" required for the Bachelor of Science in Law Enforcement and Corrections degree, a minimum of 30 of the last 36 credits must be earned in
residence in the College of Continuing Studies as an accepted candidate for the BS/LEC degree. At least nine hours in the Area of Concentration must be taken in University of Nebraska at Omaha courses. No less than 30 hours must be earned in courses numbered 300 or above (upper division, junior-senior level courses). A maximum of 25 credits from extra-mural sources such as TV Classroom and correspondence courses may be applied toward the BS/LEC degree.

**Course Requirements—BS/LEC Degree**

1. Core Requirements
   a. English Composition (as determined by placement test) ........................................... 9
   b. Social Sciences .............................. ................................................................. 12
      (Economics, Geography, History, Political Science, Psychology, and Sociology)
   c. Natural Sciences ................................................................. 12
      (Biology, Chemistry, Geology, Mathematics, and Physics)
   d. Humanities ............................................. ......................................................... 12
      (Art, English Literature, Foreign Languages, Music, Philosophy, Religion, and Speech)

2. Area of Concentration (Law Enforcement and Corrections) ........................................... 30
   a. Primary Concentration (LEC): 21 (minimum) to 30
   b. Allied Field (optional): 0 to 9 (maximum)

3. First Subject Field ........................................................................................................... 12
4. Second Subject Field ........................................................................................................... 12
5. Electives ............................................................................................................................. 26

Total ................................................................................................................................. 125

**Commentary**

For a detailed explanation of the BS/LEC course requirements as tabulated above, turn to the “Commentary” section for the Bachelor of General Studies degree on the immediately preceding pages. All of this material is also applicable to the BS/LEC degree, except only paragraph 2 dealing with “Area of Concentration”.

The following additional comments apply expressly to the Bachelor of Science in Law Enforcement and Corrections, and are similarly keyed to the outline designations provided in the tabulation of BS/LEC degree course requirements.

2b. Permissible Allied Fields, which may comprise up to 9 of the 30 semester hours of credit required in the LEC Area of Concentration, are: Political Science, Psychology, and Sociology.

3 and 4. The choice of Subject Fields will be determined in consultation with the Chairman of the Department of Law Enforcement and Corrections.

The following courses are not allowable toward the BS/LEC degree: Chemistry 100; English 109; and Mathematics 100, 111, and 112.

**Courses—Department of Law Enforcement and Corrections**

The semester that these courses are offered—as shown by I, II, S- is subject to change. Students should refer to the schedule of classes for each semester for information on courses to be offered. Note that courses marked with an asterisk carry the same number, title, and credit in the Department of Sociology.
LEC 101 Elements of Criminal Justice  (I, II, S) 3 hours
This course is designed to provide general knowledge about the causes of crime; an understanding of the underlying purpose of law enforcement; and the role of the police officer, courts, penal institutions, probation, and parole in present day life.

LEC 201 Principles of Investigation  (II) 3 hours
This is a technique course dealing with investigative methodology in the field of crime. It is designed to acquaint the student with the methods employed in criminal investigation from the time the report is received to the ultimate conviction of the perpetrator.

LEC 211 Police Patrol  (I) 3 hours
Responsibilities, powers, and duties of the uniformed patrolman; patrol procedures; mechanics of arrest; and all other functions of the officer on patrol.

LEC 231 Police Report Writing  (I, II) 3 hours
Designed to instruct students in determining report content as a result of interpreting and evaluating information. Emphasis placed on the collection of information, accurate description, analysis of information, and concise writing.

LEC 251 Law Enforcement Organization and Administration  (II) 3 hours
This course covers the organization and administration of a police department; the personnel development program; patrol duties; public relations; records and communications; traffic administration; and auxiliary services.

LEC 291 Traffic and Accident Investigation  (II) 3 hours
The enforcement of law as it relates to traffic; accident prevention and investigation; safety education; selective enforcement; traffic engineering; reporting; records; prosecuting; and the traffic court.

LEC 331 Criminal Law  (I) 3 hours
This course is concerned with the elements and proof in crimes of frequent concern in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to courtroom appearance.

LEC 335* Criminology  (I, II, S) 3 hours
General survey of the nature and causes of crime; criminal investigation and prosecution; punishment; correctional treatment; and crime prevention.

LEC 337* Juvenile Delinquency  (I, S) 3 hours
Delinquency as an individual, and a social, problem; theories of delinquency causation; law enforcement and the juvenile court; methods of correction and prevention.
LEC 351 Law of Arrest, Search, and Seizure  
(I, II, S) 3 hours  
The course deals with the kinds of evidence and rules governing the admissibility of evidence in court. It also includes such areas as arrest, force and search, and seizure.

LEC 352 Rules of Evidence  
(I, II) 3 hours  
Kinds of evidence and rules governing the admissibility of evidence in court. Effect of court decisions on acquisition and admissibility of evidence.

LEC 371 Police Public Relations  
(I, II, S) 3 hours  
This course outlines a general program of public relations that must be undertaken for any department to build a good public image. Emphasis is placed on the conduct of the individual officer as the primary factor in producing such an image. Community resources as well as police-press relations are discussed.

LEC 391 Interrogation and Lie Detection  
(II) 3 hours  
A survey of modern methods of handling witnesses, informants, and suspects; evaluation of lie detection methods and techniques; psychological and physiological considerations in interrogation. Emphasis is placed upon the techniques of the interview and the interrogation of various types of subjects.

LEC 397 Internship in Law Enforcement  
(I, II) 1 hour per semester, max. 4 hrs.  
Practical experience on the Omaha Police Department while employed as a police cadet. May be taken for credit no more than four times. Open only to Jr. and Sr. Law Enforcement majors.

LEC 399 Criminal Bioscience and Toxicology  
(I, II) 3 hours  
This course is designed to instruct students of police science in the methods, techniques, and ideas of medico-legal (forensic) and toxicological investigations. The goal is to educate such students so that they may function intelligently during those occasions when the law, medicine and the police find themselves on common ground.

LEC 413* Sociology of Deviant Behavior  
(II) 3 hours  
A theoretical analysis of the relation of deviant behavior, including crime, vice, innovation, individual pathology, and deviant sub-groups, to community standards of conventional behavior as expressed in law and norms.

LEC 435 Probation and Parole  
(I, II) 3 hours  
A course for advanced students with a special interest in the correctional process as applied in a community setting.

LEC 436 Psychology of Criminal Behavior  
3 hours  
An examination of individual and group criminal identities and of the formative processes of criminal behavior.
LEC 438  Penology and Corrections  (II,S 3 hours)
Origins of theories of punishment and of the prison system; principles and programs of institutional correction; and problems of administration.

LEC 451  Law Enforcement Supervision and Management
A study of the supervisor's management role within the modern law enforcement agency.

LEC 453  Police Operational Intelligence
A course designed to provide the student with a theoretical understanding of the value and function of an intelligence unit. He will also learn accepted field techniques and field practices.

LEC 480  Special Problems in Law Enforcement
A course devoted to an exploration and analysis of contemporary special problems in the broad spectrum of law enforcement and corrections.

LEC 495  Independent Studies
Faculty guided research in individually selected topics relating to the criminal justice system.

ASSOCIATE TITLES

For the adult who is pursuing his academic career on a part-time basis, the Baccalaureate Degree may well seem distant. The Associate Title is designed to:

(1) help the student keep a positive goal not only in sight, but within reasonable grasp. It is a "half-way house", one might say.
(2) assist in planning a program of study as contrasted with indiscriminate gleaning of the academic fields.

For those for whom circumstances will not permit the accomplishment of a baccalaureate degree, the Associate Title is tangible evidence that the specific requirements of a formal program have been met.

General Requirements

Sixty-four semester hours of credit must be completed at the college level with an average grade of "C" for all work taken. Eighteen of the last 21 semester hours must be earned in residence at the University of Nebraska at Omaha as a matriculant in the College of Continuing Studies.

Eight semester hours of credit in military science and 12 additional hours of military or other non-academic credits (for a total of 20) may be accepted as electives in meeting the total credit requirements for the title.

Course Requirements

Associate in General Studies
The program for the title of Associate in General Studies will include the following:
1. Core Requirements
   a. English Composition (as determined by placement test) ....................... 6
   b. Social Sciences ................................................................. 6
      (Economics, Geography, History, Political Science, Psychology, and Sociology)
   c. Natural Sciences .............................................................. 4
      (Biology, Chemistry, Geology, Mathematics, and Physics)
   d. Humanities ................................................................. 6
      (Art, English Literature, Foreign Languages, Music, Philosophy, Religion, and Speech)

2. Area of Concentration (departmental) ........................................... 12
   The student will, with the advice of his counselor, select an Area of Concentration consisting of 12 semester hours in one discipline.

3. Electives (not more than 6 hours from a single department may be used) .... 24

Total .................................................. 64

**Associate in Law Enforcement and Corrections**

The program for the title of Associate in Law Enforcement and Corrections will include the following:

1. Core Requirements
   a. English Composition (as determined by placement test) ....................... 6
   b. Social Sciences ................................................................. 6
      (Economics, Geography, History, Political Science, Psychology, and Sociology)
   c. Natural Sciences .............................................................. 4
      (Biology, Chemistry, Geology, Mathematics, and Physics)
   d. Humanities ................................................................. 6
      (Art, English Literature, Foreign Languages, Music, Philosophy, Religion, and Speech)

2. Area of Concentration (Law Enforcement and Corrections) ...................... 18

3. Electives (not more than 6 hours from a single department may be used) .... 24

Total .................................................. 64

Note that the following courses are not allowable toward the Associate Title in Law Enforcement and Corrections: Chemistry 100; English 109; and Mathematics 100, 111, and 112.

**II DIVISION OF NON-CREDIT COMMUNITY SERVICES**

MR. MOORE, Assistant Dean
MR. ERIXON, Director, Conferences and Workshops
MR. SIBBERNSEN, Program Coordinator

Providing an unlimited variety of college-level learning experiences for the general public or specific groups, this Division offers no formal college credit work. Some programs do, however, lead to certificates of completion for a prescribed sequence. Drawing upon the resources of the University and community for programming and staffing, the activities of the Division are carried out largely in the specially designed Gene Eppley Conference Center. With special arrangement, programs may be scheduled in off-campus facilities.

Areas of activity developed and encouraged by this Division include:

A. **Community Service Courses:** These are announced at regular intervals and cover any subject area for which a need and adequate public response is anticipated. These courses meet daytimes or evenings and once weekly, as a general rule. Most courses extend a period of eight weeks, while a few are designed for a full semester or for the full academic year. Inquiries and suggestions are welcomed.
B. **Conferences, Workshops and Contract Programs:** These are concerned with training, professional growth and the educational needs of every segment of the social-economic structure of the community. Here, too, the Division works in close cooperation with all elements of the University and the community in providing specially constructed programs for specific groups, as well as for the general public. There is particular (but not exclusive) concern for business, industry and labor.

We invite interested groups to discuss with us their educational problems and needs. Such inquiries should be directed to:

**Division of Community Services**

Phone: 553-4700, ext. 391-392

**CERTIFICATION PROGRAMS**

**Insurance Certification**

MR. ROKES, Director

The program of insurance offerings, also in cooperation with the College of Business Administration, includes the courses of the Insurance Institute of America, the Chartered Life Underwriters and the Chartered Property Casualty Underwriters. The C.L.U. and C.P.C.U. courses lead to the professional designation awarded by the American College of Life Underwriters and the American Institute for Property and Liability Underwriters.

**Real Estate Certification**

MR. LEWIS, Director

The College of Continuing Studies, with the cooperation of the College of Business Administration, offers an 18-credit semester hour certificate program in real estate.

**Required Courses***

- Real Estate Principles and Practices (BA 344)
- Real Estate Law (BA 346)
- Real Estate Finance (BA 440)
- Real Estate Appraisal (BA 441)

**Elective Courses***: choose one

- Building Industry & Real Estate (BA 244)
- Real Estate Management (BA 345)
- Urban Land Uses (BA 347)
- City Planning (BA 348)
- Urban Law (BA 423)
- Real Estate Investments (BA 439)
- Appraisal Investment Real Estate (BA 442)
- Special Problems (BA 450)
- Internship (BA 451 or 452)

*For course descriptions see listings in the Business Administration section of this catalog.
Related Courses*: choose one
Income Tax Accounting (Acctg. 403)
General Insurance (BA 371)
Property and Casualty Insurance (BA 374)
Advertising (Marketing 336)
Sales Management (Marketing 432)

The Comprehensive Management Examination of the Institute of Real Estate Management is available to persons who successfully complete the Real Estate Management course (BA 345) and whose application to take the exam is approved by that Institute. The certificate of completion of this examination is the prerequisite for admission to candidacy for membership in the Institute (IREM) and for the examination leading to the CPM (Certified Property Manager) designation.

American Institute of Real Estate Appraisers: Successful completion of BA 441, Real Estate Appraisal, qualifies for application to take the Comprehensive Examination I of this Institute (AIREA). This exam, in turn, qualifies for candidacy for membership in AIREA and the coveted MAI (Member American Institute...) designation.

A maximum of six semester hours credits earned in an accredited college or university other than the University of Nebraska at Omaha will be accepted as fulfilling the requirements for the real estate certificate.

SUMMER SESSIONS

MR. UTLEY, Director

Contemporary society has brought a fundamental change in the public attitude toward, the philosophy of, and the purpose of Summer School. Today it is an integral part of what has become the continuous process of education. With the growing number of young people going to professional and graduate schools, accelerating the undergraduate program is often desired. Competition in the “labor market” motivates some, while still others want merely to broaden their educational experience. Further, an increasing number of June high school graduates are electing to begin their college careers with the summer.

Summer provides an opportunity for program experimentation by the University. Thus, a variety of special workshops, institutes, and conferences are held, and a range of time patterns are used.

Whatever your individual interest, the University of Nebraska at Omaha presents a summer program in complete air-conditioned comfort, and with course offerings scheduled in all colleges of the University, including the Graduate College.

Twelve hours is the maximum that may be taken during the summer. Six hours is the maximum that may be taken in progress at one time.

Courses are offered both day and evening according to the following schedule:

First Session: 5 weeks beginning in early June. Classes meet five days a week, Monday through Friday, allowing a normal weekend. Six semester hours of work may be taken.

* For course descriptions see listings in the Business Administration section of this catalog.
Second Session: Also five 5-day weeks, beginning in mid-July. Six semester hours may be taken.

Evening Session: Evening classes meet two nights a week, on a Monday-Wednesday, Tuesday-Thursday pattern, for eight weeks. A total of six semester hours may be earned in the evening program. This session begins simultaneously with the FIRST SESSION and overlaps the SECOND SESSION. A student may carry courses in both day and evening, but no more than six hours of work may be in progress at any time.

Extended Courses: The nature of some subject matter is such that some courses need an extended time period for most effective handling. A limited number of such courses is scheduled for eight to ten weeks duration. Enrollment in these courses does not alter the twelve-hour maximum that may be obtained during the summer. These courses begin with the first five-week term.

Special Summer Conferences, Workshops and Unit Courses
A variety of special programs are scheduled for the summer months. Some of these are on an annual basis—such as the College Business Management Workshop, the School for Presbyterian Pastors, etc. Workshops and unit courses are designed to meet special situations and are normally of short duration and intense study. Special announcements and mailings are made for these, in addition to inclusion in the general bulletin.

Admission to Summer Session
Admission to the summer program does not constitute admission to The University unless the full admission procedure is accomplished. See the admissions section of this catalog for specific information.

High School Seniors who plan full admission to the University, beginning with Summer classes, should make application for admission and take the guidance and placement examinations during the Spring. For full details see the Admissions section of the catalog.

Tuition and Fees: All University fees are listed in the Tuition and Fees section of this catalog (see index).

Registration: Registration details, course offerings and other specific information are published in a special supplement of the local press in March. Reprints are available upon request.
### COLLEGE OF ENGINEERING AND TECHNOLOGY

#### DEGREE AND ASSOCIATE TITLE REQUIREMENTS

The Bachelor of Science degrees in Civil, Industrial, and General Engineering require 136 credit hours; the Bachelor of Science in Industrial Technology degree requires 130 credit hours. Associate titles require 70 credit hours.

Students must:
(a) Meet entrance requirements.
(b) Complete a curriculum as outlined.
(c) Obtain a quality point grade average of "C" (2.00) or above. Grades below "C" do not count on a major field.
(d) Fulfill residence requirements of 30 of the last 36 hours at the University of Nebraska at Omaha.

All grades reported by the faculty to the Registrar at the end of each semester become a part of the student's permanent record and are included in the computation of his quality points earned and his grade point average.

Credit in the following courses may not be applied toward the degrees and titles offered by the College of Engineering and Technology: Chemistry 100; English 109; Mathematics 111 and 112; English 105.

Optional credit may be earned in Physical Education or Air Force ROTC.

### CIVIL ENGINEERING

**PROFESSORS HOSSACK (Head), GIBSON; ASSOCIATE PROFESSORS BENAK, DENNEHY, LeMAR, REDDY; ASSISTANT PROFESSORS MURRAY, SOKOL, ZORICH**

A degree of Bachelor of Science in Civil Engineering is awarded upon completion of the four-year program outlined below. Civil Engineering occupies a prominent position in the field of professional engineering and at the present time nearly one-fourth of all engineers are engaged in this branch. Civil Engineering includes such fields as Transportation, Structural, Construction, and Sanitary and Hydraulic. The University and college facilities are used effectively to make this program flexible enough to meet the general requirements of the engineering profession and to create a wholesome attitude towards life.

### DEGREE REQUIREMENTS

**Bachelor of Science in Civil Engineering**

**136 Semester Hours**

#### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Math 195 Calculus I</td>
<td>Math 196 Calculus II</td>
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<td>Engr 221 Engr Graphics II</td>
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<td>Engr 100 Engr Orientation</td>
<td>Engr 104 Engr Systems II</td>
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<td>Eng 112 Eng Composition</td>
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<td>Engr 103 Engr Systems I</td>
<td>CE 201 CE Workshop</td>
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| 15 | 16 |
## SECOND YEAR

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<td>Calculus III</td>
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<td>Phys 211</td>
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<td>General Physics</td>
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<td>Engr 230</td>
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<td>Statics of Engr</td>
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<td>CE 301</td>
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<tr>
<td>Surveying I</td>
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<td>Non Tech Elective</td>
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## THIRD YEAR

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<td>Engr 303</td>
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<tr>
<td>Engr Systems III</td>
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<tr>
<td>Engr 326</td>
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<tr>
<td>Engr Mats Science</td>
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<tr>
<td>Engr 154</td>
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<tr>
<td>Fields &amp; Circuits I</td>
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<td>CE 343</td>
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<tr>
<td>Struc Analysis I</td>
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<td>Engr 460</td>
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<td>Thermodynamics I</td>
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<td>Non Tech Elective</td>
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<td>CE 443</td>
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<td>Struc Analysis II</td>
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<td>Engr 431</td>
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<td>Fluid Mechanics</td>
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<td>CE 360</td>
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<td>Structural Design</td>
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## FOURTH YEAR

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<td>Engr 415</td>
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<td>Tech Writing</td>
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<td>Engr 410</td>
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<td>Seminar</td>
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<td>CE 449</td>
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<td>Soil Mechanics</td>
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<tr>
<td>Engr 441</td>
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<tr>
<td>Engr Economy</td>
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<td>CE 499</td>
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<td>CE Spec Projects</td>
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<tr>
<td>Engr 445</td>
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<td>Engr Systems IV</td>
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<tr>
<td>Engr 416</td>
<td>3</td>
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<tr>
<td>Contracts &amp; Specs</td>
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<td>Engr 414</td>
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<tr>
<td>Creative Engr</td>
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<tr>
<td>Non Tech Elective</td>
<td>3</td>
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NON-TECHNICAL ELECTIVE: Non-technical electives must be selected from such fields as history, economics, government, literature, sociology, philosophy, or fine arts. Accounting, industrial management, finance, personnel administration, and ROTC are specifically excluded.

## TECHNICAL ELECTIVES

Each Civil Engineering student is required, before registering for his fifth semester, to select one of the groups of technical electives designated below. The selection of a group should be based upon the student’s major interest, and the greater portion of his technical elective courses should be taken under the group selected. Primary consideration should be given to those courses appearing at the head of each group listing. It is suggested that students elect one course in each of two groups other than the group of his major interest.

### TRANSPORTATION GROUP

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CE 370</td>
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<tr>
<td>Engineering of Transportation Systems</td>
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<tr>
<td>CE 302</td>
<td>3</td>
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<tr>
<td>Engineering Surveying II</td>
<td></td>
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<tr>
<td>CE 469</td>
<td>3</td>
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<tr>
<td>Pavement Analysis &amp; Design</td>
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<tr>
<td>Chem 120</td>
<td>4</td>
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<tr>
<td>General Chemistry &amp; Qualitative Analysis</td>
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<tr>
<td>CE 371</td>
<td>3</td>
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<tr>
<td>Airport Engineering</td>
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<tr>
<td>CE 468</td>
<td>3</td>
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<tr>
<td>Highway Geometrics &amp; Traffic Engineering</td>
<td></td>
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<tr>
<td>CE 442</td>
<td>3</td>
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<tr>
<td>Construction Management</td>
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<td>CE 432</td>
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<td>Hydraulic Engineering</td>
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<td>CE 499</td>
<td>1-6</td>
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<tr>
<td>CE Spec Special Projects</td>
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STRUCTURAL GROUP

CE 447 Reinforced Concrete Design ........................................ 3
CE 446 Structural Design of Materials & Timber .......................... 3
CE 448 Substructure Analysis .............................................. 3
CE 481 Plastic Analysis ................................................... 3
CE 444 Structural Analysis III ............................................ 3
Chem 120 General Chemistry & Qualitative Analysis ..................... 4
CE 482 Limit Analysis .................................................... 3
CE 470 Prestressed Concrete Design ...................................... 3
Engr 493 Advanced Mechanics of Materials ............................... 3
Engr 494 Advanced Dynamics ............................................. 3
CE 475 Engineering Geology ............................................... 3
CE 499 CE Special Projects .............................................. 1-6

CONSTRUCTION GROUP

CE 442 Construction Management ........................................... 3
CE 465 Construction Cost and Control .................................... 3
CE 466 Construction Techniques .......................................... 3
CE 467 Form Design & Steel Erection .................................... 2
CE 302 Engineering Surveying II ......................................... 3
Chem 120 General Chemistry & Qualitative Analysis ..................... 4
Acct 101 Elementary Accounting ......................................... 3
Acct 102 Accounting .................................................... 3
CE 475 Engineering Geology ............................................... 3
CE 499 CE Special Projects .............................................. 1-6

SANITARY & HYDRAULIC GROUP

Chem 120 General Chemistry & Qualitative Analysis ..................... 4
CE 471 Sanitary Engineering I ........................................... 3
CE 472 Sanitary Engineering II .......................................... 3
CE 432 Hydraulic Engineering ........................................... 3
CE 474 Water Resources Engineering .................................... 3
CE 495 Advanced Fluid Mechanics ...................................... 3
CE 499 CE Special Projects .............................................. 1-6

INDUSTRIAL ENGINEERING, GENERAL ENGINEERING
AND PRE-ENGINEERING

PROFESSOR BROWN;
ASSOCIATE PROFESSORS EHLERS, MYERS;
ASSISTANT PROFESSORS HAMMER, TITUS

A degree of Bachelor of Science in Industrial Engineering is awarded
upon completion of the four-year program outlined below. Rapid mecha-
nization of manufacturing industries has solved many problems of low
cost mass production, but has created simultaneously many new pro-
blems involving huge capital investments, the men who operate the new
machines, and the new techniques which make possible the abundance
found in America. Industrial engineering is concerned with the develop-
ment, design, installation, and operation of integrated systems of men
and machines at the industrial level. The university and college facilities
are used to make this program broad enough to meet the general require-
ments of American industry and to qualify the graduate, with this prepa-
ration, for professional engineering positions in production, distribution,
or research in American industry.
**DEGREE REQUIREMENTS**

Bachelor of Science in Industrial Engineering

Requirements: 136 semester hours

Advisors: Assistant Professor Titus

### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 195</td>
<td>Math 197</td>
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<tr>
<td>Calculus I</td>
<td>Calculus III</td>
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<td>5</td>
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<tr>
<td>Chem 110</td>
<td>Phys 211</td>
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<td>General Chemistry</td>
<td>Genl. Physics, Tech.</td>
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<td>5</td>
</tr>
<tr>
<td>Engr 100</td>
<td>Engr 230</td>
</tr>
<tr>
<td>Engr. Orientation</td>
<td>Statics of Engr.</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Engl 111</td>
<td>Spch 101</td>
</tr>
<tr>
<td>Elem. English Comp.</td>
<td>Funds. of Speech</td>
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<tr>
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<tr>
<td>Engr 103</td>
<td>I.E. 305</td>
</tr>
<tr>
<td>Engineering Systems I</td>
<td>Motion &amp; Time Study</td>
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<tr>
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<tr>
<td><strong>15</strong></td>
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</table>

### SECOND YEAR

| Math 197       | Math 235        |
| 3              | 3               |
| Phys 211       | Phys 212        |
| 5              | 5               |
| Engr 230       | Engr 330        |
| Statics of Engr. | Dynamics        |
| 3              | 3               |
| Spch 101       | Engr 242        |
| Funds. of Speech | Mechanics of Mtls. |
| 3              | 3               |
| I.E. 305       | I.E. 301        |
| Motion & Time Study | Quality Control |
| 3              | 3               |
| **17**         | **17**          |

### THIRD YEAR

| I.E. 304       | I.E. 301        |
| Prob. & Sta. for Engrs. | Quality Control |
| 3              | 3               |
| Engr 303       | Engr 131        |
| Engr. Systems III | Fluid Mechanics |
| 3              | 3               |
| Engr 326       | I.E. 306        |
| 4              | 3               |
| Engr 250       | I.E. 307        |
| 3              | 1               |
| Engr 480       | Acct 101        |
| Thermodynamics I | Prin. of Acctg. |
| 3              | 3               |
| Engr 441       | Technical Elective |
| Engineering Economy | 3               |
| 3              | **16**          |

### FOURTH YEAR

| Engr 410       | Econ 201        |
| Seminar        | Prin. of Econ.  |
| 1              | 3               |
| Engr 415       | I.E. 402        |
| Tech. Writing  | Ind. Planning II |
| 3              | 3               |
| I.E. 401       | I.E. 490        |
| Ind. Planning I | Operations Res. I |
| 3              | 3               |
| Psych 101      | Technical Electives |
| Intro. to Psych. | 7               |
| 3              | Non-Tech. Elective |
| Technical Elective | 3               |
| Non-Tech Elective | **19**          |
| 4              |                |

### TECHNICAL ELECTIVES

**Measurement-Methods**

| I.E. 418 Methods-Time Measurement |
| I.E. 491 Work Measurement Design |

**Management**

| Econ 202 Principles of Economics |
| Mgmt 349 Principles of Management |
| Mgmt 405 Production Management |
| Engr 416 Contracts & Specifications |

**Metal Working Processes**

| Engr 452 Metallurgy for Engineers |
| I.E. 492 Tool Design |

**Accounting**

| Acct 102 Elementary Accounting |
| Acct 305 Cost Accounting |
| Acct 306 Administrative Accounting |

* In order to be assured of completing all degree requirements for graduation on the Omaha campus, students now pursuing a degree in General Engineering must make normal progress.
Psych 461 Human Engineering
Psych 362 Industrial Psychology

Engr 412 Engineering Special Prob.
Engr 414 Creative Engineering
I.E. 417 Industrial Plant Design
Engr 455 Fields & Circuits II
Engr 456 Electrical Lab
Engr 445 Engineering Systems IV
I.E. 496 Operations Research II

Or a choice of approved courses in: mathematics, physics, chemistry, psychology, business administration.

NON-TECHNICAL ELECTIVES

Non-technical electives must be selected from such fields as history, economics, government, literature, sociology, philosophy, or fine arts. Accounting, industrial management, finance, personnel administration, and ROTC are specifically excluded. A minimum of nine hours shall be taken in Humanities.

GENERAL ENGINEERING

**DEGREE REQUIREMENTS

Bachelor of Science in General Engineering
Requirements: 136 semester hours

Advisers: Professor Brown and Associate Professor Ehlers

The degree Bachelor of Science in General Engineering is awarded upon completion of the four-year program outlined below. This curriculum allows the student a broad selection of courses upon which to build his degree program. It provides the courses in engineering and physical sciences, mathematics, and the humanities required to achieve acceptance as a professional engineer and development of a wholesome attitude toward life. Eight option areas are listed to assist the student in forming a pattern of technical elective courses that are in concert with his interests and abilities. Graduates of the general engineering program find satisfying careers in sales engineering, mechanical design, transportation, power production, environmental engineering, and administration.

**FIRST YEAR

<table>
<thead>
<tr>
<th>Math 195 Calculus I</th>
<th>First Semester</th>
<th>Math 196 Calculus II</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Chem 110 General Chemistry</td>
<td>4</td>
<td>Chem 120 General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Engr 100 Engr. Orientation</td>
<td>1</td>
<td>Engr 221 Engr. Graphics II</td>
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<td>Engr 103 Engineering Systems I</td>
<td>2</td>
<td>Engr 104 Engineering Systems II</td>
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<td>Engl 111 Elem. English Comp.</td>
<td>3</td>
<td>Engl 112 English Comp.</td>
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** In order to be assured of completing all degree requirements for graduation on the Omaha campus, students now pursuing a degree in General Engineering must make normal progress.
## SECOND YEAR

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Math 197</td>
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## THIRD YEAR

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<td>Thermodynamics I</td>
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<td>Engr 461</td>
<td>Mechanical Lab</td>
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<td>Engr 303</td>
<td>Engr. Systems III</td>
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<td>Engr 441</td>
<td>Engineering Economy</td>
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## FOURTH YEAR

<table>
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<td>Engr 410</td>
<td>Seminar</td>
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<td>Engr 415</td>
<td>Tech. Writing</td>
<td>3</td>
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<tr>
<td>Engr 454</td>
<td>Fields &amp; Circuits I</td>
<td>3</td>
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<td>Technical Electives</td>
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**CONDITIONS:** A minimum of nine non-technical elective credits must be taken in ONE of the following areas: Economics, History, Political Science, Psychology, or Sociology. In addition, a minimum of nine credits must be earned in humanities courses, such as Fine Arts, Foreign Language, Literature, Music, Philosophy, or Speech.

## OPTION FIELDS

### Mechanical Option

<table>
<thead>
<tr>
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<th>Title</th>
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<tbody>
<tr>
<td>Engr 445</td>
<td>Engineering Systems IV</td>
<td>3</td>
</tr>
<tr>
<td>Engr 464</td>
<td>Heat Transfer I</td>
<td>3</td>
</tr>
<tr>
<td>Engr 462</td>
<td>Thermodynamics II</td>
<td>3</td>
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<tr>
<td>Engr 463</td>
<td>Gas Dynamics</td>
<td>3</td>
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<tr>
<td>I.E. 492</td>
<td>Tool Design</td>
<td>3</td>
</tr>
<tr>
<td>Engr 495</td>
<td>Adv. Fluid Mechanics</td>
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</table>

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### Engineering Mech. Option

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr 445</td>
<td>Engineering Systems IV</td>
<td>3</td>
</tr>
<tr>
<td>Engr 494</td>
<td>Advanced Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>Engr 485</td>
<td>Adv. Fluid Mechanics</td>
<td>3</td>
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<tr>
<td>Engr 493</td>
<td>Adv. Mechanics of Mat.</td>
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</tr>
<tr>
<td>Engr 463</td>
<td>Gas Dynamics</td>
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### Computer Sciences Option

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<tr>
<td>Math 230</td>
<td>Computer Concepts</td>
<td>3</td>
</tr>
<tr>
<td>Math 211</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Math 322</td>
<td>Adv. Programming Tech.</td>
<td>3</td>
</tr>
<tr>
<td>Math 332</td>
<td>Theo. of Info. Retr.</td>
<td>3</td>
</tr>
<tr>
<td>Math 432</td>
<td>Systems Programming</td>
<td>3</td>
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15

### Mathematics Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Math 211</td>
<td>Linear Algebra</td>
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<tr>
<td>Math 225</td>
<td>Calc. of Vector Func.</td>
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<tr>
<td>Math 330</td>
<td>Numerical Analysis</td>
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</tr>
<tr>
<td>Math 353</td>
<td>Prob. &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Math 427</td>
<td>Complex Variables</td>
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</tbody>
</table>

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* Before the completion of 70 credits, the student should select one of the following options in which to concentrate a minimum of 15 credits. Upon consultation with his advisor, the student may make certain substitutions within each option field.
### Physics Option
- Phys 301 Elems. of Electronics ............ 4
- Phys 302 Optics ................................ 4
- Phys 335 Atmospheric Physics ............ 3
- Phys 414 Nuclear Physics .................. 4

**Total:** 15

### Chemistry Option
- Chem 213 Organ. Chem./or 102 .......... 4
- Chem 349 Physical Chemistry ............. 4
- Chem 350 Physical Chemistry ............. 4

**Total:** 16

### Business Administration Option
- Econ 201 Economics ...................... 3
- Econ 202 Economics ...................... 3
- Mgmt 349 Prin. of Management ............ 3
- Mkt 331 Marketing ........................ 3
- B.A. 323 Business Law .................... 3

**Total:** 15

### Bio-Sciences Option
- Biol 145 General Botany .................. 5
- Biol 175 General Zoology .................. 5
- Biol 275 Phys. & Anat. of Man ............ 5
- Biol 285 Comparative Anatomy ............ 5
- Biol 316 Genetics ........................ 3

**Total:** 18

---

### PRE-ENGINEERING

Students wishing to pursue an engineering degree not offered by the College of Engineering and Technology may take beginning courses which are transferable to many other colleges and universities. The courses in pre-engineering will, in most cases, meet the requirements for the first two years in such major disciplines as aeronautical, chemical, mechanical, and nuclear engineering. Students of these programs should confirm degree requirements with the universities to which they intend to transfer.

#### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>Math 195 Calculus I .................. 5</td>
<td>Math 195 Calculus II .................. 4</td>
</tr>
<tr>
<td>Phys 211 General Physics ............. 5</td>
<td>Phys 212 General Physics ............. 5</td>
</tr>
<tr>
<td>Engr 100 Engr. Orientation ............ 1</td>
<td>Engr 221 Engr. Graphics II .......... 3</td>
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**Total:** 16

#### SECOND YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Chem 110 General Chem. ............... 4</td>
<td>*Chem 120 Genl. Chemistry .......... 4</td>
</tr>
</tbody>
</table>

**Total:** 17

*Chemical Engineering students should take Chem 110 and Chem 120 in the first year instead of Engr 103 and Engr 104. Chem 213 and Chem 214 (Organic Chemistry) should be taken in the second year.
A degree of Bachelor of Science in Industrial Technology is awarded upon completion of the prescribed four-year program. This curriculum is designed with two options: one, with a major emphasis on Industry for those interested in the technical aspects of manufacturing and other Industrial occupations; second, with a major emphasis in technology for those who wish to make a career of industrial teaching.

The industrial technologist is associated with the technical and supervisory or managerial activities in the industrial field. He is oriented to management as well as technology in his approach toward technical, scientific, or human relations problems.

The curriculum provides a solid foundation in mathematics and other physical sciences. It affords a variety of experiences in shops and laboratories which give insight into the production of goods. With some business administration background, an understanding of the problems of management, manufacturing and distribution is developed. The industrial technologist fills the interval between the theoretical research work of the scientist or the engineer, and those responsible for actual production and manufacturing.

Graduates in this field find professional opportunities available in positions such as technical sales and services, drafting and design, contracting and construction, work study and production methods. The occupational area between the professional engineer and the skilled craftsman demands increasingly more people trained in technology.

The teaching option major provides a strong background in technology for teaching careers in Industrial Technology (Industrial Arts or Industrial Education). The area vocational technical school provides a new area of opportunity and challenge for the technical teacher with a major in technology.

The teaching option major provides the courses required for the degree and the standard certificate to teach Industrial Technology in the secondary schools of Nebraska. Those following the teaching option must elect the professional education courses from the College of Education, page 00.

Students may be admitted to the degree program as freshmen or upon completion of any of the available engineering technology associate two-year programs in the Technical Institute.
BACHELOR OF SCIENCE IN INDUSTRIAL TECHNOLOGY

Requirements: 130 Semester Hours
Common Basic Sequence in Technology

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Graphics I &amp; II</td>
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<tr>
<td>Wood Technology</td>
<td>3</td>
</tr>
<tr>
<td>Metal Technology</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Electronics</td>
<td>3</td>
</tr>
<tr>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>Statics &amp; Strength of Materials</td>
<td>4</td>
</tr>
<tr>
<td>Industrial Mfg. Processes</td>
<td>3</td>
</tr>
</tbody>
</table>

Group IV Technology and Engineering

A. Basic sequence .................................. 24

B. Area of concentration in Technology & Engineering

1. Drafting & Design Technology
2. Construction Technology
3. Electronics Technology
4. Ind. Engr. Technology
5. Others

Group V Electives .................................. 26

A. Business Administration ....................... 15
   1. Acctg 101—Acctg ........................... 3
   2. B.A. 323—Bus. Law .......................... 3
   3. B.A. 349—Mgmt. ............................ 3
   4. B.A. 331—Marketing ......................... 3

B. Free electives .................................. 11

GENERAL REQUIREMENTS

Group I Drama, Language, Literature and Speech .......... 12

   English 111, 112
   Speech 101
   Humanities, Art, Drama, or Journalism elective

Group II Social Science ................................ 12

   Economics
   Psychology
   History—Government
   Sociology 403, Geography
   Others

Group III Science .................................... 30

   *TI 101, 102, 201—Tech. Prob. Analysis I, II & III
   Math 195—Calculus I, Math 196 Calculus II (desirable)
   Chemistry 110 (desirable)
   Physics 111 or 211, 112 or 212
   Electives

* Some options may substitute other 300 level Industrial and Engineering Technology courses. Teaching and Electronic options should substitute TI 107, 108 for TI 290.
SUGGESTED ELECTIVES

Business and Related

B.A. 128  Introduction to Business
Acc. 101-102  Accounting
B.A. 371  General Real Estate
B.A. 344  Real Estate Prin. & Pract.
Econ 201  Principles of Economics
Econ 202  Principles of Economics
Mgmt. 349  Principles of Mgmt.
Econ 315  Labor Problems
B.A. 323  Business Law
B.A. 331  Marketing
B.A. 313  Intro. to Statistics
Psych 362  Industrial Psych.
Econ 313  Economic Geography
Psych 461  Human Engineering
Econ 418  Collective Bargaining

Mathematics

143—Logic Sets & Functions
230—Computer Concepts
211—Linear Algebra
254—Math—of Finance
353—Prob. & Statistics

Engineering and Technology

C.E. 201  Workshop
C.E. 301  Surveying I

C.E. 302  Surveying II
Engr. 137-138  Arch Design
Engr 230  Statics
Engr 330  Dynamics
Engr 336  Meteorology
Engr 414  Creative Engrg.
I.E. 301  Quality Control
I.E. 305  Motion & Time
I.E. 401-402  Ind. Planning
Engr 441  Engineering Economy

Technical Institute
choose from:
Construction Technology
Drafting & Design Tech.
Electronics Technology
Industrial Engineering Tech.

Industrial Technology
IT 220—Welding Tech.
IT 255—Indus. Finish Mats.
IT 301—Power Mech. Tech.
IT 316—Ind. Ops. II
IT 371—Special Problems

See counselor for add'l. technical and non-technical electives.

INDUSTRIAL TECHNOLOGY

Typical Program

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Engl 111</td>
<td>Elem. Engl. Comp.</td>
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<tr>
<td>†TI 211</td>
<td>Wood Processes</td>
<td>3</td>
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<tr>
<td>Engr 121</td>
<td>Engr. Graphics I</td>
<td>3</td>
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<td>Psych 101</td>
<td>Intro. to Psych.</td>
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<td>Engl 112</td>
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<td>TI 102</td>
<td>Tech. Prob. Anal. II</td>
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<td>Ind. Oper. I</td>
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<td>Engr 231</td>
<td>Graph II, Des. Geom.</td>
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<td>Slide Rule Comp. Meth.</td>
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SECOND YEAR

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<td>Phys 111-211</td>
<td>General Physics</td>
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<td>Ind. Mfg. Processes</td>
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<td>Math 195</td>
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THIRD YEAR

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<td>Psych 362</td>
<td>Industrial Psych.</td>
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<td>Principles of Mgmt.</td>
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† Some options may substitute
‡ Qualified students may sub. Calculus.
### FOURTH YEAR

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<td>B.A. 331</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
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</tbody>
</table>

**INDUSTRIAL TECHNOLOGY**

**TEACHING OPTION**

(Industrial Arts or Industrial Education)

**Group I**

**Drama, Language, Literature and Speech**

- English 111, 112
- Speech 101
- Humanities, Art, Drama or Journalism

**Group II**

**Social Science**

- Psychology
- History—Government
- Economics
- Sociology 403, Geography—Others

**Group III**

**Natural Science**

- Physics 111 and 112

**Group IV**

**Technology and Engineering**

- A. Basic sequence
- B. Areas of Concentration (see below)
  1. Must have at least 12 hours in one area and 6 hours in three other areas.

**Group V**

**Professional Education**

- Ed 208 Introduction to Teaching
- Ed 205 Human Growth & Learning (or 207 & Psych 351)
- Ed 351 Teaching in Secondary Schools
- Ed 357 Student Teaching
- Ed 358 Student Teaching

**Group VI**

**Elective Choices**

1. Second teaching field
2. More depth in technology
3. Industrial Education Vocational Courses
4. Technical teacher preparation (area Voc. Schools)

Technology Sequence For Areas of Concentration:

- Drafting
- Wood Technology IT 211, 311, TI 127 and/or TI 211, TI 215
- Metal Technology IT 216, IT 217, TI 316, IT 320
- Electricity and Electronics, TI 107, 108, 112, 114, 116, 118, 205, 209, 290

* Must be admitted to the teacher certification program before taking any professional education courses necessary for Nebraska Certification. See Counselor.

* Qualified students may sub. Calculus.
Graphic Arts, Journ. 311, 325; Art electives available for this area.

Technology major for technical teachers (Tech. Inst., Post High. Voc.)

a. Choose technology sequence from an Assoc. in Technology.

b. Occupational experience in the technology is necessary.

c. Suggest strengthening Natural Science background.

Professional Electives—Vocational—Industrial Education:

IT 371—Special Problems, IT 380—Industrial Field Experience.

IT 420—History — Phil. of Industrial & Technical Education.

SED 480—Principles of Vocational Education.

SED 485—Coordination Techniques in Vocational Education.

Two or more years of approved work experience are required for the Vocational Certification.

Students from the College of Education Electing Ind. Educ:

General Requirements: Math, TI 102, Physics 111-112

Teaching Field: Minimum hours—36

Must have 6 hours in 4 areas of technology as well as:

Manufacturing Processes, Industrial Teaching Methods, Industrial Technology Administration & Industrial Safety.

See Counselor for major. Single field Certification is possible in Technology.

ENGINEERING TECHNOLOGY

(Technical Institute)

ASSOCIATE PROFESSORS KINNEY, DIRECTOR,

SEDLACEK, SIERES;

ASSISTANT PROFESSORS CHEN, DESLER, HUNTER, RYAN;

INSTRUCTORS BOGARD, GRIFFITH, NEWMAN;

INSTRUCTORS: BOGARD, DESLER, GRIFFITH, NEWMAN

(PART-TIME INSTRUCTORS: CANNON, GROLL*, DANGBERG, EVANS, FLEMMING, GRUBMULLER, HUNT, JAMES, JOHNSON, KESSLER, MENDOZA*, PHILO, RAGAN, ROSSBACH, SWETT, TEWILL, WERNER)* Lecturer

The Engineering Technology program is unique. In line with the national trend for development of Associate Degree programs preparing engineering technicians or technologists for work in the occupational area between the skilled craftsman and the professional engineer, the Technical Institute offers four programs leading to associate degrees in engineering technology. These programs emphasize understanding and practical application of scientific and engineering knowledge and meth-
ods. The student with adequate high school background may complete the requirements for the Associate Degree in two years.

The program outlined on page 215 leads to the Associate Degree in Construction Technology. It prepares students for a variety of important positions in the construction industry.

The program outlined below leads to the Associate Degree in Drafting and Design Technology. It prepares students for positions of leadership in drafting offices throughout industry and in the offices of architects and consulting engineers.

The program outlined on page 216 leads to the Associate Degree in Electronics Technology. It combines laboratory and lecture to prepare students for positions in the growing electronics area.

The program outlined on page 215 leads to the Associate Degree in Industrial Engineering Technology. It prepares students for responsible positions in modern industrial plants and organizations.

The engineering technician has been described as the “first understudy of the engineer and scientist,” helping in a highly skilled way to convert their theories and ideas into workable, useful products and processes. His education, like that of engineers, must be professional and exacting, for with the increasing complexity of engineering technology, the cost of mistakes comes high.

### REQUIREMENTS

**ASSOCIATE IN DRAFTING AND DESIGN TECHNOLOGY**

Requirements: 70 semester hours

Advisors: Griffith, Ryan

#### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr 221 Engr. Graphics II</td>
<td>TI 225 Graphic Design</td>
</tr>
<tr>
<td>TI 124 Arch Design—Drft. I</td>
<td>TI 241 Bldg. &amp; Trades Drftg.</td>
</tr>
<tr>
<td>TI 129 Lettering &amp; Inking</td>
<td>TI 130 Repro. Tech.</td>
</tr>
<tr>
<td>TI 100 Orientation</td>
<td>Tech, Elective</td>
</tr>
</tbody>
</table>

**FIRST YEAR**

First Semester: 70 semester hours

SECOND YEAR

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TI 215 Constr. Materials</td>
<td>TI 214 Tech. Reporting</td>
</tr>
<tr>
<td>TI 213 Statics &amp; Strength</td>
<td>TI 238 Tech. Illus.</td>
</tr>
<tr>
<td>Tech. Electives</td>
<td>Tech. Electives</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

Second Semester: 70 semester hours

#### ENGINEERING TECHNOLOGY ELECTIVES

<table>
<thead>
<tr>
<th>Architectural</th>
<th>Civil</th>
</tr>
</thead>
<tbody>
<tr>
<td>TI 224 Arch. Des.-Dftg. II</td>
<td>TI 126 Struc. &amp; Bldg. Drafting</td>
</tr>
<tr>
<td>TI 232 Arch. Des. IV</td>
<td>TI 234 Adv. Struc. Drafting</td>
</tr>
<tr>
<td>TI 324 Landscape Arch. &amp; Evr. Plan</td>
<td>TI 313 Dynamics for Tech.</td>
</tr>
<tr>
<td></td>
<td>Electro-mechanical</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>TI 109</td>
<td>Electronics Drafting</td>
</tr>
<tr>
<td>TI 233</td>
<td>Graphic Des. Application</td>
</tr>
<tr>
<td>TI 237</td>
<td>Drafting Room Management</td>
</tr>
<tr>
<td>TI 290</td>
<td>Electricity for Tech.</td>
</tr>
<tr>
<td>TI 382</td>
<td>Ind. Control Devices</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>REQUIREMENTS</td>
<td></td>
</tr>
</tbody>
</table>

ASSOCIATE IN CONSTRUCTION TECHNOLOGY

Requirements: 70 semester hours
Advisors: Bogard, Kinney

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engl 111 Elem. Engl. Comp.</td>
<td>3</td>
<td>TI 200</td>
</tr>
<tr>
<td>TI 125 Constr. Drawing</td>
<td>3</td>
<td>TI 126</td>
</tr>
<tr>
<td>Phys 111 General Physics</td>
<td>4</td>
<td>Phys 112</td>
</tr>
<tr>
<td>TI 127 Intro. to Construction</td>
<td>3</td>
<td>TI 128</td>
</tr>
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<td></td>
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<td>17</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>TI 202 Construction Surv. II</td>
<td>3</td>
<td>TI 212</td>
</tr>
<tr>
<td>TI 211 Construction Management</td>
<td>3</td>
<td>TI 214</td>
</tr>
<tr>
<td>TI 213 Statics &amp; Strength</td>
<td>4</td>
<td>TI 216</td>
</tr>
<tr>
<td>TI 125 Construction Materials</td>
<td>3</td>
<td>TI 218</td>
</tr>
<tr>
<td>TI 219 Construction Equipment</td>
<td>3</td>
<td>Schch 101</td>
</tr>
<tr>
<td>Tech. Elective</td>
<td>2</td>
<td>Fund. of Speech</td>
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<td>Tech. Elective</td>
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</table>

**ENGINEERING TECHNOLOGY ELECTIVES**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>TI 221 Hydraulics &amp; Pumping Applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TI 228 Power Applications</td>
<td></td>
<td></td>
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<td>TI 229 Structural Design for Technicians</td>
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<tr>
<td>TI 235 Advanced Structural Drawing</td>
<td></td>
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<tr>
<td>TI 236 Special Technical Problems</td>
<td></td>
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<tr>
<td>TI 280 Practical Foremanship</td>
<td></td>
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</tr>
<tr>
<td>TI 290 Electricity for Technicians</td>
<td></td>
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<tr>
<td>TI 313 Dynamics for Technicians</td>
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<tr>
<td>TI 319 Formwork Design for Technicians</td>
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</tr>
</tbody>
</table>

**REQUIREMENTS**

ASSOCIATE IN INDUSTRIAL ENGINEERING TECHNOLOGY

Requirements: 70 semester hours
Advisors: Kinney, Sires

**FIRST YEAR**

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<tr>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>Engl 111 Elem. Engl. Comp.</td>
<td>3</td>
<td>Engl 112</td>
</tr>
<tr>
<td>Engr 121 Engr. Graphics I</td>
<td>3</td>
<td>Engr 221</td>
</tr>
<tr>
<td>Phys 111 General Physics</td>
<td>4</td>
<td>Phys 112</td>
</tr>
<tr>
<td>TI 100 Orientation</td>
<td>2</td>
<td>TI 290</td>
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## SECOND YEAR

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<th>Course Title</th>
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<tbody>
<tr>
<td>TI 213</td>
<td>Statics &amp; Strength</td>
<td>4</td>
<td>TI 214</td>
<td>Tech. Reporting</td>
<td>3</td>
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<tr>
<td>†TI 217</td>
<td>Indus. Mfg. Processes</td>
<td>3</td>
<td>TI 280</td>
<td>Practical Foremanship</td>
<td>3</td>
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<td>IE 305</td>
<td>Motion &amp; Time Study</td>
<td>3</td>
<td>Spch 101</td>
<td>Fund. of Speech</td>
<td>3</td>
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### ENGINEERING TECHNOLOGY ELECTIVES

- TI 107 DC Circuits
- TI 108 AC Circuits
- TI 112 Basic Electrical Measurements
- TI 237 Drafting Room Management
- TI 246 Machine Drawing and Design
- IT 361 Industrial Safety
- TI 313 Dynamics for Technicians
- TI 382 Industrial Control Devices
- TI 383 Numerical Control for Technicians

### REQUIREMENTS

#### ASSOCIATE IN ELECTRONICS TECHNOLOGY

Requirements: 70 semester hours
Advisors: Chen, Hunter, Newman, Sedlacek

#### FIRST YEAR

<table>
<thead>
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<th>Term</th>
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<td>TI 101</td>
<td>Tech. Prob. Anal I</td>
<td>5</td>
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<td>Engl 111</td>
<td>Elem. Eng. Comp</td>
<td>3</td>
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<td></td>
<td>TI 107</td>
<td>DC Circuits</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>TI 104</td>
<td>Electronics Lab I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TI 109</td>
<td>Electronic Drafting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>TI 110</td>
<td>Orientation</td>
<td>2</td>
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<tr>
<td></td>
<td>TI 112</td>
<td>Basic Elec. Meas.</td>
<td>1</td>
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<th>Course Title</th>
<th>Credits</th>
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<tr>
<td></td>
<td>TI 108</td>
<td>AC Circuits</td>
<td>3</td>
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<tr>
<td></td>
<td>TI 105</td>
<td>Electronics Lab II</td>
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<td></td>
<td>TI 114</td>
<td>Electronic Fabr.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>TI 116</td>
<td>Semicond. &amp; Tubes</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>TI 118</td>
<td>Wave Theory &amp; Mech.</td>
<td>4</td>
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#### SECOND YEAR

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<tr>
<td></td>
<td>TI 201</td>
<td>Tech. Prob. Anal. III</td>
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<td></td>
<td>TI 205</td>
<td>Circuit Des. I</td>
<td>3</td>
</tr>
<tr>
<td>*TI 209</td>
<td>Radio &amp; Com.</td>
<td></td>
<td>3</td>
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<td>Electives</td>
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<td>4</td>
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<td></td>
<td>TI 210</td>
<td>Spch 101</td>
<td>1</td>
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#### ASSOCIATE DEGREE ELECTIVES

<table>
<thead>
<tr>
<th>Term</th>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TI 220</td>
<td>Codes, Stds, &amp; FCC Law</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI 223</td>
<td>Microwave</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI 226</td>
<td>Ant. and Trans. Lines</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>TI 227</td>
<td>Servomechanics</td>
<td></td>
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<tr>
<td></td>
<td>TI 231</td>
<td>Statics &amp; Str. for Tech.</td>
<td></td>
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</tbody>
</table>

### ELECTIVES FOR BACHELOR OF SCIENCE IN TECHNOLOGY

- TI 305 Basic Switching Circuit Theory
- TI 307 Wave Shaping and Transistor Switching
- TI 308 Computer Circuit Design
- TI 317 Advanced Electronic Measurements
- TI 322 Analysis of Electronic Circuit Manufacturing Techniques
- TI 323 Integrated Electronic Circuits

† Qualified students may substitute TI 221 & TI 228.
* Qualified students may substitute TI 222 or TI 227.
** Qualified students may substitute TI 223 or TI 226.
Departments of Instruction

ENGINEERING

General Engineering Courses (Engr)

100 Orientation 1 hour
Orientation program required of all engineering freshmen. One hour lecture period per week, covering orientation in college life plus the fundamentals to be considered in selecting an engineering career. Includes lectures by leading professional engineers in selected fields.

103 Engineering Systems I 2 hours
Use of the slide rule; empirical curve equations, introduction to Fortran; introduction to nomograms; graphical differentiation. Prereq: Math 195 or parallel

104 Engineering Systems II 2 hours
The study and application of the digital computer to engineering problems. Prereq: Engr 103

105 Slide Rule and Computing Methods 1 hour
Slide rule and computing methods, development of computing skills and orderly methods of solving problems; instruction and drill in the uses of the slide rule to include all scales found on a standard log-log slide rule. Prereq: High School Algebra or equivalent.

121 Engineering Graphics I 3 hours
The care and use of drafting instruments, lettering, applied geometry, orthographic projections, free hand sketching in isometric, oblique, and orthographic; introduction to auxiliary projection; sectional views, basic dimensioning, tolerances, working drawings, and introduction to descriptive geometry.

137 Architectural Design I 3 hours
Basic principles of architectural drafting and lettering, orthographic projection, principles of one and two point perspectives. Freehand drawing and two dimensional design, development of the students' imagination.

138 Architectural Design II 3 hours
Continuation of architectural drafting and lettering, principles of one and two point perspectives; freehand drawing and two dimensional design. Beginning rendering, three dimensional design and the color wheel. Prereq: Engr. 137.

221 Engineering Graphics II 3 hours
Theory of projection drawing, primary and secondary auxiliary views, line and plane problems, surfaces, intersections and developments; engineering applications, plane and space vector geometry, functional scales, conceptual design and analysis. Prereq: One year High School drawing, Engr. 121, or permission.
227 **Architectural Design III** 3 hours
Continuation of Engineering 138 with emphasis on design and perspective. Prereq: Engr. 138.

228 **Architectural Design IV** 3 hours
Continuation of Engineering 227 with emphasis on use of all previous fundamentals. More advanced designing and rendering. Prereq: Engr. 227.

230 **Statics of Engineering** 3 hours
Fundamental concepts of forces, moments, vectors, couples, dimensional equations; equilibrium of force systems; analytical and graphical engineering applications. Prereq: Engr. 103, Math. 196 or parallel, and Physics 211 or parallel.

235 **Properties of Engineering Materials** 3 hours
Physical, mechanical and chemical properties and uses of engineering materials including metals, cementing materials, wood, stone, fuels, plastics and others. Manufacturing processes and treatments affecting properties and uses. Prereq: Chem. 110 or permission.

242 **Mechanics of Materials** 3 hours
Stress and strain in elastic solids subject to axial and eccentric loading, torsion, flexure, beam deflections. Statically indeterminate members; combined stresses and Mohr’s Circle. Column action. Inelastic action. Prereq: Engr. 230.

250 **Introductory Electrical Engineering** 3 hours
Principles of electrical engineering with basic concepts of natural and forced circuit response. Prereq: Math 195 and Physics 212 or parallel.

251 **Introductory Electrical Engg. Lab** 1 hour
Introductory Engineering laboratory. Prereq: Engg 250 parallel.

303 **Engineering Systems III** 3 hours
The application of computational methods and mathematical and physical analogs in developing solutions to practical engineering problems. Prereq: Math 235, Physics 212, Engr. 242 and Engr. 330 or parallel.

326 **Engineering Materials Science and Laboratory** 3 hours
Mechanical and physical behavior of engineering materials including the study of static tension, compression and bending, complex static stresses, dynamic and thermal effects, creep, fatigue and hardness. Electrical and magnetic properties, thermal properties, corrosion, and radiation. Laboratory exercises. Prereq: Engr 242 (previously or concurrently).

330 **Dynamics of Engineering** 3 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>332</td>
<td>Kinematics and Mechanisms</td>
<td>3</td>
<td>Analytical and graphical solutions to kinematics of machines; four-bar linkage, slides-crank mechanisms, velocity and acceleration diagrams, cams, gears, gear trains, flexible connectors, translation screws. Prereq: Engg 330.</td>
</tr>
<tr>
<td>336</td>
<td>Meteorology</td>
<td>3</td>
<td>An introduction to the weather elements, structure of the atmosphere, moisture and heat energy, stability, wind and pressure, air masses, fronts, general and local circulation, fog, thunderstorms, ice formations, weather map analysis, and flight planning.</td>
</tr>
<tr>
<td>340</td>
<td>Refrigeration and Air-Conditioning</td>
<td>3</td>
<td>Elements of heat transfer and psychrometrics of air; calculation of cooling loads; air distribution systems; study of equipment used in air conditioning for comfort, and industrial refrigeration; compressors, pumps, water towers, heat pumps; design problems and visits to existing commercial installations. Prereq: Physics 212 or permission.</td>
</tr>
<tr>
<td>400</td>
<td>Field Trip</td>
<td>0</td>
<td>This course involves a visit to several locations where work in the student’s field is being carried on. A comprehensive report is required. Prereq: Senior standing.</td>
</tr>
<tr>
<td>410</td>
<td>Engineering Seminar</td>
<td>1</td>
<td>Seminar discussions, with student leaders, on professional aspects of engineering and on problems encountered by new graduates. Topics based upon Engineers’ Council for Professional Development kit, “The First Five Years.” Prereq: Senior standing.</td>
</tr>
<tr>
<td>412</td>
<td>Special Engineering Problems</td>
<td>1, 2, 3</td>
<td>One, two, or three students may select a special engineering problem for experimenting, researching, and doing advanced original thinking in finding the best solution to the problem. Prereq: Senior standing or permission.</td>
</tr>
<tr>
<td>414</td>
<td>Creative Engineering</td>
<td>2</td>
<td>A synthesis of engineering fundamentals and advanced topics. The application of engineering knowledge to advanced, original problems, through methods of independent or joint study and research. Prereq: Senior standing in Engineering.</td>
</tr>
<tr>
<td>415</td>
<td>Technical Report Writing</td>
<td>3</td>
<td>Discussion and practice of writing technical reports with emphasis on uses of such reports by practicing engineers. Prereq: Senior standing or equivalent engineering background.</td>
</tr>
</tbody>
</table>
419 Legal Principles of Surveying
Principles of property surveying, land description, and boundary location, restoration of lost boundaries, boundary evidence. Legal responsibilities of the property surveyor. Professional problems of the practicing surveyor. Prereq: CE 302 or permission.

431 Fluid Mechanics
Properties of fluids, fluid statics, and dynamics. Dimensional analysis and dynamic similarity; equations of continuity; energy and momentum; fluid machines; applications. Prereq: Engr. 330, 460.

441 Engineering Economy
Economic factors involved in the comparison of engineering alternatives and the techniques of equipment selection and replacement. Depreciation, break-even points, and minimum-cost points are other topics which are intensively examined. Prereq: Math 111 or permission.

445 Engineering Systems IV
The formulation and solution of the mathematical model and engineering analogies for applications to system analysis. Prereq: Math 235, Engr. 303.

452 Metallurgy for Engineers
Engineering metals and alloys are studied to evaluate their crystalline structure and properties that can be established by controlled cooling rates during solidification, or while in the solid state. Processing of metals and alloys so that the desired engineering properties are acquired. Prereq: Engr. 326.

454 Fields and Circuits I
Principles of DC, magnetic, AC, and polyphase circuits. Prereq: Physics 212 or equivalent; Math 196 or equivalent.

455 Fields and Circuits II
Transformers, AC machinery, control equipment, and electronics. Prereq: Engr. 454.

456 Electrical Laboratory
A series of experiments illustrating the principles of direct current, alternating current, magnetic, and polyphase circuits. Prereq: Registration in Engineering 454.

458 Automatic Control Systems
Stability studies, design, synthesis, and analysis of servomechanisms and automatic control devices. Prereq: Math 235, Engr. 454.

460 Engineering Thermodynamics I
Fundamental thermodynamic properties of gases and vapors; kinetic theory of heat; constant volume, constant pressure, isothermal and adiabatic, reversible and irreversible processes; energy relations; analysis of cycles; mixtures of ideal gases; introduction to heat transfer. Prereq: Math 196 and Physics 212.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>461</td>
<td>Mechanical Laboratory</td>
<td>1 hour</td>
<td>An introduction to experimentation; instrumentation applied to experimental projects in the area of thermodynamics, dynamics, and mechanics-of-materials; random and systematic instrument errors; graphing of experimental data; formal and informal reports. Prereq: Credit or registration in Engineering 460.</td>
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<tr>
<td>462</td>
<td>Engineering Thermodynamics II</td>
<td>3 hours</td>
<td>Continuation of Engineering 460; application of fundamental principles to compressors, gas turbines, jet engines; generation of power from steam; cycles; heat transfer. Prereq: Engr. 460.</td>
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<tr>
<td>463</td>
<td>Gas Dynamics</td>
<td>3 hours</td>
<td>The dynamics and thermodynamics of compressible fluid flow; one and two-dimensional flow; subsonic, sonic and supersonic flow; normal shock waves, isentropic and isothermal flow conditions. Prereq: Engr. 431, 460.</td>
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<tr>
<td>464</td>
<td>Heat Transfer</td>
<td>3 hours</td>
<td>Introduction to heat transfer; one and two-dimensional steady-state conduction; unsteady-state conduction; natural and forced convection; empirical and analytical relations; radiation heat transfer. Prereq: Engr. 431, 460.</td>
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Civil Engineering Courses (CE)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>201</td>
<td>Civil Engineering Workshop</td>
<td>1 hour</td>
<td>Civil engineering orientation; introduction to engineering design. Prereq: Engr 100.</td>
<td></td>
</tr>
</tbody>
</table>
301 **Surveying I** 3 hours
Theory and practice of surveying for civil engineering projects, including measurement of lengths and distances; theory of leveling; differential and profile levels; measurement of angles; U.S. Public Land surveys, introduction to mapping, etc., Field problems. Prereq: Math 112 or Math 113, or permission.

302 **Surveying II** 3 hours
Advanced applications of theory and practices of engineering surveys, etc; surveying astronomy; property surveys and writing deed descriptions; intro. to the State Plane Coordinate System, etc., field problems assigned in selected areas. Prereq: CE 301 or permission of instructor.

343 **Structural Analysis I** 3 hours

347 **Concrete Materials** 3 hours

360 **Structural Design** 4 hours
An introductory course involving the properties of structural steel, reinforced concrete, and timber; and the theories and methods necessary to design both structural members and systems. Prereq: Credit in or enrolled in CE 443.

370 **Engineering of Transportation Systems** 3 hours
Basic instruction in design and construction of roads and pavements, preparation of subgrade; design of pavement structures; basic airport design; runway and apron construction; special design problems; introduction to railroad engineering; introduction to engineering of water transportation facilities; pipeline and conveyor engineering. Prereq: CE 347 or equivalent and CE 301 or permission.

371 **Airport Engineering** 3 hours
Airport planning and design, site selection, geometrical considerations for runways, taxiways, terminal and cargo areas, runway length determination, clearance criteria and practices, navigational aids, utilities distribution systems, lighting, drainage, Federal aid for airports, traffic control, and safety. Prereq: Junior standing or permission.

432 **Hydraulic Engineering** 3 hours
A study of the control and utilization of the natural waters of the earth from precipitation to evaporation. The application of the basic mechanics of solids and fluids to the solution of hydraulic problems; hydrologic, legal and economic considerations; hydraulic structures; hydraulic models; river and coastal engineering; special problems encountered in various branches of hydraulic engineering. Prereq: Engr. 431.
**433 Hydrology** 3 hours
A study of the hydrologic cycle, precipitation, infiltration and soil moisture, runoff, rainfall runoff relationships, and the manner in which these factors affect the utilization and conservation of our water resources. Prereq: Eng 431.

**434 Ground Water Hydrology** 3 hours
A study of the occurrence, distribution, and movement of ground water; formulation and solution of differential equations pertaining to boundary conditions of both steady and unsteady state; exploration; well construction and development; legal and economic aspects. Prereq: Engg 431 or permission.

**442 Construction Management** 3 hours
Estimating and bidding, scheduling (including an introduction to CPM and PERT), contracts, bonds and insurance, cost control systems, equipment utilization, codes and zoning. Prereq: CE 446 or equivalent.

**443 Structural Analysis II** 3 hours

**444 Structural Analysis III** 3 hours
Theory and application of analytic methods in the consideration and design of industrial buildings, tall buildings and space frames. Prereq: CE 443.

**446 Structural Design** 3 hours
Designing and detailing of girders and trusses and mill buildings; examples of design in steel and timber; riveting and welding; specifications. Prereq: CE 443.

**447 Reinforced Concrete** 3 hours
Principles of reinforced concrete; rectangular and tee beams; floor slabs; columns; footings and retaining walls; highway bridge design. Prereq: CE 443 or equivalent.

**448 Substructure Analysis** 3 hours
A study of soil pressure theories and their applications; foundation types and their design; piling and sheet piling structures; bridge piers and abutments. Prereq: CE 447, CE 449.

**449 Soil Mechanics** 3 hours
Index properties and classification systems of soils, permeability, frost action, compaction, stress-strain characteristics, consolidation, shearing resistance, drainage and stabilization, bearing capacity and settlement, subsurface investigations, character of natural deposits. Prereq: Senior standing AND permission.
450 **Soil Mechanics II**  
3 hours  
Analysis of complex problems in soil mechanics involving elastic and plastic equilibrium in soils and soil hydraulics; the role of theory, sampling and testing; interpretation and application of test results; performance studies. Prereq: CE 449 or equivalent.

465 **Construction Cost and Controls**  
3 hours  
Construction estimating, accounting, cost control; construction scheduling, CPM, PERT. Prereq: Acct. 101 and CE 442.

466 **Construction Techniques**  
3 hours  
Job planning and management; construction equipment; construction materials; construction methods. Prereq: Credit or registration in CE 449.

467 **Form Design and Steel Erection**  
2 hours  
Design of concrete construction forms; design of temporary structures for steel erection. Prereq: CE 360.

468 **Highway Geometrics and Traffic Engineering**  
3 hours  
Studies of highway capacity, alignment, profiles, intersections, interchanges, and grade separations. Principles of highway traffic flow, traffic surveys and planning, analysis of presentation of data, traffic design. Prereq: CE 370.

469 **Pavement Analysis and Design**  
3 hours  
Thickness design of pavements and base courses for highways; flexible and rigid pavements; pavement behavior under load; reinforcement of rigid pavements; evaluation of pavement; airfield pavements; and design criteria for pavements. Prereq: CE 370.

470 **Pre-Stress Concrete**  
3 hours  

471 **Sanitary Engineering I**  
3 hours  
Theory and practice of sanitary engineering as applied to the design and construction of large scale water supply systems; water supply requirements; introduction to hydrology; ground water; collection systems; pumps and pumping; design of distribution systems; fundamentals of water purification and treatment; introduction to food plant sanitation; introduction to sewerage treatment systems. Prereq: Permission.

472 **Sanitary Engineering II**  
3 hours  
Theory and practice of sanitary engineering as applied to the design and construction of sewerage and waste disposal systems; design of storm water disposal networks; characteristics of sewerage; stream pollution and correction; treatment of municipal sewerage; and investigation of special problems in sanitary engineering. Prereq: CE 471.
Matrix Methods of Structural Analysis 3 hours
Matrix methods and Computer Applications for analysis of structures, including Beams, Frames, Trusses, Space forms. Prereq: CE 443 or Permission.

Water Resources Engineering 3 hours
Integration of engineering concepts and value considerations in study of water as a resource; fundamental concepts of basin planning. Prereq: CE 471.

History of Technology and Civil Engineering 3 hours
History of the application of scientific principles to engineering and technological problems; development of modern civil engineering. This course is not a history of scientific development, but rather a history of the development of practical application of scientific theory in civil engineering and related disciplines. Prereq: Junior Standing.

Plastic Analysis 3 hours

Limit Analysis 3 hours
Criteria for the plastic collapse of structures, limit design applied to continuous beams, rigid frames, and components parts. Introduction to dynamic resistance of structures. Prereq: CE 481.

Civil Engineering Special Problems 1-6 hours
Individual students may select a special semester project in some phase of civil engineering which requires advanced original thinking and the application of advanced analytical and/or experimental techniques in its completion. Prereq: Sr. Stg. or perm. or instr.

Quality Control 3 hours
The use of probability and statistics to interpret and manage industrial processes to maintain desired levels of quality. Prereq: Math 353 or IE 304.

Probability and Statistics for Engineers 3 hours
Fundamentals of probability and theory with applications to various branches of engineering; developing knowledge of the techniques of using probability and statistics for engineering purposes and the application of these techniques to engineering problems. Prereq: Math 197.
305 **Motion and Time Study**  
3 hours  
Principles and techniques acknowledged both by management and labor as one of the ways to find the greatest economy for creating maximum productivity with greater pay for the producer and lower cost to the consumer in which all benefit. Prereq: Sophomore standing.

306 **Manufacturing Processes**  
3 hours  
Manufacturing characteristics of metals and plastics; metal casting, forming and machining operations; economics of process planning; characteristics of machine tools; fundamentals of automation. Prereq: Junior standing.

307 **Manufacturing Processes Laboratory**  
1 hour  
Laboratory for Manufacturing Processes and taken concurrently with it. Prereq: Concurrently with IE 306.

401 **Industrial Planning I**  
3 hours  
Choosing plant location, developing and planning a plant layout, necessary preliminary analysis, machine and manpower requirements and balance, materials handling equipment, handling times and services. Prereq: IE 306.

402 **Industrial Planning II**  
3 hours  
The development and application of inventory records, load charts, production orders, schedules, production reports, progress reports, and control reports to a manufacturing problem in such a manner as to keep a continuous comparison between planned and actual results. Prereq: IE 401.

417 **Industrial Plant Design**  
3 hours  
The theory of plant layout and material-handling design within the industrial engineering field. Included are preliminary broad techniques to provide initial or preliminary design and evaluation techniques. Prereq: IE 306.

418 **Methods-Time Measurement**  
3 hours  
Visualization of manual operations or methods into basic motions required to perform the processing and the establishment of time standards. Prereq: IE 305 or permission.

490 **Operations Research I**  
3 hours  

491 **Work Measurement Design**  
3 hours  
Studies of special cases in work measurement design where the available information in the literature is lacking. As a design course, the student is expected to carry on research in some phase of work measurement. Prereq: Permission.
492 **Tool Design** 3 hours
The fundamentals and theory of tool design for the manufacturing industries and tool and die shops. Prereq: Permission.

496 **Operations Research II** 3 hours
Queueing theory for finite populations, optimum cost queueing solutions, inventory theory and control, applications of Markov chains, computer simulation of stochastic systems, integer programming, and an introduction to non-linear programming. Prereq: I.E. 490.

### Industrial Technology Courses (IT)

#### 211 **Wood Processes**
3 hours
Care and use of hand and machine tools, basic tool operations principles and practice applied to furniture manufacturing, mill and cabinet making and carpentry; mechanical and physical properties of wood in relation to use in construction and engineering application; strength moisture content, preservative treatments, wood products.

#### 216 **Industrial Metal Operations I**
3 hours
Theory and application of metal cutting processes, namely: turning, threading, milling, drilling, boring, reaming, shaping, sawing, broaching, and grinding; surface finishing, modern industrial methods of process planning, precision machining, and measurement. Prereq: Engr. 121.

#### 217 **Industrial Manufacturing Processes**
3 hours
An intensive study of manufacturing processes including pattern making, foundry materials and processes; smelting and refining processes; forging, cold working, powder metallurgy, plastics, and sheet metal fabricating processes; abrasives and adhesives, production exercise. Prereq: IT 216.

#### 255 **Industrial Materials Finishing**
3 hours
Manufacture, characteristics, and methods of application of the more common wood finishes, such as paints, enamels, stains, varnishes; and lacquers. Metal finishes, and spray gun applications. Industrial methods. Prereq: IT 211 and 216.

#### 301 **Power Mechanics Technology I**
3 hours
A study of the science of power and of the importance of the prime movers of our technological society such as internal and external combustion converters, direct mechanical converters, conventional and exotic electrical converters, and hydraulic and pneumatic systems and devices. Prereq: TI 102, TI 107, or permission.

#### 311 **Advanced Wood Processes**
3 hours
Design and construction of advanced projects in wood with emphasis on skill in machine operations, presentation of data on wood as a material of construction and for its use in data and specification, application of well-recognized principles of design to specific materials and problems encountered with wood usage. Prereq: IT 211 or equivalent.
316 **Industrial Metal Operations II**  
Design and manufacture of machine tools and fixtures which will give experience and training in applications of metals and welding. Prereq: IT 216.

320 **Welding Technology**  
Theory and practice in oxyacetylene, electric arc inert gas and resistance welding. Study of special welding processes of submerged arc, plasma arc, stud, forge ultrasonic, explosive and friction welding, properties of metals and effects of heat treatment of metals. Prereq: IT 216 or permission.

323 **Advanced Engineering Graphics**  
A study of important topics in engineering drawing that were not included in engineering 121 and 221; charts, graphs, and diagrams; precision dimensioning and surface quality specifications; welding, piping, and structural drawing, machine elements (cams, gears, etc.). Prereq: Engr. 221.

351 **Industrial Techniques**  
Study of industrial techniques employed in the following industrial fields: electrical, plumbing and pipe fitting, heating, glass glazing, concrete and masonry, and materials testing. Prereq: 9 hours IT, TI, Engineering.

361 **Industrial Safety**  

371 **Special Problems in Industrial Technology**  
A student may select a special problem applicable to technology and through independent study and research, present results in a useful technical report. Prereq: Junior Standing.

380 **Industrial Field Experience**  
Practical work experience in which basic skills, technical knowledge and related occupational information learned in classroom theory will be applied practically through industry cooperation and in actual industrial situations. Prereq: Junior Standing or permission.

401 **Industrial Teaching Methods**  
A study of the methods, techniques and aids used in teaching industrial technology and technical education, including a study of the instruction sheet with particular reference to the general technology (shop) laboratory. Prereq: 12 hours Lab and/or drafting.

402 **Industrial Technology Administration**  
Curriculum development, laboratory supplies and equipment specifications, shop plans and related items for use in teaching industrial technology. Prereq: Junior standing in Industrial Technology.
420 **History and Philosophy of Industrial and Technical Education** 3 hours
A study of the history, philosophy, and development of industrial technology including industrial arts, vocational, and technical education as related to the industrial society of today. Prereq: Senior Standing or permission.

450 **Industrial Design** 3 hours
An introduction to design primarily for industrial teachers, although many portions will be of value to other students; includes design methodology; design for wood, metal and other mediums. Practice and procedures of the industrial designers. Prereq: Engr. 121 or equivalent.

**Technical Institute Courses (TI)**

**Construction Technology**

127 **Introduction to Construction** 3 hours
An introduction to construction technology with emphasis on the materials and types of construction used for buildings and other structures. Construction industry terminology, construction practices, and field trips to selected buildings and construction sites.

128 **Construction Methods** 3 hours
Methods used in planning operations of a project. Engineering analysis applied to construction, with examples presented to demonstrate the methods of analyzing problems to arrive at correct solutions. Prereq: TI 127 or permission.

200 **Construction Surveying I** 3 hours
Practical applications of surveying for construction projects, including basic procedures for measurement of distances; differences in elevation, introduction to both differential and profile level circuits, etc.; methods of establishing line and grade for construction, also general layouts for construction projects and topographic surveys, with a selection of field work to supplement the above. Prereq: TI 102, or permission of instr.

202 **Construction Surveying II** 3 hours
Introduction to triangulation for establishing horizontal control. Leveling for earthwork projects (slope staking, cross-sections, grade lines, volume calculations, contour lines, etc.), so as to be able to plot profiles and cross sections. Stadia surveying as applied to leveling and horizontal control. Construction planning from topographic maps. Construction surveys (alignments, bridges, culverts, streets and highways, etc.). Deed descriptions, boundary lines, etc. Advanced topics in route surveying. Prereq: TI 200, or permission of instructor.
211 **Construction Management** 3 hours
A course emphasizing the five basic functions of management (organization, planning, staffing, directing, controlling) as related to construction and contractor organizations. Relationship between field and office, owner-architect, and subcontractor-supplier relationship will be presented. Estimating and bidding, scheduling (including an introduction to CPM and PERT), contracts, bonds, and insurance will be discussed; cost control systems, equipment utilization and a review of building codes and zoning. Prereq: TI 128.

212 **Construction Specifications** 3 hours
Discussion and practice in writing of specifications for engineering projects in terms suitable for engineering technicians. Various types of specifications are studied; form and method; sources of information to produce good specifications are sought out. Prereq: TI 215.

215 **Construction Materials** 3 hours
To acquaint the student with basic building materials and their more recent development. Emphasis given to selection and application rather than developmental process, e.g., technical data arising from research. Prereq: TI 127 or permission.

216 **Construction Estimating** 3 hours
Comprehensive coverage of construction cost estimating and job preplanning—including format of preparation of estimate, measurement of quantities of unfinished work, indirect job costs, pricing, time-cost factors, equipment depreciation costs, operations scheduling and crew estimating. Prereq: TI 215 or concurrently.

218 **Soils Technology** 3 hours
Lecture, discussion and laboratory practice in the techniques of soils laboratory and field technology. Current engineering testing techniques of building and structure foundation materials emphasized, related interpretations, laboratory reports and equipment familiarization included. Prereq: TI 213, 215.

219 **Construction Equipment** 3 hours
A program of study designed to acquaint one with the equipment utilized in the construction field, emphasis being placed upon selection, owning and operating costs, and a comparison of theoretical implications with the practical approach. Prereq: TI 127 or permission.

319 **Formwork Design for Technicians** 3 hours
A course covering the specific design requirements encountered in the field of form design for reinforced and plain concrete. Included is behavior of concrete, economy in formwork, physical properties of form materials, capacities of form fasteners, technical design of form work for all types of horizontal and vertical forms, and use of patented forms. Also included are coverage of bracing and tie-back systems for excavations. Prereq: TI 229.
Electronics Technology

104 **Electronics Laboratory I** 1 hour
This presentation is involved with the application of direct-current circuit principles to laboratory work, with emphasis on the development of skills in accurate observation of electrical phenomena and the meaningful interpretation of the data obtained.

105 **Electronics Laboratory II** 1 hour
Involves the application of alternating-current circuit principles to laboratory work, with emphasis on the development of skills in the accurate observation of electrical phenomena and the meaningful interpretation of the data obtained.

107 **Direct Current Circuits** 3 hours
An introduction to the study of principles of direct-current circuits and to analytical techniques which may be applied to them. Emphasis placed on those areas which will be important to student in subsequent courses in electricity and electronics.

108 **Alternating Current Circuits** 3 hours
Continuation of study of electrical circuit principles begun in 107, Direct Current Circuits. Characteristics and analytical techniques peculiar to alternating current circuits are presented with the intent of providing a background for subsequent studies in electronics.

112 **Basic Electrical Measurements** 1 hour
Electronic test equipment and measurements.

114 **Electronic Fabrication** 3 hours
Instruction and practice to give possession of sufficient mechanical skill and knowledge to the technician to successfully install, repair, and construct electronic equipment.

116 **Semiconductor Devices and Vacuum Tube Fundamentals** 3 hours
A device-centered study of semiconductor theory fundamentals and their application to P-N junction devices in basic electronic circuits. Vacuum tubes are considered as analogous electronic elements.

118 **Wave Theory and Mechanics** 4 hours
The physics of the electron as it applies to electronics and the cation in electronic circuits. Prereq: TI 101, 107, 108, or 108 parallel.

205 **Solid State Devices** 3 hours
A presentation of the many semiconductor devices. The transistor is treated as only one of the many types of semiconductors. Prereq: TI 116.
206 **Computer Circuits**  
3 hours  
A complete treatment of the principles of digital computer circuits. Function of the computer is described, with application in business, and industrial and scientific organizations. Steps necessary to prepare a problem for a computer are covered. Emphasis on use of transistor in computer circuitry. Prereq: TI 116.

207 **Basic Electronic Circuits and Systems (Circuit Design I)**  
3 hours  
The Electronic Circuits and Systems course is designed to follow Electronic and Electrical Fundamentals and it is assumed that the fundamentals of electronics have been mastered before this course is offered. Prereq: TI 116.

208 **Advanced Electronics Circuit Technology (Circuit Design II)**  
3 hours  
Designed to follow the basic circuits of communications receivers and transmitters with a study of the circuits used to process nonsinusoidal waveshapes. Prereq: TI 207.

209 **Radio and Communications Technology**  
3 hours  
Covers the entire broadcasting system including discussion of all equipment necessary to transmit radio and television programs from the studio. Consideration given to antennas and transmission lines. Prereq: TI 116.

210 **Television Circuits**  
3 hours  
Basic television receiver circuits including theory of high voltage and deflection circuits and test equipment applications. Television studio and transmitting equipment used by the University station will be viewed and discussed. Prereq: TI 116.

220 **FCC Laws and Codes**  
3 hours  
Present specific information on radio law, operating practice, and theory for those studying to pass the Federal Communications Commission commercial radio operator exams of the various licensed grades. Prereq: TI 207.

222 **Instrumentation**  
3 hours  
A comprehensive, introductory presentation of the basic theory and principles of the construction and operation of instruments most often used by industrial process companies. Prereq: TI 207 or parallel.

223 **Microwave**  
3 hours  
An introductory course in microwave theory and measurements for technicians whose work is related to microwave measurements, systems and components. Prereq: TI 209, or parallel.

226 **Antennas & Transmission Lines**  
3 hours  
A comprehensive, introductory presentation of the basic theory and principles of antennas and transmission lines. Prereq: TI 116.
227 **Industrial Electronics and Servomechanisms** 3 hours
A presentation of electricity as applied to industry. This course emphasizes control, regulation and feedback as used in industrial processes. Prereq: TI 207 or parallel.

290 **Electricity for Technicians** 3 hours
Gives the student a knowledge of principles of electricity, their application to situations important in construction. Emphasis given to electrical power distribution systems, motors, solid-state control devices and to construction electrical codes. Prereq: TI 101, 102; 102 may be taken concurrently.

305 **Basic Switching Circuit Theory** 3 hours
Introduction to the Algebra used in analysis of switching circuits. Includes set theory, Boolean Algebra, and the simplification of switching functions. Prereq: Soph. standing, or permission.

307 **Wave Shaping and Transistor Switching** 3 hours
Basic wave shaping and transistor switching circuits. Prereq: TI 208

308 **Computer Circuit Design** 3 hours
Design of Computer Circuits used in electronics. Prereq: TI 307

317 **Advanced Electronic Measurements** 1 hour
Gives practice in understanding and usage of sophisticated measuring instruments which are in use in electronic circuit design and production. Prereq: Third Year standing in Electronics Technology curriculum.

322 **Analysis of Electronic Circuit Mfg. Techniques** 3 hours
Comprehensive coverage of actual considerations of design which are needed to produce a marketable electronic device within specified parameters of cost, reliability and performance. Prereq: Perm. and Third Year standing in Electronics Technology.

323 **Integrated Electronic Circuits** 3 hours
Gives the electronics technology student specialized coverage of the theory, manufacture and application of integrated circuits. Prereq: Perm and Third Year standing in Electronics Technology.

**DRAFTING AND DESIGN TECHNOLOGY**

109 **Electronic Drawing** 3 hours
Introducing various drafting techniques and types of diagrams used in the design and construction of electronic equipment, maintaining a close relationship between graphical methods, basic electronics principles and construction practices.

124 **Architectural Drafting I** 3 hours
Introduction to architectural drafting, use of standard symbols, lettering and line work, orthographic techniques, foundations, floor plans, elevations, sections; details culminating in working drawings for a commercial masonry and concrete structure.
125 **Construction Drawing** 3 hours
Introduction to engineering drawing with emphasis on graphic techniques applicable to the construction industry.

126 **Structural and Building Drawing** 3 hours
Considers in detail the structural frames of structures and buildings with emphasis on shop drawings and placing drawings related to structural steel, reinforced concrete and wood. Pre-req: TI 125 or permission.

129 **Lettering and Inking** 1 hour
Instruction and practice in the acceptable method of lettering and inking engineering and architectural drawings.

130 **Reproduction Techniques** 2 hours
Investigation of various methods of reproducing engineering and architectural drawings two dimensionally and three dimensionally; includes microfilming, automated drafting, photo drafting, and design display techniques.

224 **Architectural Drafting and Design II** 3 hours
Continuation of TI 124 with particular emphasis on commercial construction, and consideration of heating, wiring and plumbing as related to both light and heavy-commercial structures. Pre-reg: TI 124 or permission.

225 **Graphic Design Methods** 3 hours
The analysis, creation, and development of design principles are presented in acceptable forms of visual communication, automated design, and computer-aided display. Emphasis is placed upon lectures and lab assignments on the principles of design for industry. Prereq: Permission of Instructor.

231 **Architectural Design III** 3 hours
Study of architectural design and theory using practical problems and projects. Includes creative design of space models, and use of various media. Prereq: TI 224.

232 **Architectural Design IV** 3 hours
Advanced study of architectural theory and design using practical projects. Includes the application of flow diagrams, space diagrams and systems applications. Prereq: TI 231.

233 **Graphic Design Application** 3 hours
A design product will be developed using the methods of TI 225; it involves investigation and solutions of problems, and frequently the use and manipulation of industrial materials, methods, or techniques of application. Prereq: TI 225.

234 **Advanced Structural Drafting** 3 hours
Detailing of complex beams, columns, trusses, skewed connections, plate girders and complete bolted or welded systems. Prereq: TI 126 or permission.
Drafting Room Management
To familiarize the student with the problems of drafting room management. Prereq: Sophomore standing, permission of instructor.

Technical Sketching and Illustration
Covers the methods of graphic presentation of engineered projects. Includes perspective drawings and various other artistic techniques—charcoal, pencil, water color, chalk, ink; also highlighting, shading, and blending. Yields total graphic presentation from preliminary design sketch to formal presentation portfolio. Prereq: Sophomore standing.

Building and Trades Drafting
Emphasis on preparation of design and working drawings for commercial and heavy structures. Includes structural member drawings, reinforced concrete drawings, electrical systems and mechanical systems drawings. Prereq: TI 124 or TI 224.

Machine Drawing and Design
Comprehensive treatment of design-drafting of many types of machine elements, with emphasis on exercise of judgment in design. Attention given to materials, tolerances, types of fasteners, jig and fixture design, tool design, and N/C design problems. Prereq: Engr. 221.

Automated Drafting and Design Systems
Introduction to automated methods and devices used in engineering graphics. Subject includes programming automated devices and industrial usage and application. Prereq: TI 225

Landscape Architecture and Environmental Planning
Introduction to landscape architecture involving the relationship of people to land regions. Principles of design and composition are applied to various types of land planning. Prereq: TI 224 and Perm. of Instr.

Architectural Design & Urban Community Development
Design problems concerning urban design, subdivisions, housing projects, public grounds, parks, cemeteries, building groups, recreational areas, and communities on various types of topography. Prereq: TI 224, and Permission

General Technology

Orientation
Required of each first-year Technology student to aid in adjusting to his studies and requirements of university life. Covers nature of the work—basic considerations in selecting a career in engineering technology, and relationship of the technician to the professional engineer and to skilled craftsmen.

Technical Report Writing
Discussion of techniques and practical experience in writing technical reports with emphasis on preparation and use of reports by engineering technicians. Prereq: Soph standing.
236 **Special Technical Problems** 1-4 hours
To help the student improve his ability to write reports which present the results of research and study in a form useful to engineering management.

280 **Practical Foremanship** 3 hours
Deals with many functions of a foreman’s job and how they can best be carried out. Major phases covered are work planning and scheduling, merit ratings of employees, safety programs, industrial organization, labor-management relationships, executive development for foreman. Prereq: Sophomore standing.

313 **Dynamics for Technicians** 3 hours

**Applied Mathematics**

101 **Technical Problem Analysis I** 5 hours
Review of arithmetic, fundamental concepts and operations of algebra, dimensional analysis, metric system, functions and graphs, linear equations, factoring and fractions, exponents and radicals, quadratic equations, the j-operator variation.

102 **Technical Problem Analysis II** 4 hours
Fundamental concepts, functions and graphs, trigonometric functions, linear equations and determinants, factoring and fractions, vectors and triangles, exponents and radicals, logarithms, elements of analytic geometry, slide rule. Prereq: TI 101.

201 **Technical Problem Analysis III** 3 hours

**Applied Mechanics**

213 **Statics and Strength of Materials** 4 hours
Study of the equilibrium and section properties necessary to allow an understanding of the mechanical, structural and strength characteristics of systems and their components. Involves basic understanding of statics covering general principles, resultants, equilibrium, etc., then use of these basics to study stresses, fastenings, torsion beam design and deflections. Work supported with laboratory studies. Prereq: TI 102.

221 **Hydraulics and Pumping Applications** 3 hours
Application of hydraulic power to industrial equipment. Pressure, orifices, tubes, wires and piping, fluid couplings and torque converters. Prereq: TI 213.
228 **Power Applications** 3 hours
Application of pumps, fans, refrigeration, compressors, gas turbine, internal combustion engines, heat exchangers, and nozzles and fluid flow.

229 **Structural Design for Technicians** 3 hours
Covers varied aspects of structural design, maintenance of structural integrity from design through construction to final release by contractor. Includes analysis and design of frames, connections, columns, beams, girders, trusses, footing, retaining walls; also includes coverages of forming and construction sequences. Prereq: TI 213.

382 **Industrial Control Devices** 3 hours
Course for Industrial Engineering technicians; introducing information and techniques of operation and application of electronic and mechanical control systems. Prereq: TI 108, TI 116, TI 205

383 **Numerical Control for Technicians** 3 hours
Introductory course in automatic machine operations (Numerical Control Theory) and practice. Covers the language and procedures as applied to binary systems, programs, axis and motion, and workpiece coordination. Prereq: TI 246
GENERAL REQUIREMENTS

1. Admission to the College—Students will be admitted to the College on making a satisfactory score on the School and College Ability Test.

2. Admission to and continuation in the professional education sequence. All students seeking recommendations for certification and/or endorsement(s) by the College of Education must be approved by the Professional Education Committee as follows:

   A. For admission to the Professional Education Sequence, the student must have attained sophomore standing with a minimum grade average of 2.0; made satisfactory scores on standardized measures of academic achievement and scholastic aptitude; and obtained the recommendation of his education advisor.

   B. For permission to enroll in a program of professional specialization, i.e., elementary education, secondary education, special education, the student must have satisfactorily completed at least two courses in the Educational Foundations Department; passed proficiency tests in voice, speech, oral English usage, and library usage; have recommendation of a faculty member who has had the student in class, the student's education advisor, and the Dean of the College of Education; and met any additional requirements determined by the Department(s).

   C. For recommendation for certification and/or endorsement(s), the student's request to the Committee must be supported by the recommendations of the appropriate Department Heads, advisors, and the chairman of the Professional Education Committee.

3. Eligibility for student teaching or practicum—determined by the Department(s) involved. See individual departmental regulations elsewhere.

DEGREE REQUIREMENTS

Bachelor of Science in Education

1. General Requirements—Each candidate must meet the general requirements of the College.

   Degree requirements—For the degree of Bachelor of Science in Education a minimum of 125 credit hours is required.

   Residence—Thirty of the last 36 hours required for the degree must be registered for and carried in residence at the University.

2. General Education—The required general education includes the following areas: English, humanities, natural sciences and mathematics, social sciences and physical education.

   (a) English: Students must earn credit in English 111 and 112 or equivalent; or, if performance on the English proficiency examination warrants, English 112 and any other three-hour English course. Students who are excused from both English 111 and 112 shall take any other six hours in English. Literature courses taken may be used to fulfill the requirements in humanities.
(b) Humanities: Music (except laboratory and applied music courses), art, English (except 105, 109, 111, 112, 205, 240), foreign language, philosophy, religion and speech.

Students may take the two survey courses; or one survey course and six hours of departmental courses; or 12 hours of departmental courses (not more than 8 credit hours in one department).

(c) Natural Sciences and Mathematics: Biology, chemistry, geography 104, 117, 118, 203, 396 & 432, mathematics, and physics.

Students may take Biology 102 and Physics 101, or one of these and six hours of departmental courses; or 12 hours of departmental courses (not more than 8 credit hours in one department.)

(d) Social Sciences: Economics, geography (except Geography 104, 117, 118, 203, 396 & 432), history, political science, psychology, sociology.

Students in elementary education must present 12 semester hours from the division including one course in geography and one course in Political Science or American History. Students must present 12 semester hours from the division, of which not more than 8 semester hours may be from one department.

(e) Physical Education—At least four semester hours in general physical education are required of each student who is under the age of 21 at the time of matriculation into the University of Nebraska at Omaha and not yet over the age of 24 on graduation. Eight semester hours in physical education activities may be accepted toward the degree, except for students specializing in physical education. Up to eight semester hours of credit in physical education may be allowed for military service when such credit appears on the student’s transcript on entrance to the University.

3. Professional Education—The required courses in professional education include the basic courses required of all candidates and the courses required according to the specialization of the candidate.

(a) Basic courses—Each candidate must present credit in the basic courses, Education 205 and 208 (Education 207 and Psychology 351 may be substituted for Education 205). These courses must be taken prior to the courses listed in item b below.

(b) Major fields in Education—The candidate must complete a major as indicated below:

(1) Elementary Major—Education 209, 420, 430, 431, 432, 433, 434, 435, 436, or 437, and two courses selected from: Art Education 336 Education 418, Education 425 or 426, Music Education 251, Physical Education 335, Special Education 462.

(2) Secondary Major—Education 351 or 361, 457, 458, and a special methods course is required for each teaching field. Vocational Business Education will include Business Education 480, 485.
(3) Special Services Major—ElEd 468, and SED 351 or SED 361, plus: Educ. 418, Library Science 457, Special Education 462 and 425, 451, 452, or 475 as appropriate. Teaching fields under special services major include Art K-12, Health and Physical Education for Men K-12, Health and Physical Education for Women K-12, Library Science K-12, Music K-12, Recreation Education K-12, Special Education K-12. For the K-12 programs, both ElEd 468 and SED 351 or SED 361 must be taken and one semester of student teaching each at the elementary and secondary school levels.

4. Academic or Teaching Majors and Fields—All candidates for the degree or teaching certificate must complete an ***academic major. Students who wish to qualify for secondary school certification must have **two teaching fields, one of which may be an academic major.

(a) Divisional Majors—Candidates in elementary education must present either a departmental major approved by the head of the Department of Elementary Education and the head of the academic department concerned, or a divisional major of 24 semester hours above freshman level (with no grade lower than “C”) in one of the divisions—Humanities, Natural Sciences and Mathematics, or Social Science. These 24 hours are in addition to the 12 hours required for general education in that division. Of the total 36 hours, 15 semester hours must be junior or senior level; there must be three subject fields within the 36 hours; and a minimum of 15 semester hours must be in one subject field.

(b) Teaching fields or subjects include: Art, biology, business administration, chemistry, *core program, economics, English, French, geography, German, history, home economics, industrial education, journalism, library science, mathematics, music, health and physical education for men, health and physical education for women, physics, political science, recreation education, social studies, Spanish, speech, speech correction, teaching the hearing handicapped, teaching the deaf, teaching the educable mentally retarded, teaching the trainable mentally retarded, vocational business education.

5. Special requirements and limitations—The College of Education specifies certain requirements and limitations with respect to quality of work, progress toward the degree, certain proficiencies, maximum credit allowed and correspondence and extension credit.

(a) Quality of work—Each candidate for the degree or certification must attain a grade point average of at least “C” in all professional courses.

Each secondary education major student must have a grade point average of 2.50 in his major teaching field or subject, and no grade below “C” for the minimum number of credit hours required

*A combination of language arts and social studies, or science and mathematics.

**An academic major consists of a group of courses completed in accordance with the requirements of the faculties of the respective departments concerned.

for his teaching major and second teaching field. All recorded grades are included in the computation of the cumulative grade point average, including grades of courses enrolled for in excess of the 125 credit hours required for the degree. A grade point average of at least 2.0 is required for graduation.

(b) Progress toward the degree—Students are expected to progress regularly toward the degree. Those who pursue their program intermittently are subject to the changes in requirements.

(c) Special proficiencies and competencies—Students who plan to graduate in teacher education or who seek an initial certificate must demonstrate proficiency in the use of audio-visual aids. These students must also demonstrate competence in reading, mathematics, library usage, and oral English. Information concerning the tests may be obtained from the Dean of the College of Education.

(d) Maximum credit hour limits—A candidate may not count toward graduation a total of more than 40 semester hours of credit in professional education.

(e) Correspondence and extension credit—A candidate may not count toward graduation a total of more than 15 semester hours of credit taken by correspondence, television, and/or extension.

(f) Elective credit will be granted for courses taken in the Department of Aerospace Studies.

SPECIAL REGULATIONS FOR STUDENT TEACHING

Students in elementary education must take at least two methods courses prior to student teaching.

Students in secondary education must take Education 351 or 361 prior to student teaching.

All students taking or holding the baccalaureate degree and seeking certification are required to take two semesters of student teaching.

All students seeking certification at the secondary level (grades 7-12) must complete two semesters of student teaching, Education 457 and 458. Student Teaching will be done in two different schools, one semester in the first teaching field, and one semester in the second teaching field. Exceptions to this are students in the K-12 program majoring in Art, Music, Physical Education, Recreation, Library Science or Special Education.

Students in elementary education must take a minimum of eight semester hours in student teaching. Each credit hour requires one-half day of student teaching per week per semester.

Students in secondary education must take a minimum of eight semester hours in student teaching. A minimum of forty clock hours is required for one semester hour credit in student teaching.

Only one course in student teaching may be taken in any one semester.

Requirements for student teaching: (1) cumulative grade point average of 2.0; (2) grade of at least "C" in each professional course taken. In addition, students in secondary education must have a 2.50 average in the major teaching field and a 2.00 in the second teaching field. (see statement on 'quality of work,' 5 (a).)
The College of Education reserves the right to require students with teaching experience to take at least one semester of student teaching in order to be approved for certification.

Students in secondary education must also be approved by the heads of the academic departments in which they are taking their teaching fields.

A student must have at least 12 semester hours of credit in a teaching field before he may do student teaching in any subject included therein.

**BACHELOR OF SCIENCE**

The degree, Bachelor of Science, is designed for non-certified programs. These include majors in the following areas: Home Economics (dietetics, general home economics, interior design), Library Science, Recreation, and Secretarial Science.

1. Each candidate must meet the general education requirements of the College as described above in Bachelor of Science in Education degrees.
2. For the degree a minimum of 125 credit hours and a grade point average of 2.0 is required. Thirty of the last 36 hours must be carried in residence.
3. Each candidate must complete the curriculum requirements of a non-certified program as designed by his advisor in keeping with the department's submitted program.

**Educational Foundations**

**PROFESSORS DUNN (Chairman), ACKERMAN, CUSHENBERY, KENNEDY, WATERMAN; ASSOCIATE PROFESSORS FREUND, PULLEN, SADLER, SELEE; ASSISTANT PROFESSORS BENNING, GILREATH, KUCER**

**FED 100 Freshman Orientation**

(I, II) 0 hours
A non-credit course intended to acquaint freshmen students with the College of Education policies and procedures, and the various academic programs available.

**FED 205 Human Growth and Learning**

(I, II) 6 hours
Designed for teachers at both the elementary and secondary levels, this course deals with the growth and learning processes of the individual through adolescence.

**FED 207 Human Growth and Development**

(I, II, S) 3 hours
The problems of the child through adolescence and his adjustment to life situations; mental, physical, emotional and social development.

**FED 208 Introduction to Teaching**

(I, II, S) 3 hours
An examination of the nature and task of the American School System, with particular emphasis on the role of the teacher. Laboratory experiences are devoted primarily to observation of schools in the metropolitan area.

**FED 210-211 Supervised Activities for Auxiliary Personnel**

3-3 hours
A practicum experience for persons serving as teacher aides or educational technicians.
FED 225 **Tutoring Skills and Individual Involvement** 2 hours
A course dealing with the nature of the tutor and methods of involvement with individual children from inner city schools who have an intensive need for additional skills and reinforcement.

FED 300 **Special Studies** 1-3 hours
Conducted as short course, seminar, workshop, or special project.

FED 361 **Oral Communication for Teachers** 3 hours
The application of principles and techniques of speaking and listening to problems of communication with pupils and parents and to enhancement of productive communication growth in pupils. Also listed as Speech 361.

FED 418 **Mental Health in the School** (I, S) 3 hours
This course is a study of the principles and practices conducive to good mental health in the classroom. Major emphasis is given to the teacher's role in providing a learning environment that will foster desirable mental health. Common mental health problems are surveyed and the teacher's role in aiding the individual considered. Prereq: ED 205 or Psych. 281, and ED 351. Also offered for graduate credit.

FED 481 **Principles of Adult Education** (I) 3 hours
An introduction to the study of adult education as a major development in contemporary America. The course surveys the major forms and problems of adult education and the foremost agencies providing programs. Also offered for graduate credit.

FED 482 **Adult Group Leadership** (II) 3 hours
A study of adult groups in modern society and the characteristics of effective leadership in all types of groups. Also offered for graduate credit.

FED 486 **Audio-Visual Materials in Education** (I, II, S) 3 hours
A course designed to investigate methods of using, selecting, and caring for audio-visual materials and to demonstrate the addition of audio-visual aids in the library as part of its services as a communication center. Prereq Junior Standing and/or permission. Also offered for graduate credit.

FED 487 **Preparation of Instructional Materials** 3 hours
A basic course in the production of inexpensive audio-visual materials for the classroom. Graphic, photographic and auditory; and including such instructional materials as slides, transparencies, graphics, electronic tapes, and motion pictures. Also offered for graduate credit.

FED 488 **Administration of the Instructional Materials Center** (I, II, S) 3 hours
Designed for students who wish to prepare themselves for the administration of an educational media program within an elementary and/or secondary school. Also offered for graduate credit.
FED 498  **Special Studies**  1-3 hours
Scheduled as needed and conducted as a regular class, short course, seminar, workshop, or special project, according to purpose. Credit limited to 6 hours.

**COURSES THAT REQUIRE GRADUATE STANDING**

FED 500  **Special Studies**  (I, II, S) 3 hours
A series of intensive courses especially for teachers in service—scheduled as regular seminars, or workshops, according to purpose.

FED 501  **Introduction to Research**  (I, II, S) 3 hours
To acquaint the beginning graduate student with the nature and significance of research; to enable the student to read, evaluate and apply research results and techniques; to give some understanding of the meaning and spirit of research; to give some experience in studying and preparing research reports.

FED 502  **History and Philosophy of Education**  (I, II, S) 3 hours
A survey of the rise of educational practice as it has been interrelated with changes in social and educational philosophy, research, and economic, industrial and cultural conditions, especially in the United States.

FED 504  **Comparative Education**  (I, S) 3 hours
To acquaint students with education philosophies and programs in selected countries; to identify changes in programs of countries; to compare programs in education of other countries with the situation in the United States.

FED 505  **Seminar in Education**  (I, II, S) 3 hours
Research of problems in education which are of current significance (or of historical, philosophical or psychological backgrounds in education).

FED 506  **Education and Society**  (II) 3 hours
To provide an opportunity for teachers to develop an understanding of certain selected contemporary affairs which have an influence upon society.

FED 507  **Statistical Methods**  (III, S) 3 hours
This course was designed for first year graduate students in education who have not had a previous course in statistics or whose background is such that a refresher course is desired.

FED 508  **Topics in Audio-Visual Education**  (II, S) 3 hours
A study of selected topics involving principles, problems, trends and materials in audio-visual education.

FED 509  **The Urban School**  3 hours
An analysis of the societal and institutional processes and problems which have bearing upon the education of children in urban settings.
FED 510 **Research Project** 3 hours
Individual or group study and analysis of specific problems in schools. Typical problems may include surveys, school finances, transportation, school building construction, maintenance and operation, curriculum, pupil personnel.

FED 552 **Foundation of Business Education** (S) 3 hours
To identify and define business education and to study its past, present, and future role in the total education pattern of our country in today’s world.

FED 601, 602 **Thesis** 3 hours
Required of all students taking Master of Arts degree, see major advisor for information.

**ELEMENTARY EDUCATION**

PROFESSORS BETHEL (Chairman), ACKERMAN, ACKERSON; ASSOCIATE PROFESSORS BUNSEN, GRANDGENETT, HOWELL; ASSISTANT PROFESSORS GWARTNEY, WILCOX, WILSON; INSTRUCTORS ENQUIST, HOOVER, LANGAN, LICKTEIG

EED 209 **Health and Safety in the Elementary School** (I, II, S) 2 hours
This course is designed to help future elementary teachers understand and appreciate the elements, content, and purposes, characteristics and the teacher's role in an adequate school health program.

EED 420 **Literature for Children and Youth** (I, II, S) 3 hours
Selection, evaluation and guidance in various types of literature for elementary and junior high school levels with emphasis upon developing a broad acquaintance with authors and works, and including the development of a better understanding of the significance of literature in meeting children's needs and interests.

EED 425 **The Nature and Guidance of the Young Child** 3 hours
Study of the nature and guidance of the preschool-kindergarten child; designed for students specifically interested in teaching children in that age range.

EED 426 **Curriculum for Early Childhood Education** 3-5 hours
Designed for students who are preparing to teach the child from three to five years of age with particular emphasis on the appropriate curriculum.

EED 427 **Current Trends in Early Childhood Education** 3 hours
A survey of the problems involved in setting up and implementing a program for the child from birth to eight years of age. Recent trends will be investigated as they apply to the above activity.

EED 430 **Teaching of Reading** (I, II, S) 2-3 hours
This course is designed to assist students in understanding the process of developmental reading and to acquaint the teacher with the newest as well as the traditional tools for teaching reading.
EED 431 **Teaching of Language Arts** (I, II, S) 2-3 hours
A survey of the contents of the language arts areas in the elementary school and a study of the methods and techniques of teaching language arts.

EED 432 **Teaching of Social Studies Using Audio-Visual Aids** (I, II, S) 4 hours
A study of the content and methods of teaching social studies in the modern elementary school with emphasis on the development of knowledges, and resource materials.

EED 433 **Teaching of Mathematics** (I, II, S) 3 hours
A survey of the content of mathematics in the elementary school and a study of the methods and techniques of teaching modern mathematics. Prereq: Math 100.

EED 434 **Teaching of Science** (I, II, S) 2-3 hours
A survey of the contents of science in the elementary school and a study of the methods and techniques of teaching science.

EED 435 **Beginning Student Teaching and Seminar** (I, II) 5 hours
Guided experience in public school teaching at the elementary level. Needs and readiness of the student teacher determine the proportion of the time devoted to observation, participation, and actual teaching. One seminar per week is given to study and discussion of the teaching experience.

EED 436 **Advanced Student Teaching and Seminar** (I, II) 5 hours (436) 437 (I, II) 3 hours (437)
A second semester of guided experiences in public school at the elementary level with increased proportion of time spent in actual teaching, the amount depending upon the readiness of the student as determined by the cooperating teacher and the University supervisor. One seminar per week is given to study and discussion of the teaching experience.

EED 440 **In-Service Supervised Teaching** (I, II) 3 hours
This course is designed for selected experienced teachers. Supervised experiences are provided in the teacher's public school classroom, and weekly seminar sessions are held on campus. Prereq: Written permission of department head.

EED 468 **Elementary School Curriculum** 3 hours
A study of the foundations, organization, content and evaluation of the curriculum of the elementary school designed for prospective teachers who plan to work in the elementary school in such areas as library science, early childhood education, music, physical education, art, and special education.

**COURSES THAT REQUIRE GRADUATE STANDING**

EED 519 **Diagnostic and Remedial Instruction** 3 hours
A study of methods of diagnosing children's difficulties in all subject areas of the educational program of the elementary school and remedial techniques for overcoming such problems.
EED 520 **Improvement of Instruction in Elementary Science** 3 hours
This course is designed for graduate students in education who wish to become better informed about the recently developed programs for elementary science; the methods, materials, philosophy, and emphasis in instruction, which are characteristic of these programs.

EED 521 **Improvement of Instruction in Elementary Mathematics** 3 hours
An examination of the philosophy, content, methods, and materials of modern mathematics programs for the elementary school. The needs and backgrounds of the students enrolled during the semester are given special consideration.

EED 540 **Innovations and Trends in Elementary Education** 3 hours
Designed as an advanced study for the purpose of exploring current trends and developments within the various subject matter areas of the elementary school.

EED 543 **Introduction to Curriculum Planning** 3 hours
A study of the history, philosophy and current developments in the elementary curriculum with an emphasis on appropriate content and methods of curriculum reorganization.

EED 544 **Seminar in Elementary Education** 3 hours
A study of educational problems as they relate to the elementary school, to be taken in the last nine hours in the program for the Master of Science degree.

EED 545 **Seminar in Supervision of Student Teachers** 3 hours
Designed for experienced teachers who are or may be serving as cooperating teachers, and who desire to study student teaching, its aims, procedures, objectives, trends, and developments. Prereq: Two years teaching experience.

**SECONDARY EDUCATION**

PROFESSORS ZIEBARTH, (Chairman), ACKERSON, GLIDDEN, HOLLEY;
ASSOCIATE PROFESSORS BRESSLER, BUNSEN, GRANDGENETT, SADLER
ASSISTANT PROFESSORS BRILHART, CLAUSSEN, KING, RAY, TRENHOLM, WATCHORN;
INSTRUCTOR DAYTON

SED 300 **Special Projects** 1-3 hours
Conducted as short course, seminar, workshop, or special project.

SED 351 **Teaching in Secondary Schools—Senior High School** (I, II, S) 3 hours
An orientation to the high school, giving attention to goals, curriculum, teaching procedures, professional associations and to the social setting of the secondary school.
SED 361 Teaching in Secondary Schools—Junior High School (I, II, S) 3 hours
A study of the junior high school program to acquaint students with its history and function, the content, methods, techniques, and materials in each of the subject matter areas with which the student is concerned.

SED 401 Special Methods in Teaching Business (I) 3 hours
The content, methods, techniques, and materials in each subject matter area taught in high school business departments.

SED 402 Special Methods in Teaching Foreign Languages (I) 3 hours
Designed to help the student acquire the understandings, skills and attitudes necessary for successful language teaching brought about by the constant changes in methodology and programming of modern languages.

SED 403 Special Methods in Teaching Home Economics (I) 3 hours
The content, methods, techniques and materials in each subject matter unit on the secondary level.

SED 404 Special Methods in Teaching English 3 hours
A study of the content, skills, materials, methods, and recent research in English at the junior and senior high school level.

SED 405 Special Methods in Teaching Mathematics (I) 3 hours
Designed to provide the potential mathematics teacher with those skills, concepts, understandings, and techniques which will enable him to combine his knowledge of mathematics with his understanding of how children grow, develop, and learn in such a manner that combined with classroom experience, he will become an effective teacher.

SED 406 Special Methods in Teaching Science (I, II) 3 hours
Designed for students in education who plan to become junior and senior high school science teachers. A study is made of methods and materials, classroom and laboratory management, and evaluation. Emphasis is given to the philosophy and content of recently developed courses.

SED 407 Special Methods in Teaching the Social Studies (I, II) 3 hours
Designed to prepare teachers in any one of the social studies subjects at the junior or senior high level. Emphasis is placed on the study of content selection, skill development, methods, materials, and evaluative procedures. Study of new social studies programs and professional literature is also included.

SED 408 Special Methods in Teaching Speech (I) 3 hours
Philosophy, methods, and resources for the teaching of speech and directing of speech activities in the secondary school.

SED 409 Special Methods in Teaching Core Program (II) 3 hours
Designed for students who plan to teach in junior or senior high school core classroom.
SED 410 Special Methods in School Health Education 3 hours
Provides an opportunity to study, develop, and use materials and equipment in the teaching of health at the secondary level. Various methods of teaching health are evaluated. Students gain experience in unit construction, film evaluation, and test construction.

SED 457 Beginning Student Teaching in the Secondary School (I, II) 4-5 hours
Actual field experience in the metropolitan area schools under supervision of a university supervisor and classroom teacher. Course extends through an entire semester of teaching, one to two hours daily, in the student's major or minor teaching fields. Time arranged.

SED 458 Advanced Student Teaching in the Secondary School (I, II) 4-5 hours
Continuation of field experience in the metropolitan area schools. Course extends through an entire semester, one to two hours daily, in the student's major or minor field. Time arranged.

SED 460 K-12 Student Teaching: Elementary Level (I, II) 5 hours
SED 460 is designed for those students seeking certification in art, music, physical education, and library science in the K-12 preparatory program. The course provides the student teaching or laboratory experience in this program at the elementary school level.

SED 461 K-12 Student Teaching: Secondary Level (I, II) 4-5 hours
SED 461 is designed for those students seeking certification in art, music, physical education, and library science in the K-12 preparatory program. The course provides the student teaching or laboratory experience in this program at the secondary school level.

SED 480 Principles of Vocational Education 3 hours
A study of the basic philosophy underlying vocational education and the principles and practices in the various fields. Also offered for graduate credit.

SED 485 Coordination Techniques in Vocational Education 3 hours
Reviews responsibilities and techniques of coordination for the vocational teacher-coordinator and/or vocational coordinator, with special emphasis upon local administration of the part-time cooperative program and analysis of the laws and regulations governing this program. Also offered for graduate credit.

SED 498 Special Projects 1-3 hours
Scheduled as needed and conducted as a regular class, short course, seminar, workshop, or special project, according to purpose.
COURSES THAT REQUIRE GRADUATE STANDING

SED 500 **Special Projects** (I, II, S) 3 hours
A series of intensive courses especially for teachers in service—scheduled as regular seminars, or workshops, according to purpose.

SED 510 **Research Project**
Individual or group study and analysis of specific problems in schools. Typical problems may include surveys, school finances, transportation, school building construction, maintenance and operation, curriculum, pupil personnel.

SED 530 **The Emerging School Curriculum** (II, S) 3 hours
Designed for teachers, coordinators, supervisors, and administrators. Principles, purposes, organization, and curricula of today's schools with a major emphasis upon current curricula issues, materials, and trends.

SED 533 **Trends and Innovations in Secondary Education** (I, II) 3 hours
Emphasis is placed upon the factors bearing upon the development of a qualitative learning environment in the secondary school and the evaluation of current trends in the secondary school. Modular scheduling, team teaching, educational television, and interaction analysis are indicative of the topics presented.

SED 534 **Co-operating Teachers Seminar** (I, II) 3 hours
Selected co-operating teachers from the public schools study with the University Director of Secondary Student Teaching the problems involved in making the practical experience of student teaching as valuable as possible, evaluate present practices, develop a better understanding of the philosophy of the University regarding student teaching and make definite plans for improvement of the program.

The following courses are concerned with the secondary school in light of the nature and needs of the adolescent child and in relation to the goals of education, with implications for teachers, counselors and administrators. Emphasis will be placed on instructional procedure, curriculum, and classroom management 3 hours each

SED 535 **Improvement of Instruction of Secondary School Speech**
SED 537 **Improvement of Instruction of Secondary School Foreign Language**
SED 540 **Improvement of Instruction of Secondary School English**
SED 545 **Improvement of Instruction of Secondary School Social Studies**
SED 550 **Improvement of Instruction of Secondary School Mathematics**
SED 555 **Improvement of Instruction of Secondary School Science**
SED 556 **Improvement of Instruction of Secondary School BSCS Biology** (yellow)
SED 557 Improvement of Instruction of Secondary School BSCS Biology (green)

SED 559 Improvement of Instruction of Secondary School PSSC Physics

SED 560-570 Improvement of Instruction of Science, Harvard Project Physics

SED 561-571 Improvement of Instruction of Science, Interaction of Matter and Energy

SED 562-572 Improvement of Instruction of Science, Earth Science Curriculum Project

SED 563-573 Improvement of Instruction of Science, Introductory Physical Science

SED 564-574 Improvement of Instruction of Science, Engineering Concepts Curriculum Project

SED 565 Science Education Seminar
A graduate seminar in K-12 science education emphasizing research, newly developed science curricula, curriculum planning, and science supervision.

SED 575 Improvement of Instruction of Secondary School Business Education

SED 576 Problems of Vocational Business Education (S) 3 hours
Designed for teachers of business education to develop a better understanding of the purposes, philosophy, current practices and trends in business education.

SED 577 Vocational Curriculum Construction 3 hours
Designed for teachers, supervisors, coordinators, and administrators of vocational education: Includes principles, needs, factors, and trends that should be considered in developing a vocational education curriculum.

SED 600 & 601 Thesis (I, II, S) 3 hours
Required of all students taking Master of Arts degree, see major advisor for information.

COURSE REQUIREMENTS FOR BUSINESS EDUCATION MAJORS

PROFESSOR HOLLEY (Chairman);
ASSOCIATE PROFESSOR RAUCH;
INSTRUCTOR PIBAL

The Department of Business Education offers the following programs:

1. A degree with a vocational business education major
2. A teaching field in general business
3. A BS Degree with a major in secretarial science
   (The BS Degree with a major in secretarial science is a non-teaching degree for secretarial students who wish to qualify for an executive secretary or an administrative assistant.)
4. A two-year program in secretarial science.
VOCATIONAL BUSINESS EDUCATION TEACHER REQUIREMENTS

Business education majors must take a minimum of 45 hours in the major field distributed as follows:

**20 semester hours or equivalency from the following courses:**

- VBED 108—Office Machines
- VBED 110—Record Management
- VBED 111—Elementary Shorthand
- VBED 117—Elementary Typewriting
- VBED 118—Intermediate Typewriting

**20 semester hours from the following business administration courses:**

- Acct. 101—Elementary Accounting
- Acct. 102—Elementary Accounting
- Mkt. 331—Marketing
- Mgt. 351—Personnel Organization and Management
- BA 128—Introduction to Business
- BA 319—Communications and Report Writing
- BA 320—Communications and Report Writing
- BA 323—Business Law I
- BA 324—Business Law II
- BA 325—Corporation Finance
- BA 344—Real Estate Principles and Practices

*Occupational Experience*

Two full years of full-time employment or the equivalent of two years in part-time employment in an office occupation are required in the vocational program. Students enrolled in VBED 353, Cooperative Work Experience, (1-4 hours credit) receive work-experience credit equal to twice the number of hours they are employed during the semester.

Minimum course requirements for a teaching field in Business Administration:

**Lower division requirements:**
- BA 128, Acct. 101, 102, Econ. 101, 102, VBED 118 or 229.

**Upper division requirements:**
- On approval of adviser, student will select 18 hours of upper division courses in business administration.

A BS DEGREE WITH A MAJOR IN SECRETARIAL SCIENCE

Requirements for this degree include:

Secretarial courses or equivalency as follows:

- VBED 108—Office Machines
- VBED 110—Record Management
- VBED 111—Elementary Shorthand
- VBED 117—Elementary Typewriting
- VBED 118—Intermediate Typewriting

Business administration courses:

- BA 128—Introduction to Business
- Acct. 101—Elementary Accounting
- Acct. 102—Elementary Accounting

On approval of advisor, student will select 15 to 18 hours from upper division courses in business administration.

*Occupational Experience
TWO-YEAR PROGRAM IN SECRETARIAL SCIENCE

PROFESSOR HOLLEY (Chairman);
ASSOCIATE PROFESSOR RAUCH;
INSTRUCTOR PIBAL

Students who wish to prepare for work in an office should register in the Two-Year Program in Secretarial Science. This program is sufficiently flexible to enable students to continue work toward a degree in Vocational Business Education.

General Requirements

Students must present a minimum of 64 credit hours with an average grade of “C” (two quality points) or above.

Minimum course requirements for the two year program in Secretarial Science:

- Typewriting ........................................ 9 semester hours or equivalent
- Shorthand ........................................... 9 semester hours or equivalent
- Secretarial Practices ......................... 3 semester hours
- Office Machines ................................. 3 semester hours
- Record Management ......................... 1 semester hour
- Introduction to Business ................. 3 semester hours
- Accounting ........................................ 3 semester hours
- Business Communications and ......... 4 semester hours
- Reports .................................. ........................................
- Economics ........................................ 6 semester hours
- Freshman English (111, 112) ............ 6 semester hours
- Speech ........................................... 3 semester hours
- Psychology ......................................... 3 semester hours
- Humanities, Social Sciences or ......... 6 semester hours
- Natural Sciences ................................. ...................................
- Physical Education ......................... 4 semester hours

SECRETARIAL SCIENCE AND VOCATIONAL BUSINESS EDUCATION

PROFESSOR HOLLEY (Chairman);
ASSOCIATE PROFESSOR RAUCH;
INSTRUCTOR PIBAL

VBED 108 Office Machines .......................... (I, II) 3 hours
Basic operations of calculators, adding and voice-writing machines, duplicators. Prereq: One year of typewriting or proficiency.

VBED 110 Record Management .................. (II) 1 hour
Filing systems, record management and control. Prereq: None.

VBED 111 Elementary Shorthand ................... (1, S) 3 hours
Basic principles, vocabulary, beginning dictation for students with no previous training. Prereq: None.

VBED 117 Elementary Typewriting ............... (I, II, S) 3 hours
Keyboard mastery; building speed and accuracy; application to typewriting problems. Prereq: None.
VBED 118 **Intermediate Typewriting** (I, II) 3 hours
Improvement of speed and accuracy; arrangement of business letters, tabulation, and manuscripts; production typewriting. Prereq: Sec. 117, one year of high school typewriting, or instructor’s permission.

VBED 212 **Intermediate Shorthand** (II) 3 hours
Continue basic principles and vocabulary; new matter dictation and transcription. Prereq: Sec. 111 or one year high school shorthand, typewriting proficiency.

VBED 229 **Advanced Typewriting** (II) 3 hours
Specialized typewriting problems to develop high-level competency. Prereq: Sec. 118 or two years of high school typewriting.

VBED 229 **Advanced Shorthand** (I) 3 hours
High speed writing from dictation; techniques of handling office dictation. Prereq: Sec. 112 or two years of high school shorthand, Sec. 118 or one year of high school typewriting.

VBED 335 **Advanced Shorthand** (II) 3 hours
Practical secretarial problems including business etiquette, handling mail, banking procedures, transportation, office forms and supplies, and office reference books. Prereq: Sec. 229 and 335.

VBED 353 **Cooperative Work Experience in Business Education 1-4** (I) 3 hours
Coordinates and relates basic skills, backgrounds, technical knowledge and related occupational information through practical application of classroom theories. Prereq: Sophomore Standing and employment in an office occupation.

**LIBRARY SCIENCE**

**Educational Media Program**

ASSISTANT PROFESSORS HASELWOOD, (Chairman), KUCER, HOWELL;
ASSOCIATE PROFESSORS PULLEN, MEANS, McCaulley;
INSTRUCTORS CORKILL, KILLERLAIN, KUHAGEN, LU, McKERNAN, PLAYFOOT, LICKTEIG

The Department of Library Science provides through its Educational Media Program undergraduate training for students interested in becoming school librarians and/or media specialists. Those planning to work in elementary and/or secondary schools must meet requirements for teacher certification. The following programs are offered: (a) a departmental major in elementary education, 24 hours, (b) a teaching field at the secondary level, 24 hours, (c) a K-12 teaching field, 30 hours, and (d) a B.S. Degree with a major in library science (a non-teaching degree), 30 hours.

LS 371 **Introduction to Reference Work** (I, S) 3 hours
A basic course in the most commonly used language dictionaries, encyclopedias, indexes, catalogs, bibliographies, and biographical dictionaries. Bibliographical form is also emphasized. Prereq: Junior Standing.
LS 372 Reference and Bibliography (II) 3 hours

LS 374 Cataloging and Classification I (I, S) 3 hours
Elementary cataloging and classification. Designed to give basic understanding of descriptive and subject cataloging and the role played by a catalog in the total library program. Laboratory work with the basic cataloging tools. Prereq: Junior Standing.

LS 375 Cataloging and Classification II (II, S) 3 hours
An advanced course in cataloging and classification including analytics, series, serials, government publications, and non-print materials. Laboratory work with the basic cataloging tools. Prereq: LS 374.

LS 376 Selection of Materials for the Adolescent (I,II,S) 3 hours
Selection of learning resources to satisfy the interests and needs of the junior and senior high student; principles, evaluation, and aids. Prereq: Junior Standing. Ed. 205 or Psych. 351.

LS 410 Special Methods in Teaching Library-Media Skills (I) 2 hours
Designed to provide the potential school librarian media specialist with a knowledge which will enhance his effectiveness in teaching skills needed by elementary and/or secondary students. Prereq: 12 hours of Library Science and/or permission.

LS 420 Literature for Children and Youth (I, II, S) 3 hours
Selection, evaluation and guidance in various types of literature for elementary and junior high school levels with emphasis upon developing a broad acquaintance with authors and works, and including the development of a better understanding of the significance of literature in meeting children's needs and interests. Prereq: Ed. 205 or Psych. 351, or permission.

LS 457 Practice Work in the Library (I, II) 3 hours
Observation and participation in a library situation with experience in both public and technical services. Prereq: Completion of 12 hours in library science and permission.

LS 486 Audio-Visual Materials in Education (I, II, S) 3 hours
A course designed to investigate methods of using, selecting, and caring for audio-visual materials and to demonstrate the addition of audio-visual aids in the library as a part of its services as a communication center. Prereq: Junior Standing and/or permission.

LS 487 Preparation of Instructional Materials (I, II, S) 3 hours
A basic course in the production of inexpensive instructional materials for the classroom. Graphic, photographic, and auditory materials are considered, including such instructional materials as slides, transparencies, graphics, electronic tapes, and motion pictures. Prereq: LS 486.
LS 488 Administration of the Instructional Materials Center  
(I, II, S) 3 hours

This course is designed for students who wish to prepare themselves for the administration of an educational-media program within an elementary and/or secondary school. Prereq: 12 hours LS or permission.

LS 499 Special Problems  
(I, II) 3 hours

Designed for the mature student in Library Science, particularly for students who have had some library experience. It affords an opportunity for a librarian or teacher librarian to carry out an experimental study based upon his needs, interests, and opportunities. Prereq: 12 hours LS and permission.

HOME ECONOMICS

PROFESSOR KILLIAN (Chairman)  
ASSOCIATE PROFESSOR HALL  
ASSISTANT PROFESSOR RAY;  
INSTRUCTORS JOHNSON, ARMSTRONG, GOODRICH, HEDELUND, SEITCHICK, SWARTZBAUGH

Students must meet the general requirements of the College of Education in regard to making a satisfactory score on the School and College Ability Test or with a minimum of 2.0 cumulative grade point in college.

Students must have completed 125 credit hours for the degree, Bachelor of Science with a major in any of the areas of Home Economics.

Thirty of the last thirty-six hours earned toward a degree must be in residence at the University.

Students must meet the general education requirements of the College of Education including English, Humanities, Natural Science, and Mathematics, Social Science and Physical Education.

Students must also complete nine hours of Professional Education credit. Students earning certification in Home Economics must complete the following major or minor teaching fields:

Major Field Requirements in Home Economics

**Home Economics Education**

101 Elementary Nutrition and Food Preparation 3 hours
102 Advanced Food Preparation 3 hours
103 Clothing Construction 3 hours
104 Clothing Construction 3 hours
or
303 Advanced Clothing 3 hours
or
304 Tailoring 3 hours
201 Meal Planning and Table Service 3 hours
202 Textiles 3 hours
204 Home Management 3 hours
205 Costume Design 3 hours
214 Household Equipment 3 hours
215 Consumer Education & Family Economics 3 hours
301 Advanced Nutrition and Dietetics 3 hours
306 Interior Decoration 3 hours
309 Demonstration Techniques or Intro to Radio & TV by Permission 3 hours
310 Experimental Cookery 3 hours

Minor Field Requirements in Home Economics
101 Elementary Nutrition and Food Preparation 3 hours
102 Advanced Food Preparation 3 hours
103 Clothing Construction 3 hours
104 Clothing Construction or
303 Advanced Clothing 3 hours
or
304 Tailoring 3 hours
201 Meal Planning and Table Service 3 hours
204 Home Management 3 hours
214 Household Equipment 3 hours
301 Advanced Nutrition and Dietetics 3 hours
306 Interior Design 3 hours

Students completing a minor teaching field in Home Economics should take Marriage and the Family as one of the social science requirements.

Dietetics (Foods and Nutrition)
101 Elementary Nutrition and Food Preparation 3 hours
102 Advanced Food Preparation 3 hours
201 Meal Planning and Table Service 3 hours
301 Advanced Nutrition and Dietetics 3 hours
302 Diet in Disease 3 hours
307 Quantity Cookery 3 hours
308 Institutional Management 3 hours
310 Experimental Cookery 3 hours
311 Institutional Equipment 3 hours

Related Area Requirements as Specified by the American Dietetic Association for Internships and Membership:

Human Physiology and Anatomy
Bacteriology or Microbiology
Inorganic and Organic Chemistry (101 and 102)
Biochemistry
Personnel Management or Industrial Psychology
Principles of Learning or Educational Psychology

Highly Recommended:

Anthropology
Economics
Accounting

Interior Design
202 Textiles 3 hours
203 Non-Textiles 3 hours
204 Home Management 3 hours
211 Upholstery 3 hours
212 Furniture Repair and Refinishing 3 hours
213 Home Planning 3 hours
306 Interior Design 3 hours
401 Textile Design I 3 hours
402 Textile Design II 3 hours
406 Advanced Interior Design 3 hours
407 Special Problems in Interior Design 1 hour
408 2 hours
409 1 hour
410 2 hours

Related Area Requirements
Students Majoring in Interior Design Should Complete a Minimum of Nine Hours in Graphic Arts and 9-12 hours in Art History.

General Home Economics

Preparation for Careers in Business and Homemaking:

101 Elementary Nutrition and Food Preparation 3 hours
102 Advanced Food Preparation 3 hours
103 Clothing Construction 3 hours
104 Clothing Construction 3 hours
or
303 Advanced Clothing 3 hours
or
304 Tailoring 3 hours
201 Meal Planning and Table Service 3 hours
202 Textiles 3 hours
204 Home Management 3 hours
205 Costume Design 3 hours
214 Household Equipment 3 hours
215 Consumer Education and Family Economics 3 hours
301 Advanced Nutrition and Dietetics 3 hours
305 Child Care and Development 3 hours
306 Interior Decoration 3 hours
309 Demonstration Techniques or Intro to Radio or TV by Permission 3 hours
310 Experimental Foods 3 hours

Suggested Related Courses:

Introduction to Radio and Television
Economics
Accounting
Typewriting

Natural Science requires for all Home Economics Majors should be satisfied by taking inorganic and organic Chemistry (101 and 102), Physiology and Anatomy and Microbiology.
### Course Listings

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEC 101</td>
<td>Elementary Nutrition and Food Preparation</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Basic principles of nutrition, food principles with emphasis on food quality and characteristics.</td>
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</tr>
<tr>
<td>HEC 102</td>
<td>Advanced Food Preparation</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Advanced food preparation techniques and gourmet cookery. Prereq: 101 or permission.</td>
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</tr>
<tr>
<td>HEC 103</td>
<td>Clothing Construction</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Fundamental processes of garment construction and selection of clothing suited to the individual.</td>
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</tr>
<tr>
<td>HEC 104</td>
<td>Clothing Construction</td>
<td>3 hours</td>
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<tr>
<td></td>
<td>The socio-economic approach to the study of clothing and textiles and advanced construction techniques. Prereq: 103 or permission.</td>
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<tr>
<td>HEC 201</td>
<td>Meal Planning and Service</td>
<td>(I) 3 hours</td>
</tr>
<tr>
<td></td>
<td>The planning, purchasing, preparation and service of all types of meals. Prereq: 102 or permission.</td>
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</tr>
<tr>
<td>HEC 202</td>
<td>Textiles</td>
<td>(I) 3 hours</td>
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<tr>
<td></td>
<td>Consumer information about the manufacture, properties, and selection of textile fibers.</td>
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<tr>
<td>HEC 203</td>
<td>Non-Textiles or Merchandise Information</td>
<td>(II) 3 hours</td>
</tr>
<tr>
<td></td>
<td>Consumer information about synthetic fabrics and non-textiles merchandise; plastics, furs, leather goods and jewelry.</td>
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</tr>
<tr>
<td>HEC 204</td>
<td>Home Management</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Efficient use of resources for the achievement of family goals. Budgeting, consumer information, installment purchasing.</td>
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</tr>
<tr>
<td>HEC 205</td>
<td>Costume Design</td>
<td>(II) 3 hours</td>
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<tr>
<td></td>
<td>Historical sources of dress; creative design.</td>
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<tr>
<td>HEC 209</td>
<td>Personality and Style</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Assessment of individual potential and values. Good grooming, good taste, good manners.</td>
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</tr>
<tr>
<td>HEC 211</td>
<td>Upholstering</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Styling, conditioning and covering of furniture.</td>
<td></td>
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<tr>
<td>HEC 212</td>
<td>Furniture Repair and Refinishing</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Reconstruction, stripping and finishing of furniture.</td>
<td></td>
</tr>
<tr>
<td>HEC 213</td>
<td>Home Planning</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Planning space for area of the home for beauty and efficiency. Interpreting and constructing floor plans.</td>
<td></td>
</tr>
<tr>
<td>HEC 214</td>
<td>Household Equipment</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Working principles of small and large appliances for the home in terms of mechanics, application of heat and other consumer information. Performance testing and field trips.</td>
<td></td>
</tr>
</tbody>
</table>
HEC 215 Consumer Education and Family Economics 3 hours
Agencies, Controls, aids toward intelligent buying; types of
protective legislation for the consumer.

HEC 300 Special Problems 3 hours
Conducted as short course, seminar, workshop or special project.

HEC 301 Advanced Nutrition and Dietetics (I) 3 hours
Comprehensive study of human nutrition.

HEC 302 Diet in Disease (II) 3 hours
Nutrition as related to therapeutic practices.

HEC 303 Advanced Clothing 3 hours
Construction of a foundation pattern and flat pattern designing.
Prereq: 104.

HEC 304 Tailoring 3 hours
Application of tailoring techniques in the making of suits and
coats. Prereq: 103 or 104.

HEC 305 Child Care and Development 3 hours
How children grow and develop physically, mentally and emo­
tionally. Includes their care and feeding.

HEC 306 Interior Design 3 hours
Application of basic principles and elements of art in the selec­
tion and arrangement of the furnishings for the home.

HEC 307 Quantity Cookery (S) 3 hours
Quantity food production including food service experience in
the University Food Service Department.

HEC 308 Institutional Management (S) 3 hours
Problems in organization and management of food service in an
institution. Prereq: 102 and 201 or permission.

HEC 309 Demonstration Techniques 3 hours
Techniques of presenting Home Economics materials visually
and audibly to a selected group of people. Prereq: Junior
Standing.

HEC 310 Experimental Cookery 3 hours
The chemical and physical basis of food preparation and tech­

HEC 311 Institutional Equipment 3 hours
Evaluation of equipment for institutional use. Field trips to
wholesale centers, hospitals, and restaurants.

401 Textile Design I 3 hours
The recognition and techniques of applying each of the graphic
forms to textiles representing the various art periods.

402 Textile Design II 3 hours
Creative skills in stencil and silk screening techniques.

HEC 404 Advanced Tailoring 3 hours
Couturier techniques in custom tailoring.

HEC 406 Advanced Interior Design 3 hours
Comprehensive study of the history of furniture styles and
interiors with practical laboratory application.
Special Problems of Interior Design 1 hour
Preparation of a portfolio of room design and a file of credentials. Prereq: Jr/Sr; 12 hrs Interior Design including HEc 306 & 406.

Special Problems in Interior Design 2 hours
Apprenticeship in Interior Design in Local A.I.D. Studio or

Special Problems in Interior Design 1 hour
Field trip to Chicago Merchandise Mart, Museum and supply sources. Prereq: Jr/Sr; with a minimum of 12 hrs Interior Design including HEc 306 & 406.

Special Problems in Interior Design 2 hours
Independent research in specific areas of Interior Design under supervision of a faculty member. Prereq: Jr/Sr; 9 hrs Interior Design including HEc 306 & 406 and six to nine hours of History of Art.

Advanced Food Production Management 3 hours
Techniques and procedures to assist the professional student, practicing dietitian or food service manager to better understand and appreciate the principles of efficient management.

HEALTH, PHYSICAL EDUCATION AND RECREATION

MEN'S FACULTY
ASSISTANT PROFESSOR WATCHORN (Chairman);
ASSOCIATE PROFESSORS GORR, YELKIN;
ASSISTANT PROFESSORS BENNING, BORSHEIM, CANIGLIA, CARDWELL, FLYNN, HOFFMAN, KURTH, WAGNER;
INSTRUCTOR MEYERS

WOMEN'S FACULTY
ASSISTANT PROFESSORS CLAUSSEN (Chairman),
GREEN, LUNDAHL;
INSTRUCTOR WISE

MEN'S PHYSICAL EDUCATION PROGRAM

Physical Education Majors (7-12)
Physical Education majors may not take less than 35 hours or more than 40 hours in physical education courses. Eighteen hours must be in the upper division. Majors must complete specific courses as follows: PE 143, 250, 251, 303, 335, 363, 422, 493; RED 322 or 324; Nat Sci. 101, 102; Biol. 275. The major must complete satisfactorily at least two coaching theory courses. He must qualify in one additional teaching field. A student majoring in physical education must have a health rating of A.

Health and Physical Education (K-12)
Majors must complete the following courses: PE 143, 250, 251, 303, 315, 321, 335, 348, 363, 422, 493; HED 231, 306; RED 322 or 324; and two elective coaching theory courses.
WOMEN'S PHYSICAL EDUCATION PROGRAM

Physical Education Majors (Sec. program 7-12)

The following courses are required of all women majors: four hours of 111 or 112 (one of which must be gymnastics), PE 143, 201, 202, 214, 223, 224, 228, 230, 303 or 304, 312, 315, 321, 335, 349, 350, 363, 422, and 493. Biology 275 is a prerequisite for PE 315 and 363. One must also qualify in one additional teaching field. PE 349, 350, and a course in Water Safety Instruction (W.S.I.) is required before student teaching. Since physical education emphasizes the importance of physical fitness, a student who is overweight will not be allowed to student teach. The student must also have a health rating of A.

Physical Education Majors (Elem. and Sec. Program K-12)

Majors must complete all of the above courses plus: HED 231 and 306, and RED 322 or 324. PE 335, 349, 350, and a course in Water Safety Instruction (W.S.I.) is required before student teaching. Since physical education emphasizes the importance of physical fitness, a student who is overweight will not be allowed to student teach. The student must also have a health rating of A.

SUGGESTED FOUR YEAR SCHEDULE

PHYSICAL EDUCATION FOR WOMEN

K-12 and 7-12 programs

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Humanities</strong> ........................................... 5</td>
<td><strong>Humanities</strong> ........................................... 5</td>
</tr>
<tr>
<td>P.E. 143 Intro. to Health, .................................. 3</td>
<td>English 112 ........................................... 3</td>
</tr>
<tr>
<td>P.E., Rec. .................................................. 3</td>
<td><strong>Sociology</strong> ........................................ 3</td>
</tr>
<tr>
<td>English 111 ............................................... 3</td>
<td><strong>Psychology</strong> ........................................ 3</td>
</tr>
<tr>
<td><strong>Sociology</strong> ............................................. 3</td>
<td>P.E. 224 Inter. Modern Dance ................................ 1</td>
</tr>
<tr>
<td>P.E. 223 Beg. Modern Dance .................................. 1</td>
<td>P.E. 112 ............................................... 1</td>
</tr>
<tr>
<td>P.E. 111 .................................................. 1</td>
<td><strong>Science (not in biology)</strong> ................................ 3</td>
</tr>
<tr>
<td>FED 100 Freshman Orientation .................................. 0</td>
<td>P.E. 111 Beg. Gymnastics .................................... 1</td>
</tr>
<tr>
<td></td>
<td><strong>HED. 221 Personal &amp; Community Health</strong> ................. 3</td>
</tr>
<tr>
<td></td>
<td><strong>Bio. 275 Physiology and Anatomy</strong> ......................... 5</td>
</tr>
<tr>
<td></td>
<td>Preq: Biology 102 ........................................ 5</td>
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<tr>
<td></td>
<td>Ed. 207 Human Growth and Dev. ................................ 3</td>
</tr>
<tr>
<td></td>
<td>Ed Psy. 351 ................................................ 3</td>
</tr>
<tr>
<td></td>
<td>P.E. 202 Sports Officiating II ................................ 1</td>
</tr>
<tr>
<td></td>
<td>P.E. 223 Folk and Square Dance ................................ 1</td>
</tr>
<tr>
<td></td>
<td>P.E. 230 Inter. Gymnastics ..................................&lt;.. 1</td>
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</table>

**Not required for 7-12 program, but another teaching field is required.

**Suggested courses to fulfill General Education requirements. See Catalog under Education requirements.
THIRD YEAR

16 P.E. 315 Adapted P.E. 
Prereq: Bio. 275 .......................... 3

P.E. 349 Teaching P.E. Activities 
Prereq: 4 hrs 111 or 112 with one 
in gymnastics ............................ 3

P.E. 321 Teaching Rhythmic Activities—Prereq: P.E. 228 ........... 3

P.E. 304 First Aid or P.E. 303 Care 
and Prevention of Athletic 
Injuries ................................... 3

P.E. 335 P.E. in Elem. School ........ 3

275 ........................................ 3

P.E. 312 Teaching Dance—Prereq: 
P.E. 223 & 224 ............................ 3

P.E. 350 Teaching P.E. Activities— 
Prereq: Same as for P.E. 349 .... 3

Ed. 331 Secondary Education or 
Ed. 361—Prereq: Ed. 207 & 208... 3

*HED 306 School Health Program— 
Prereq HED. 231 ........................ 3

15

FOURTH YEAR

Student Teaching ................ 3-5

*Ed. 468 Curriculum for Elem. 
School ................................... 3

*RED 322 or 324 ..................... 3

Student Teaching ................ 3-5

P.E. 422 Organization and Admin- 
istration of P.E. & Intramurals .... 3

P.E. 493 Measurement and Evalua- 
tion in P.E. ............................ 3

9-11

All of the above P.E. courses are required. This leaves 10 hours of 
electives needed for a total of 125 credits.

MINOR FIELD REQUIREMENTS IN 
WOMEN'S PHYSICAL EDUCATION

P.E. 143 Intro. to Health, P.E. and Recreation ................. 3

P.E. 201 Sports Officiating I .................................. 1

P.E. 202 Sports Officiating II ................................ 1

P.E. 223 Beginning Modern Dance ............................. 1

P.E. 224 Intermediate Modern Dance Prereq: P.E. 223 ........ 1

P.E. 228 Folk and Square Dance ................................ 1

P.E. 230 Intermediate Gymnastics Prereq: Beg. Gymnastics .... 1

P.E. 304 First Aid ............................................. 3

P.E. 312 Teaching Dance (Modern and Ballroom) 
Prereq: 223 and 224 ........................................ 3

P.E. 321 Teaching Rhythmic Activities Prereq:228 ............. 3

P.E. 335 Elementary Physical Education ......................... 3

P.E. 349 Teaching Physical Education Activities Prereq: 4 hours 
111 or 112, one of which must be gymnastics and junior 
standing ........................................... 3

P.E. 350 Teaching Physical Education Activities II Prereq: 
same as 349 ........................................... 3

P.E. 422 Organization and Admin. of P.E. and Intramurals .... 3

Overweight students will not be allowed to student teach. If in 
elementary education, you do not need 201, 202, or a W.S.I. Must have P.E. 
349 and 350 and a W.S.I. (Water Safety Instructor) before student 
teaching.

* Not required for 7-12 program, but another teaching field is required.

** Suggested courses to fulfill General Education requirements. See Catalog under 
Education requirements.
Health and Physical Education Majors (K-12)

Majors must complete all of the above courses plus: HED 231 and 306, and RED 322 or 324. PE 349, 350, and a course in Water Safety Instruction (W.S.I.) is required before student teaching. Since physical education emphasizes the importance of physical fitness, a student who is overweight will not be allowed to student teach. The student must also have a health rating of A.

PHYSICAL EDUCATION COURSES FOR ALL STUDENTS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 111</td>
<td>Team and Individual Sports (I)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 112</td>
<td>Team and Individual Sports (II)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 113</td>
<td>Restricted Physical Education</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 211</td>
<td>Beginning Swimming</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 212</td>
<td>Team Sports (I,II)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 223</td>
<td>Beginning Modern Dance (I, II)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 224</td>
<td>Intermediate Modern Dance (I, II)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 225</td>
<td>Advanced Modern Dance (II)</td>
<td>1 hour</td>
</tr>
<tr>
<td>PE 227</td>
<td>Beginning Ballroom Dance (I)</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

PROFESSIONAL PHYSICAL EDUCATION COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 143</td>
<td>Introduction to Health, Physical Education and Recreation (I, II)</td>
<td>3 hours</td>
</tr>
<tr>
<td>MPE 177</td>
<td>Football Coaching Theory and Practice (I)</td>
<td>3 hours</td>
</tr>
<tr>
<td>MPE 179</td>
<td>Basketball Coaching Theory and Practice (I)</td>
<td>3 hours</td>
</tr>
<tr>
<td>WPE 201</td>
<td>Sports Officiating I (I)</td>
<td>1 hour</td>
</tr>
<tr>
<td>WPE 202</td>
<td>Sports Officiating II (II)</td>
<td>1 hour</td>
</tr>
</tbody>
</table>
PE 213 Intermediate Swimming (II) 1 hour
To give students an opportunity to learn all the swimming strokes, to improve their skills, to increase their endurance in swimming, and to learn the beginning synchronized swimming skill. Prereq: Be able to demonstrate beginning skill level.

PE 214 Senior Life Saving and Water Safety Instruction (II) 2 hours
This is an activity course which will present skills and information for Red Cross Senior Life Saving, Red Cross Water Safety Instruction and Competitive Swimming. Prereq: 18 years of age and intermediate swimming ability.

MPE 217 Wrestling Coaching Theory and Practice (II) 3 hours
History, fundamentals, methods of instruction, rules and officiating training methods, care and prevention of injuries, equipment, and preparation of competition. Lecture 2 hours, laboratory 2 hours. Prereq: None

PE 223 Beginning Modern Dance (I,II) 1 hour
For men and women students and designed for the purpose of introducing basic modern dance techniques and acquiring a brief knowledge, understanding, and appreciation of modern dance history, theory, accompaniment and composition. Prereq: None

PE 224 Intermediate Modern Dance (I, II) 1 hour
Designed for men and women students to help them attain a moderate degree of skill in advanced modern dance techniques, understanding of modern dance history, theory, accompaniment and composition. Prereq: PE 223.

PE 225 Advanced Modern Dance (II) 1 hour
Designed for men and women students to help them develop additional skill in modern dance techniques and to further knowledge and experience in dance accompaniment, history, theory and composition. Prereq: PE 223, 224.

PE 227 Beginning Ballroom Dancing (I, II) 1 hour
Designed for men and women for the purpose of developing skill in all phases of ballroom dancing. Prereq: None

PE 228 Square and Folk Dancing (II) 1 hour
Designed for men and women for the purpose of developing skill in selected folk and square dances. Prereq: None

PE 229 Advanced Ballroom Dancing (II) 1 hour
Designed for men and women for the purpose of developing additional skill in all phases of ballroom dancing, and experience in teaching classes of ballroom dancing. Prereq: PE 227

230 Intermediate Gymnastics (II) 1 hour
Designed for women physical education majors and minors so they can attain a working knowledge of the intermediate skills used with each piece of gymnastic apparatus.
PE 252 **Methods in Gymnastics** (I) 3 hours
Fundamental methods and stunts. Open to both men and women students and offers instruction in such activities as the side horse, parallel bars, and horizontal bar. Prereq: None

MPE 276 **Baseball Coaching Theory and Practice** (II) 3 hours
Devised to prepare students to instruct in the history, rules, skills and techniques in every phase of individual and team baseball. Lecture 2 hours, laboratory 2 hours. Prereq: None

MPE 278 **Track and Field Coaching Theory and Practice** (II) 3 hours
A study of the history, rules, training methods and techniques of the various track and field events for coaching track and field athletics. Lecture 2 hours, laboratory 2 hours. Prereq: None

PE 303 **Care and Prevention of Athletic Injuries** (II) 3 hours
Designed to give first aid techniques and basic training room techniques. Prereq: Biol 275.

PE 304 **First Aid** (I, II, S) 3 hours
Designed to give students knowledge and skill in administering immediate, temporary treatment in case of accident or sudden illness before the services of a physician. Prereq: Junior standing or permission.

PE 312 **Teaching Dance (Modern and Ballroom)** (II) 3 hours
Designed for men and women interested in teaching dance an opportunity to attain knowledge, skill and practical experience necessary for the teaching of modern and ballroom dancing. Prereq: PE 223, PE 224.

MPE 314 **Sports Officiating** (I) 3 hours
The general principles, guiding philosophy, techniques and mechanics of sports officiating. Prereq: Sophomore standing.

PE 315 **Adapted Physical Education** (II) 3 hours
Offers a study of faulty posture, the application of exercise to posture problems, techniques of physical examinations and the study of physical abnormalities and orthopedic conditions which are amendable to treatment through exercise. Prereq: Biology 275.

PE 321 **Teaching Rhythmic Activities** (I, S) 3 hours
Designed to cover the fundamentals of a variety of rhythmic and creative activities, folk and social dances, and the teaching methods for these activities. Students must be admitted to the Teacher's Education Program. Prereq: PE 228.

PE 331 **General Safety Education** (S) 3 hours
An introductory course in school safety education, primarily designed for university students, teachers and administrators so they may intelligently participate in a school safety program. Prereq: Junior standing.
PE 335 **Physical Education in the Elementary School** (I, II, S) 3 hours
Includes the studying of the physical activities of children in grades K-6; practice in the selection and presentation of the desired types of activities and materials. Prereq: Students must be admitted to the Teacher Education Program.

PE 342 **Driver and Traffic Safety Education I** (S) 3 hours
Critical analysis of traffic accidents, attitude factors, essential knowledge of automobile operations and traffic laws and regulations. Includes laboratory experiences for developing driving skills. Prereq: Junior standing.

PE 343 **Driver and Traffic Safety Education II** (S) 3 hours
This course is primarily devoted to methods of teaching, and the administration of high school driver and traffic safety. The participant must acquire, through supervised teaching experience, competence in developing and projecting his skills and techniques, as well as transferring the necessary knowledge and inspiring satisfactory attitudes in students. Prereq: PE 342.

MPE 348 **Organization and Administration of Athletics** (II) 3 hours
A study of the organization and administration of athletics in the secondary schools. Prereq: Junior standing.

WPE 349 **Teaching Physical Education Activities I** (I) 3 hours
Designed to give women interested in teaching physical education an opportunity to attain knowledge, skill, and practical experience necessary for the teaching of individual and team sports. Prereq: Four hours of PE 111 and/or 112. One must be gymnastics.

WPE 350 **Teaching Physical Education Activities II** (II) 3 hours
Same as PE 349.

MPE 352 **Physical Education Activities** (I) 3 hours
Participation, supervision, and officiating team and individual sports and other related activities. Prereq: Physical Education major or minor of Junior standing.

MPE 353 **Physical Education Activities** (II) 3 hours
Participation, supervision, and officiating team and individual sports and other related activities. Prereq: Physical Education major or minor of Junior standing.

PE 363 **Kinesiology**
3 hours
The science of bodily movements, mechanics and muscular exercises in relation to sports, posture, corrective movements, and everyday activity. Prereq: Biology 275.

PE 422 **Organization and Administration of Physical Education and Intramurals** (II, S) 3 hours
Offers the student preparation in planning and conducting classes in physical education. Much attention given to instruction in the direction, supervision, and conduct of school intramurals. Prereq: Junior standing.
PE 493 Measurement and Evaluation in Physical Education (II, S)
Designed to acquaint the student with the place and importance of measurement in Physical Education and to give practical knowledge with the tools of measurements. Prereq: Junior standing.

PE 497 Problems in Physical Education (S) 1-3 hours
To provide an opportunity for students to participate in special conferences on problems in the fields of Health, Physical Education and Recreation and to further professional improvement and growth beyond the normal four year undergraduate program. Prereq: Permission of the Dean.

RECREATION EDUCATION PROGRAM
All recreation majors must complete the following courses: PE 143, RED 318, 322, 324, 424, 455, 456. In addition: 60 hours of guided courses from physical activities, arts and crafts, dramatics, and music.

PROFESSIONAL RECREATION EDUCATION PROGRAM
RED 318 Camp Counseling and Outdoor Education (II) 3 hours
Designed for men and women students to provide theoretical aspects of training in camping through class, lecture, and discussion sessions and to provide opportunities for actual training in the skills associated with camp life.

RED 322 Recreation Education (I) 3 hours
A study of recreation from the Greeks to the present time, including new trends, new methods of teaching, and the use of up-to-date equipment.

RED 324 Recreational Leadership (II) 3 hours
A practical course in leadership training. Presents club, community, youth, and adult recreation activities for recreation workers.

RED 424 Organization and Administration of Recreation (II) 3 hours
Designed to provide a background of information on community recreation with special attention to organization, promotion, development from the administrative aspect.

RED 455 Beginning Recreation Field Work and Seminar (I, II) 3-5 hours
Practical experience in recreation field work in public, private, or voluntary agency.

RED 456 Advanced Recreation Field Work and Seminar (I, II) 3-5 hours
Practical experience in recreation field work in public, private, or voluntary agency. Prereq: ED 455, PE 424.

HEALTH EDUCATION PROGRAM
Health Education Major (K-12)
A major in health education includes the following courses: HED 231, HED 302, HED 306, PE 304, PE 422, Soc. 215, Biol. 275, HEC 301 and FED 418. An additional 12-14 hours in directed electives.
Health Education Minor (7-12)
A minor in health education includes the following courses:
Soc. 215, HED 231, HED 302, HED 306, Biol. 275, HEC 301, PE 304, PE 422, and FED 418.

PROFESSIONAL HEALTH EDUCATION COURSES

HED 231 Personal and Community Health (I, II, S) 3 hours
A study of selected health problems and controversies in our society as related to knowledges, attitudes and habits necessary for healthful living.

HED 302 Health Problems of Youth 3 hours
Identification of health problems of school age children. Role of the school.

HED 306 School Health Programs (II) 3 hours
Provide information for planning and conducting a school and community health programs, use of health committees and councils, coordination of instructional, environmental, and service programs. Inter-related role of teachers, parents, physicians, and nurses in the total health education of students.

GUIDANCE AND COUNSELING

ASSOCIATE PROFESSOR BLAKE (Chairman);
PROFESSOR OLESON;
ASSOCIATE PROFESSOR PFLASTERER;
ASSISTANT PROFESSORS BUTLER, S. COX, DAVIS, HARRINGTON, JARMIN, STRANGES, RHODUS;
INSTRUCTORS MUDD, PILKINGTON, KAFKA, GIBSON SYMONDS, J. COX, HARSH

Programs in this department are arranged on an individual basis. Major areas of specialization are: elementary school counseling, secondary school counseling and college personnel work.

Coun. 490 Principles of Guidance (I, II, S) 3 hours
Basic principles underlying guidance and counseling practices in the United States. This course is a prerequisite for all other courses in the Guidance and Counseling Department. It is the recommended course for students in other departments who wish to have some understanding of professional guidance and counseling. Prereq: Senior Standing.

Coun. 491 Group Evaluation Techniques (I, II) 3 hours
A survey course dealing with types of measurement and evaluation in the instructional programs of elementary and secondary schools. Utilization of standardized group tests, construction of classroom tests, use of the cumulative record, and basic sociometric and projective techniques are are included in this course. Prerequisite: Senior standing.
Coun. 492 **Guidance in the Elementary School** (I, II, S) 3 hours
A study of the principles, practices and dimensions of elementary school guidance.

Coun. 500 **Special Studies in Counseling and Guidance** 3 hours
Intensive courses scheduled as regular seminars, or workshops, according to purpose. Prerequisite: Permission of Department.

Coun. 510 **Research Project in Counseling and Guidance** 3 hours
Individual or group study and analysis of specific problems in counseling and guidance. Prerequisite: Departmental permission.

Coun. 520 **Introduction to Counseling Theories** (I, II, S) 3 hours
Study of contemporary theories of counseling, the counseling process and methods. Prerequisite: Coun. 490 or Department permission.

Coun. 521 **Organization and Administration of Guidance Services** (I, II, S) 3 hours
Study of organizational patterns and administrative practices in guidance and counseling programs. Prerequisite: Coun. 490.

Coun. 522 **Occupational and Educational Information** (I, II, S) 3 hours
The nature and use of occupational and educational information. The process of vocational choice. Prerequisite: Coun. 490.

Coun. 523 **Appraisal Techniques in Counseling and Guidance** (I, II, S) 3 hours
Utilization of standardized and nonstandardized appraisal techniques in counseling and guidance. Prerequisite: Coun. 490.

Coun. 524 **Counseling Practices** (I, II, S) 3 hours
An analysis of the theories and practices of counseling. Prerequisite: Coun. 520, 523 and Departmental permission.

Coun. 525 **Counseling Practicum** (I, II, S) 2-3 hours
A qualified counselor and a guidance professor of the University. Prerequisite: Coun. 524 and permission.

Coun. 526 **Guidance Internship** (I, II, S) 2-3 hours
Field experiences in an approved guidance program under the supervision of a qualified counselor and a guidance professor of the University. Prerequisite: Coun. 524 and permission.

Coun. 527 **Group Techniques and Guidance** (I, II, S) 2-3 hours
The role of group procedures in guidance. The implementation and evaluation of group procedures. Prerequisite: Coun. 490 and Departmental permission.

Coun. 528 **College Personnel Internship** (I, II) 2-6 hours
Practical work experience under supervision in two areas within the Student Personnel Services, and related readings and group discussions as appropriate. Prerequisite: Departmental approval.
Coun. 529 **Community Involvement Experience** 3 hours
An experienical involvement in the ecology of the Urban Disadvantaged. The student will have extended field experiences in the urban area as well as seminar-type activities.

Coun. 531 **Child Assessment in Elementary School Guidance** (I, II, S) 3 hours
Methods and techniques for identification of the elementary child as a unique individual. Prerequisite: Coun. 490 or Coun. 492.

Coun. 532 **Counseling Elementary School Children** (I, II, S) 3 hours
A study of the methods and techniques applicable in counseling young children. Prerequisite: Coun. 492, 531 and Departmental permission.

Coun. 533 **Elementary School Counseling Practicum Part I** (I, II) 3 hours
Counseling in the elementary setting under the supervision of counseling professor of the University. Part I of Counseling Practicum sequence. Prerequisite: Coun. 532 and permission.

Coun. 534 **Elementary School Counseling Practicum Part II** (I, II) 3 hours
Counseling in the elementary setting under the supervision of counseling professor of the University. Part II of Practicum sequence. Prerequisite: Coun. 533 and permission.

Coun. 535 **Elementary Counseling Internship** (I, II) 6 hours
Field experience in an elementary counseling program under the supervision of a counseling professor and appropriate in-school personnel. Prerequisite: Coun. 532 and permission.

Coun. 539 **Guidance Services and the Disadvantaged Youth** 3 hours
A study of the methods and techniques in counseling disadvantaged youth. Prerequisite: Coun. 520 and 524.

Coun. 601 **Thesis** (I, II, S) 3 hours
Independent research project written under the supervision of an advisor. Prerequisite: Permission.

Coun. 605 **Theories and Studies in Occupational and Educational Information** 2-3 hours
Advanced study of theories and research related to vocational development, and current research in the construction and use of occupational and educational information. Prerequisite: Coun. 522 and 525.

Coun. 610 **Advanced Studies in Counseling** 2-3 hours
An intensive study of selected counseling theories, methods and research. Prerequisite: Coun. 520 and 525, or Psyc. 477.

Coun. 612 **Counseling With Parents** 2 hours
A course emphasizing techniques used in working with parents. Also recommended for other departments who may wish to have greater understanding in working with parents. Prerequisite: Coun. 524; permission of department head.
Coun. 615 **Advanced Counseling Practicum** 2-3 hours
Continuation of Practicum in Counseling. Prerequisite: Coun. 520, 525 and permission of instructor.

Coun. 618 **Guidance and Counseling Seminar** 2 hours
The consideration of topics having current relevance to guidance and counseling. Prerequisite: Admission to candidacy for the Specialist in Education degree with a major in guidance and counseling.

Coun. 619 **Research Project in Counseling and Guidance** 2-3 hours
Research study on a problem in the area of guidance and counseling. Prerequisite: Candidacy for Specialist Degree in Education in Counseling and Guidance.

**EDUCATIONAL ADMINISTRATION AND SUPERVISION**
ASSOCIATE PROFESSOR KELLAMS (Chairman);
PROFESSORS GORMAN, BURKHOLDER, KENNEDY, O'REILLY, RACHFORD

All courses in the Department of Educational Administration and Supervision are offered for graduate credit only.

EdAd 500 **Special Studies in Educational Administration and Supervision** (I, II, S) 3 hours
A series of intensive courses especially designed for educational administrators and supervisors—scheduled as regular seminars or workshops, according to purpose.

EdAd 510 **Research Project in Educational Administration** (I, II, S) 3 hours
Individual or group study and analysis of specific problems in educational administration and supervision.

EdAd 525 **Data Processing in Education Administration** (II, S) 3 hours
A study of the role of electronic data processing and systems procedures in educational administration.

EdAd 562 **Foundations of Educational Administration and Supervision** (II, S) 3 hours
A study of the principles and activities of modern school administration as they relate to the superintendency.

EdAd 563 **School Plant Planning and Operation** (II, S) 3 hours
Includes steps in planning the modern school building; site selection, building construction and design; school furniture and equipment; maintenance and operation; rehabilitation; scheduling of work; and custodial care.

EdAd 564 **School Law** (I, II) 3 hours
Considers legal principles and practices which are applicable to public education for public school teachers and administrators.
EdAd 565 **School Business Management** (I, II) 3 hours
An analysis of the functions of business management; budgetary procedures; financial accounting, auditing and reporting; management of funds; purchasing procedures and inventory; administration and protection of property; and administration of transportation.

EdAd 566 **Administration and Supervision in Elementary Schools** (II, S) 3 hours
The nature, principles and functions of modern administrative and supervisory practices as they relate to the elementary school.

EdAd 567 **Administration and Supervision in Secondary Schools** (I, S) 3 hours
The nature, principles and functions of modern administrative and supervisory practices as they relate to the secondary school.

EdAd 568 **School Finance** (I, S) 3 hours
A study of the sources of school financing; local, state and national. In addition to covering this area from a historical point of view, emphasis is placed on current problems in school finance.

EdAd 570 **Practicum in Educational Administration and Supervision** (I, II) 3 hours
Designed to provide guided study and practice in elementary, secondary or general administration and supervision as the interests and needs of the student require.

EdAd 571 **Advanced Practicum in Educational Administration and Supervision** 3 hours
Continuation of EdAd 570. Advanced study and practice under guidance in elementary, secondary or general administration and supervision as the interests and needs of the student require.

EdAd 575 **Administration of Higher Education** (S) 3 hours
A study of the major functions of higher education, with emphasis on the principles involved in organizing and directing the academic program, the activities of the student body, the faculty and staff, personnel policies, financing the program, operating the buildings and grounds and conducting the public relations program.

EdAd 576 **College Business Management** (S) 2 hours
Designed as an intensive study of problems of college business management, including such phases as: financing, budgeting, purchasing, managing student loans, organizational funds, selecting and directing personnel, conducting auxiliary services and administrative organization.

EdAd 580 **Administration and Supervision of Vocational Education** (II) 3 hours
Designed to give the vocational teacher and administrators information regarding the fundamentals and trends in administration and supervision of vocational programs.
EdAd 611 **Field Project in Educational Administration** (II) 3 hours
An independent study in the area of school administration which must be approved by a faculty committee.

EdAd 660 **Seminar in Educational Administration** (I) 3 hours
Participation in the seminar is limited to individuals who have a Master's degree with a major in school administration and will include current educational problems and procedures.

EdAd 661 **Advanced Seminar in Educational Administration** (II, S) 3 hours
Participation is limited to individuals who have been admitted to candidacy for the Specialist in Education degree with a major in school administration. Emphasis will be placed upon the theory and techniques of administration.

**SPECIAL EDUCATION**
PROFESSOR CUSHENBERY; ASSOCIATE PROFESSOR ARMFIELD (Chairman), ASSOCIATE PROFESSORS MORRISON, WOOD; ASSISTANT PROFESSORS AKERS, GILREATH, HARRIS, LA CROSSE, LARKIN

SPED 300 **Special Studies** 1-3 hours
Conducted as short course, seminar, workshop or special project.

SPED 306 **Introduction to Special Education** (I, II, S) 3 hours
Identification of exceptional children with respect to educational opportunities; current concepts and goals of special education; specific consideration of educational programs for children who are gifted, mentally retarded, speech handicapped, acoustically handicapped, orthopedically handicapped, visually handicapped, or motivationally disadvantaged; survey of trends and professional opportunities. Required course for all Special Education Majors.

SPED 341 **Introduction to Communication Disorders** (I, II, S) 3 hours
A survey course involving the disorders of speech, hearing and language including incidence, symptomatology and etiology. Normal development of speech and hearing skills are also discussed along with general topics such as the professions dealing with the communication-handicapped individual, employment possibilities.

SPED 368 **Observation and Participation in Special Education** 3 hours
Minimum total of 100 clock hours of observation and participation in special education classrooms. Students will be placed in several different classes and levels. Weekly seminar required of all participating students.

SPED 369 **Reading for the Secondary Teacher** 3 hours
This course is designed for future secondary teachers in all subject areas who wish a background in basic reading knowledge, methodology and materials at the secondary level.
SPED 420  History: Education and Guidance of the Deaf  (I) 2 hours
History of trends in deaf education culminating in current problems, practices and attitudes; survey of teaching and guidance opportunities; psychological problems of the deaf child and adult. Prereq: Junior Standing.

SPED 421  Teaching of Speech to the Deaf  (I) 2 hours
Methods and practicum in teaching speech to the deaf child; special emphasis on tactual, visual and auditory techniques. Prereq: Junior Standing.

SPED 422  Teaching of Speech to the Deaf II  (II) 2 hours
Continuation of SPED 421; focus on various types of speech learning problems found in a population of deaf children. Prereq: SPED 421.

SPED 423  Teaching of Language to the Deaf I  (I) 3 hours
Philosophy of development of functional language for the deaf child; methods and techniques for developing English language skills and comprehension. Prereq: Junior Standing.

SPED 424  Teaching of Language to the Deaf II  (II) 2 hours
Continuation of SPED 423 with further consideration of criteria for selection and utilization of teaching materials; special emphasis on language principles for the older deaf pupil. Prereq: SPED 423.

SPED 425  Observations and Student Teaching of the Deaf  (I, II) 3-6 hours
Arrangements with schools and classes for the deaf for qualified students to complete student teaching during the school year; co-curricular as well as classroom experience encouraged. Prereq: Permission of head of the department.

SPED 433  Speech Reading and Auditory Training  (II) 2 hours
History of development of speech (lip) reading; methods and practicum in teaching speech reading for various ages and degrees of hearing impairment. Prereq: Junior Standing.

SPED 434  Teaching School Subjects to the Deaf I  (I) 2 hours
Philosophy underlying formal education of the deaf; methods and special adaptations used in presenting school subjects. Prereq: Junior Standing.

SPED 435  Teaching School Subjects to the Deaf II  (II) 2 hours
Consideration of problems in the education; of the deaf; approaches to school subjects considered in detail. Prereq: SPED 434.

SPED 437  Basic Audiology  (I, S) 3 hours
History of the field of audiology, types of hearing losses, basic audiologic assessment including the case history, tuning fork tests, and pure tone air and bone conduction testing. An overview of the field is given including some information on hearing conversation, medical referral, and remediation. Prereq: junior standing.
SPED 438  **Auditory and Speech Mechanisms**  (1) 2 hours
Basic structure and functions of the organs involved in hearing and speech.

SPED 440  **Learning Disabilities**  (S) 3 hours
Study of developmental patterns in speech and language; causal factors of delayed speech and language development; evaluative techniques for identification of problems; therapy techniques for habilitation and/or rehabilitation of children with deviant language development.

SPED 442  **Psychology of Speech**  (I) 3 hours
Psychological processes basic to speech; theories of language learning; semantics; psychology of hearing and deafness; interrelationships between speech and personality. Prereq: Junior Standing.

SPED 443  **Speech Pathology I: Voice and Articulation**  (I) 3 hours
Types and causes of voice and articulation disorders; classroom demonstrations; special emphasis on rehabilitation procedures and methods associated with individual involvements. Prereq: Junior Standing.

SPED 444  **Speech Pathology II: Rhythm and Symbolization**  (II) 3 hours
Types and causes of rhythm and language symbolization disorders; classroom demonstrations; special emphasis on rehabilitation procedures and methods associated with stuttering, aphasia and delayed language development. Prereq: Junior Standing.

SPED 445  **Phonetics of American Speech**  (I) 3 hours
Introduction to International Phonetic Alphabet; analysis of phonetic and phonetic elements in major American English dialects; practice in transcription of standard and defective speech. Prereq: Junior Standing.

SPED 446  **Speech Evaluation: Methods and Practicum**  (II) 3 hours
Tests and procedures for evaluating individuals with speech disorders; principles in differential diagnosis and report writing; observation during evaluation periods in speech and hearing centers. Prereq: 6 hours of Speech Pathology.

SPED 447  **Neurophysiology of Speech**  (I) 3 hours
Neurophysiologic structure and theory with regard to speech and related functions; conditions which interfere with the function of the nervous system; individual projects. Prereq: Sped 438 and graduate standing.

SPED 449  **Advanced Audiology**  (II) 3 hours
Advanced audiologic assessment of hearing disorders including history taking, tests for recruitment, auditory adaptations, difference limens, automatic audiometry, and functional hear-
ing losses; special tests for pediatric audiologic assessment; considerations for industrial hearing loss and related medico-legal problems; principles of hearing aid selection, and similar topics. Prereq: Sped 433, 437 and 438.

SPED 450 Speech Correction in Elementary and Secondary Schools
(I) 3 hours
Speech correction programs as related to goals of public education for school age children; role and responsibilities of the speech clinician; current practices in evaluation case load selection and scheduling; special emphasis on methods and materials appropriate to a variety of facilities. Prereq: Junior Standing and 6 hours of Speech Pathology.

SPED 451 Basic Practicum in Speech Pathology (I, II, S) 1-3 hours
Minimum of 45 clock hours per credit hour of supervised practice in speech and hearing clinic; speech and hearing evaluations, therapy sessions, lesson plans, records, and a weekly colloquium. Prereq: Sped 341, 437, 438, 443 or 444 and 445.

SPED 452 Advanced Practicum in Speech Correction (I, II, S) 1-3 hours
Continuation of SPED 451; student is expected to participate more actively in corrective and diagnostic programs, and initiate and follow through correction programs with selected individual and/or groups. Prereq: Permission and SPED 451.

SPED 460 Introduction to the Mentally Subnormal Child (I) 3 hours
Nature and educational needs of children and youth who are mentally subnormal; definitions of mental subnormality; prevalence and types of children in educational programs; history and development of education for children and youth who are mentally subnormal; trends in educational practices and counseling procedures. Prereq: Junior Standing.

SPED 463 Curriculum for Mentally Retarded Children (I) 3 hours
The mentally retarded child as an educable or trainable individual; an investigation of the practices and problems in curriculum development for the mentally subnormal child: preschool through vocational; identification of needs and goals and determination of content. Prereq: Junior Standing.

SPED 464 Methods and Materials for Teaching Mentally Retarded Children (II) 3 hours
The retarded child as he relates to a variety of educational processes designed for his learning needs; methodology and teaching materials; practice in the design and implementation of curriculum units, pre-school through vocational; consideration of programs for the trainable, "Track I" and "Track II" educational programs. Prereq: Junior Standing.

SPED 469 Observation and Student Teaching of the Mentally Retarded (I, II) 2-4 hours
Minimum total of 180 clock hours of supervised practice teaching is required. Student teachers are placed in two separate
classes and on different levels for the educable retarded wherever possible. Weekly seminar required of all students concurrent with practice teaching experiences. Prereq: SPED 460, 463, 464 and permission.

SPED 470 Introduction to Teaching the Gifted (S) 3 hours
Introduction to techniques and materials for identifying and helping to understand the specific developmental needs of gifted pupils and guidance services appropriate for them; understand types of learning tasks and how to evaluate achievement with them; analysis of filmed demonstration lessons appropriate to the specific needs of gifted pupils.

SPED 480 Emotional Development of Children and Youth 3 hours
An introductory study of emotional maturation of children and youth with attention to the symptoms and causes of emotional deviation, and the means of improvement.

COURSES REQUIRING GRADUATE STANDING

SPED 500 Special Studies 3 hours
A series of intensive courses especially for teachers in service-scheduled as regular seminars or workshops according to purpose.

SPED 506 Teaching the Exceptional Child (I, II, S) 3 hours
Required course for all Special Education majors.

SPED 511 Problems in Teaching Reading—Elementary (I, II, S) 3 hours
An advanced course for elementary and secondary teachers in the principles, practices, and use of instructional materials in the area of reading at the elementary level.

SPED 512 Problems in Teaching Reading—Secondary (II) 3 hours
An advanced course in reading for elementary or secondary teachers. Major emphasis will be given to the administration, organization, evaluation, methods, and materials for the teaching of reading in each of the content subjects at junior and senior high school levels.

SPED 513 Diagnostic and Remedial Instruction in Reading (I, S) 3 hours
A course for advanced students in reading which will provide the student with the essential information for the diagnosis and remediation of reading disabilities. Prereq: SPED 511 or 512 or equivalent.

SPED 514 Measurement and Evaluation of Reading (I) 3 hours
A course for advanced students in reading which will provide the student with the necessary training for establishing and operating a reading clinic (i.e., initiating and accepting referrals, forming evaluation schedules, administering appropriate evaluative devices, writing case reports and establishing follow-up sessions).
SPED 515 Clinical Practice in Reading  (II, S) 3 hours
A laboratory-oriented course for advanced students in reading which will provide them with practicum training in the use of proper remedial reading techniques in order that they might qualify as specialists in remedial reading. Prereq: Permission of instructor.

SPED 516 Reading Problems of the Disadvantaged  3 hours
Investigation relating to causes of reading difficulties of the culturally disadvantaged; methods and materials; demonstration of individual and group reading remediation procedures.

SPED 517 Seminar in Organization and Administration of Reading Programs  3 hours
Participation in the seminar is limited to individuals who have completed at least one graduate reading course (or equivalent) and are professional workers who are charged with the total or partial responsibility for organizing and administering reading programs. Familiarity with the philosophy, organization, and major research related to different reading programs will be emphasized. Local and area reading authorities will conduct panels and lectures on topics chosen by the students. Prereq: 1 graduate reading course (or equivalent) and permission of instructor.

SPED 541 Advanced Studies in the Disorders of Speech Articulation  (I) 2-3 hours
Types and causes of articulation disorders; rationale for case selection; S-R-L syndrome; special emphasis of rehabilitation procedures associated with individual involvements; practicum. (Lec. 2, Lab. 3)

SPED 542 Advanced Studies in the Disorders of Voice  (I) 2-3 hours
Types and causes of voice disorders; rationale for case selection; cleft palate; special emphasis on rehabilitation procedures associated with individual involvements; practicum. (Lec. 2, Lab. 3)

SPED 543 Advanced Studies in the Disorders of Rate and Rhythm  (II) 2-3 hours
Types and causes of rate, rhythm and stress pattern disorders; rationale for case selection; survey of stuttering theories and therapies; special emphasis on rehabilitation procedures associated with individual involvement; practicum. (Lec. 2, Lab. 3)

SPED 544 Advanced Studies in the Disorders of Aphasia and Related Problems  (II) 2-3 hours
Types and causes of language symbolization disorders; rationale for case selection; childhood aphasia and autism; special emphasis on rehabilitation procedures associated with individual involvements; practicum. (Lec. 2, Lab. 3)

SPED 553 Advanced Problems in Speech Pathology  (II, S) 3 hours
Guided student selection of topics of current concern in speech pathology to be presented to the class. Instructor lectures will be based upon the needs of the students. Prereq: FED 501 and Sped 451.
SPED 555 **Alaryngeal Speech Rehabilitation**  (I) 2 or 3 hours
Problems of voice and speech rehabilitation for the individual
without a functional larynx; social, emotional and medical
consideration as well as clinical procedures for esophageal
speech; implications for use of artificial larynx, current research
pertinent to this area. Prereq: graduate standing.

SPED 556 **Speech Problems of Cerebral Palsied Children**  (II) 2 or 3 hours
Identification of types of Cerebral Palsy by a site of lesion
motor symptomology, and additional handicaps; the role of the
speech clinician on the team; types of speech therapy; current
research and controversial issues will be discussed. Prereq:
Sped 437, 444, 447.

SPED 566 **Vocational Training of the Mentally Retarded**  (II) 3 hours
Consideration of the following aspects of treatment of the men­
tally retarded: prevocational training and evaluation, on the job
training, vocational placement, working with related disciplines,
follow-up services.

SPED 569 **Observation and Student Teaching of the Mentally
Retarded**  (I, II) 2-4 hours
Minimum total of 180 clock hours of supervised practice teach­
ing is required. Student teachers are placed in two separate
classes and on different levels for the educably retarded where­
ever possible. Weekly seminar required of all students concur­rent with practice teaching experiences. Prereq: Permission of
department only.

SPED 570 **Seminar in Special Education**  (II) 3 hours
Graduate course primarily for Special Education majors and
professional workers in the fields of speech and hearing, teach­
ing the deaf, teaching the mentally retarded, remedial reading
and teaching the physically handicapped. Familiarity with
philosophy, major literature and practices in each area; student
will research and present a paper reflecting his personal pro­
fessional interests. Discussions, forums, and panels; visiting
experts.
THE GENERAL MILITARY COURSE (GMC)

The GMC curriculum is designed to give cadets an understanding of the role of air power in the aerospace age. GMC is voluntary and open to physically and mentally qualified freshmen and sophomores. Textbooks and uniforms are furnished at government expense. GMC cadets are not in the military service and assume no military obligation.

101 Corps Training (I) 1 hour

*102 World Military Systems I (II) 2 hours

*201 World Military Systems II (I) 2 hours
   Prereq: AS 101-102, or permission of PAS

202 Corps Training (II) 1 hour

THE PROFESSIONAL OFFICER COURSE (POC)

The POC program includes a well-rounded educational and leadership training curriculum that prepares cadets to serve as officers in the USAF. POC cadets are selected from basic cadets or FT course graduates who desire to enter the program and who meet rigid academic and physical requirements. POC cadets enlist in the Air Force Reserve and receive approximately $1,000 for their two-year participation. Cadets who qualify for pilot training receive, at government expense, 36 hours of flight instruction at a civilian facility during their senior year. POC cadets who do not attend the six-week Field Training are required to attend a four-week summer FT between their junior-senior year.

*301 Growth and Development of Aerospace Power I (I) 3 hours
   Prereq: permission of PAS

*302 Growth and Development of Aerospace Power II (II) 3 hours
   Prereq: AS 301 or permission of PAS

*401 The Professional Officer I (I) 3 hours
   Prereq: AS 302, or permission of PAS

*402 The Professional Officer II (II) 3 hours
   Prereq: AS 401, or permission of PAS

403 Flight Instruction Program (FIP) (I) 1 hour
   Prereq: POC standing and permission of PAS

*Plus 1 hour of Cadet Corps Training—Arranged
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